CONTRACTUAL GOVERNANCE OF ONLINE COMMUNITIES – (PROPERTY) RIGHTS DISPUTES IN VIRTUAL WORLDS

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Statement of Originality

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Abstract

Considering law's difficult ride on the coattails of societal and technological progress, this thesis discusses property rights disputes in virtual worlds, the origin and foundation of (property) rights in characters, objects and items (**virtual assets**), and the possibility of contractual governance.

Investing considerable time, effort and money to create, develop and accumulate virtual assets to gain prestige or competitive advantage, or simply to have more fun playing, users often build strong emotional connections to *their* characters and place a high value on accumulated operator, third user and user-generated content. But the user's experience of virtual assets as property, contrasts starkly with most in-world property models where first property rights belong to the operator, subsequent rights are delineated by contract, and emerging property rights are transferred to the operator or *waived* by the user.

Noting the 'technologically inaccurate portrayal of software' in legislation, jurisprudence and legal debate, that ignores its 'physical properties of mass and volume', and the influence of client/server system architecture on the allocation of personal property rights, this thesis shows that physical and intellectual rights cannot resolve the newly emerging property rights disputes in virtual worlds. Instead of making another helpless attempt to justify a *new* virtual property right that still cannot overcome an enforceable transfer/waiver of (future) (property) rights clause in the contract, this author questions common concepts of property and proposes a new quasi-property right.

Originated in the contractual obligation of the operator to grant the user a *right to use*, *to exclude* other users from and *to transfer* virtual assets, the *rules of conduct* included in the multiple-separate user contract complete its quasi-absolute effect. This quasi-property right does not only complement the quasi-tort, quasi-criminal and quasi-constitutional system already established by the (virtual social) contract but supports the identification of the contract (terms) as *new* default legal rules for VWs and similar online communities.

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My greatest debt in producing this dissertation is owed to my supervisors, Professor Chris Reed and Professor Dr Julia Hörnle at the Centre for Commercial Law Studies who have introduced me to the subject of internet law when I was still a post-graduate LL.M student at Queen Mary. Without Professor Reed's inspiration, enthusiasm, patience and criticism, this dissertation would never have been submitted.

The subject of property rights disputes in virtual worlds was first brought to my attention by Professor Reed when inviting my LL.M computer law class to participate in the SCL Student IT Law Essay Competition on 'Virtual Properties and Virtual Economies'. After my LL.M studies, Professor Hörnle then kindly trusted me to hold a lecture on 'Real Money Trade – Intellectual and Virtual Property Rights in Virtual Worlds' at the Centre for Commercial Law Studies which strengthened my wish to intensify my studies on virtual worlds.

Special thanks go to the video game programmers, designers and developers Mike McShaffry who worked on *Ultima VI – IX*, *Ultima Online* (<http://uo.com>), *Thief: Deadly Shadows* and others, Matt Mihaly of Iron Realms Entertainment who designed and developed *Achaea* (<http://play.achaea.com>), Mike Sellers who is a Professor of Practice at Indiana University Bloomington and developed *Meridian 59* (one of the first visual Multiplayer Online Games), Richard Leinfellner (Senior Lecturer of Computing at Goldsmiths, University of London), as well as Dr Chuck Clanton who designed the user experience for *There* (<www.there.com>) and worked as a consultant on *Second Life* (<https://secondlife.com>) who generously shared their vast expertise on computer programming, game coding and the online-gaming industry.

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Abbreviations and Acronyms

$/USD	US Dollar
A2d	Atlantic Reporter, Second Series
AC	Appeal Cases
ACP	Archiv für die Civilistische Praxis (law journal)
AG	Aktiengesellschaft (similar to public limited liability company)
AkronLRev	Akron Law Review
Ala	Alabama Supreme Court
AlaLRev	Alabama Law Review
ALI	American Law Institute
AmBA	American Bar Association
AmBAJ	American Bar Association Journal
AmEconRev	American Economic Review
AmJCompL	American Journal of Comparative Law
AmULRev	American University Law Review
AnwBl	Anwaltsblatt (law journal)
Ariz	Arizona Supreme Court
Ariz App	Arizona Court of Appeals
ArizJInt & CompL	Arizona Journal of International and Comparative Law
ArizLRev	Arizona Law Review
ArizStLJ	Arizona State Law Journal
Ark	Arkansas Supreme Court
Art/Arts	Article/Articles
ATITD	*A Tale in the Desert* (<www.desert-nomad.com>)
AToU	Account Terms of Use
BankLJ	Banking Law Journal
Bankr D Utah	Bankcruptcy Court District Utah
BCIntl & CompLRev	Boston College International and Comparative Law Review
BCLRev	Boston College Law Review
BerkeleyJIntL	Berkeley Journal of International Law
BerkeleyTechLJ	Berkeley Technology Law Journal
BGH	Bundesgerichtshof (German Federal Court of Justice)
Blizzard/Blz	Blizzard Entertainment Incorporated, *World of Warcraft*
BR	Bankruptcy Reporter
BuffLRev	Buffalo Law Review
BusLaw	Business Lawyer
BusLRev	Business Law Review
BYULRev	Brigham Young University Law Review
c/cc	clause/clauses (of Contracts)
CA	Court of Appeal

Cal	California, California Supreme Court or California Reports (as applicable)
Cal App	California Court of Appeal
Cal4th	California Reports, Fourth Series
CalApp3d/CalApp4th	California Appellate Reports, Third Series/Fourth Series
CalLRev	California Law Review
CalRptr3d	West's California Reporter, Third Series
CAP	Carolina Academic Press
CardozoArtsEntLJ	Cardozo Arts and Entertainment Law Journal
CardozoLRev	Cardozo Law Review
CaseWResLRev	Case Western Reserve Law Review
CCD Me	Circuit Court District Maine
CCP	Court of Common Pleas
CD Cal	Central District of California
CDN	content delivery network (Appendix A)
CDS	Confederation of Democratic Simulators (in *Second Life*)
CESifo WoPa	CESifo Working Paper
cf	confer (Latin), compare
Ch	Law Reports, Chancery
ch/chs	book chapter/book chapters
ChiKentLRev	Chicago-Kent Law Review
Cir	Circuit
CJL & Tech	Canadian Journal of Law and Technology
CLJ	Cambridge Law Journal
CMLRev	Common Market Law Review
cmt	comment
Co	Company
ColumLRev	Columbia Law Review
Comm & L	Communications and the Law
CommAssoInfSys	Communications of the Association for Information Systems
CompaL	Computers and Law
CompLJ	Computer Law Journal
CompLSR	Computer Law and Security Report
CompLSRev	Computer Law and Security Review
CompTelecommLRev	Computer and Telecommunications Law Review
Conn	Connecticut Supreme Court
CONTU	National Commission on New Technological Uses of Copyright Works
CornellLRev	Cornell Law Review
Corp	Corporation
CrAppR	Criminal Appeal Reports

CSUSA	Copyright Society of the USA
CUP	Cambridge University Press
CuR	Computer und Recht (law journal)
D Ariz	District of Arizona
D Colo	District of Colorado
D Mass	District of Massachusetts
D Neb	District of Nebraska
D Utah	District of Utah
DC App	District of Columbia Court of Appeals
DC Cir	Court of Appeals for the District of Columbia Circuit
DDC	District Court for the District of Columbia
de minimis	minimum
DenningLJ	Denning Law Journal
DenvULRev	Denver University Law Review
DePaulLRev	DePaul Law Review
Desert Nomad	Desert Nomad Studios Limited, *ATITD*
Directive/Dir	EC/EU Directive (legislative act)
DNH	District of New Hampshire
DSD	District of South Dakota
DukeL & TechRev	Duke Law and Technology Review
DuqLRev	Duquesne Law Review
EBusL	Electronic Business Law
EC	European Community
ECL & Pol	E-commerce Law and Policy
ECR	European Court Reports
ED Mich	Eastern District of Michigan
ED Mo	Eastern District of Missouri
ED Pa	Eastern District of Pennsylvania
ED Va	Eastern District of Virginia
ed/eds	editor/editors
edn	edition
EDNY	Eastern District of New York
eg	for example
EIPR	European Intellectual Property Review
EJCStud	European Journal of Cultural Studies
EJL & Tech	European Journal for Law and Technology
EmoryLJ	Emory Law Journal
EntLRev	Entertainment Law Review
EO	*EVE Online* (<www.eveonline.com/>)
Epic	Epic Games Incorporated, *Fortnite*

EQ	*EverQuest* (<www.everquest.com>)
ER	English Reports
ESD	Essential Step Defence
etc	and so forth
EU	*Entropia Universe* (<www.entropiauniverse.com>)
EU	European Union
EULA	End User Licence Agreement
EUP	Edinburgh University Press
F/F2d/F3d	Federal Reporter, First Series/Second Series/Third Series
f/ff	and the following page/pages
Facebook	Facebook Incorporated
Fed Cir	Federal Circuit
FlaLRev	Florida Law Review
FlaStULRev	Florida State University Law Review
FM	First Monday
FN	*Fortnite* (<www.epicgames.com>)
fn/fns	footnote/footnotes (external to the work)
FSD	first sale doctrine
FSR	Fleet Street Reports
FSupp/FSupp2d/FSupp3d	Federal Supplement, First Series/Second Series/Third Series
Ga App	Georgia Court of Appeals
GaLRev	Georgia Law Review
GaStULRev	Georgia State University Law Review
GDM	Game Developer Magazine
GeoLJ	Georgetown Law Journal
GeoWashLRev	George Washington Law Review
GmbH/GesmbH	Gesellschaft mit beschränkter Haftung (similar to private limited liability company)
GNP	Gross National Product
GonzLRev	Gonzaga Law Review
GRURIntlT	Gewerblicher Rechtsschutz und Urheberrecht Internationaler Teil (law journal)
GUID	globally unique identifier (Appendix A)
HarvIntlLJ	Harvard International Law Journal
HarvLRev	Harvard Law Review
HarvUP	Harvard University Press
HastingsBusLJ	Hastings Business Law Journal
HastingsLJ	Hastings Law Journal
HL	House of Lords
HR Rep	House of Representatives Report
ICFAIUJCybL	ICFAI University Journal of Cyber Law

Idaho	Idaho Supreme Court
ie	that is
IEA	Institute of Economic Affairs
IEEE	IEEE Computer Society Press
IGS	Institute of Governmental Studies
IIC	International Review of Intellectual Property and Competition Law
IJTIS	International Journal of Transitions and Innovation Systems
Ill	Illinois Supreme Court
Ill App	Illinois Appellate Court
Ill2d	Illinois Reports, Second Series
IllApp3d	Illinois Appellate Court, Third Series
Inc	Incorporated
Ind App	Indiana Court of Appeals
IndLJ	Indiana Law Journal
IndLRev	Indiana Law Review
inter alia	among other things
InteractiveEntLRev	Interactive Entertainment Law Review
IntJCompGR	International Journal of Computer Game Research
Intl & CompLQ	International and Comparative Law Quarterly
IntlBusLJ	International Business Law Journal
IntlJCommL & Pol	International Journal of Communications Law and Policy
IntlJL & InfTech	International Journal of Law and Information Technology
IntlJPrivL	International Journal of Private Law
IntlJWBC	International Journal of Web Based Communities
IntlRevLComp & Tech	International Review of Law, Computers and Technology
Iowa	Iowa Supreme Court
IowaLRev	Iowa Law Review
IP & TechLJ	Intellectual Property and Technology Law Journal
IPQ	Intellectual Property Quarterly
JBEL	Journal of Business, Entrepreneurship and the Law
JBusL	Journal of Business Law
JCoInf	Journal of Community Informatics
JCompL	Journal of Comparative Law
JCompMediatedComm	Journal of Computer-Mediated Communication
JConL	Journal of Contract Law
JCoprSocUSA	Journal of the Copyright Society of the USA
JEP	Journal of Economic Perspectives
JICL & Tech	Journal of International Commercial Law and Technology
JInstTheEcon	Journal of Institutional and Theoretical Economics
JL & Econ	Journal of Law and Economics

JLEcon & Pol	Journal of Law, Economics and Policy
JLegalA	Journal of Legal Analysis
JLegalS	Journal of Legal Studies
JMarshLRev	John Marshall Law Review
JOnlineL	Journal of Online Law
JPTOSoc	Journal of the Patent and Trademark Office Society
JTechL & Pol	Journal of Technology Law and Policy
JurimetricsJ	Jurimetrics: The Journal of Law, Science and Technology
JurPC	JurPC Web-Dokument: Internet-Zeitschrift für Rechtsinformatik und Informationsrecht (law journal)
JVWR	Journal of Virtual Worlds Research
Kan	Kansas Supreme Court
KuR	Kommunikation und Recht (law journal)
KyLJ	Kentucky Law Journal
L$	Linden Dollar (currency in *Second Life*)
La	Louisiana Supreme Court
La App	Louisiana Court of Appeal
LALaw	Los Angeles Lawyer
LaLRev	Louisiana Law Review
LContempProbs	Law and Contemporary Problems
LegalS	Legal Studies
LewisClarkLRev	Lewis and Clark Law Review
lex causae	the law of the case
lex fori	the law of the place of action
lex loci delicti commissi	the law of the place where the harmful act was committed
lex loci protectionis	the law of the place where the protection is [claimed]
lex loci rei sitae/lex situs	the law of the place where the thing/property is situated
LG	Landgericht (a German Regional Court)
Linden Lab/Linden	Linden Research Incorporated, *Second Life*
Little	Little, Brown & Company
LLC	Limited Liability Company
LLP	Limited Liability Partnership
LoyConsumerLRev	Loyola Consumer Law Review
LoyLAIntl & CompLJ	Loyola of Los Angeles International and Comparative Law Journal
LoyLALRev	Loyola of Los Angeles Law Review
LoyUChiLJ	Loyola University Chicago Law Journal
LoyUChiLRev	Loyola University Chicago Law Review
LP	Limited Partnership
LPh	Law and Philosophy
LQRev	Law Quarterly Review

Ltd	Limited
MarqLRev	Marquette Law Review
MarshJComp & InfL	Marshall Journal of Computer and Information Law
Mass	Massachusetts Supreme Judicial Court
Mass Super	Massachusetts Superior Court
McGeorgeLRev	McGeorge Law Review
McGillLJ	McGill Law Journal
Md App	Maryland Court of Appeals
MD Pa	Middle District of Pennsylvania
Md Spec App	Maryland Court of Special Appeals
Md Tax	Maryland Tax Court
MD Tenn	Middle District of Tennessee
MdApp	Maryland Appellate Reports
MdLRev	Maryland Law Review
Me	Maine Supreme Judicial Court
Member State	EU Member State
MichApp	Michigan Appeals Reports
MichLRev	Michigan Law Review
MichStLRev	Michigan State Law Review
MichTelecomm & TechLRev	Michigan Telecommunications and Technology Law Review
MindArk	MindArk PE AB, *Entropia Universe*
Miss	Mississippi Supreme Court
MITP	Massachusetts Institute of Technology Press
MMOG	Massively Multiplayer Online Game
MMR	Multimedia und Recht (law journal)
Mo	Missouri Supreme Court
Mojang	Mojang AB, *Minecraft*
MOO	Mud Object Oriented—denoting the programming methodology/object orientation—used to build MUDs
MUCK	Multi-User Created Kingdom
MUD	Multi-User Dunge(o)n/Multi-User Dimension
MUJL & Tech	Masaryk University Journal of Law and Technology
MüKo	Münchener Kommentar zum Bürgerlichen Gesetzbuch (legal commentary)
MUSH	Multi-User Shared Hallucination, MUD environments with a strong and enforced role-playing convention
n/nn	footnote/footnotes (internal to the work) or variable (as applicable)
NC App	North Carolina Court of Appeals
NCCUSL	National Conference of Commissioners on Uniform State Laws
ND Ga	Northern District of Georgia

ND Ill	Northern District of Illinois
ND Ohio	Northern District of Ohio
NE2d	North Eastern Reporter, Second Series
NewCrLRev	New Criminal Law Review
NH	New Hampshire Supreme Court
NJ	New Jersey Supreme Court
NJ Super App Div	New Jersey Superior Court Appellate Division
NJW	Neue Juristische Wochenschrift (law journal)
NM App	New Mexico Court of Appeals
NMS	New Media and Society
Norrath	one of *EverQuest's* fantasy worlds
NotreDameLRev	Notre Dame Law Review
NPC	non-player-character (Appendix A)
NwJTech & IP	Northwestern Journal of Technology and Intellectual Property
NwULRev	Northwestern University Law Review
NY	New York Court of Appeals
NY Sup	New York Supreme Court
NYLSchLRev	New York Law School Law Review
NYULRev	New York University Law Review
NYUP	New York University Press
NZLRev	New Zealand Law Review
OGC	operator-generated content (Appendix A)
OH	Outer House
OhioNULRev	Ohio Northern University Law Review
OJLS	Oxford Journal of Legal Studies
OLG	Oberlandesgericht (a German Higher Regional Court)
Or	Oregon Supreme Court
OUP	Oxford University Press
P2d/P3d	Pacific Reporter, Second Series/Third Series
P2P	peer-to-peer
Palandt	Palandt Bürgerliches Gesetzbuch (legal commentary)
para/paras	paragraph/paragraphs
PED	Project Entropia Dollars (Currency in *Entropia Universe*)
PierceLRev	Pierce Law Review
PittJTechL & Pol	Pittsburgh Journal of Technology Law and Policy
prima facie	at first sight
PrincetonUP	Princeton University Press
pt/pts	part/parts
QB	Law Reports, Queen's Bench
QMUL	Queen Mary, University of London

RAM	random access memory (Appendix A)
Rec/Recs	Recital/Recitals
Regulation	EC/EU Regulation (legislative act)
Rel	Release number/date (loose leaf services)
RevInc & Wealth	Review of Income and Wealth
RevLitig	Review of Litigation
RG	Reichsgericht (Supreme Court of the German Reich)
RI	Rhode Island Supreme Court
RMT	real money trade (Appendix A)
RutgersCamLJ	Rutgers Camden Law Journal
RutgersJCompTechL	Rutgers Journal of Computers, Technology and Law
RutgersLRev	Rutgers Law Review
s/ss	section/subsections
SC	Session Cases (Scottish)
SCalLRev	Southern California Law Review
SCt	Supreme Court Reporter
SD Fla	Southern District of Florida
SDNY	Southern District of New York
SE2d	South Eastern Reporter Second
SetonHallLRev	Seton Hall Law Review
SJ	Solicitors Journal
SL	*Second Life* (<https://secondlife.com>)
SLT	Scots Law Times
SMethULRev	Southern Methodist University Law Review
So2d	Southern Reporter, Second Series
SocP & Pol	Social Philosophy and Policy
SoftwLJ	Software Law Journal
StanLRev	Stanford Law Review
Staudinger	Staudingers Bürgerliches Gesetzbuch (legal commentary)
StClaraComp & HighTechLJ	Santa Clara Computer and High Technology Law Journal
STexLRev	South Texas Law Review
StJohnLRev	St John's Law Review
subch/subchs	subchapter/subchapters
SuffolkULRev	Suffolk University Law Review
sui generis	of its own kind, unique
SW2d	South Western Reporter, Second Series
Tenn	Tennessee Supreme Court
TennLRev	Tennessee Law Review
Tex App	Texas Court of Appeals

TexIntlLJ	Texas International Law Journal
TexIPLJ	Texas Intellectual Property Law Journal
TexLRev	Texas Law Review
TexRevEnt & SportsL	Texas Review of Entertainment and Sports Law
ToMag	Topic Magazine
TOS	Terms of Service
TouroLRev	Touro Law Review
TPB	third party beneficiary
tr/trs	translator/translators
TulJTech & IP	Tulane Journal of Technology and Intellectual Property
TulLRev	Tulane Law Review
UArkLittleRockLRev	University of Arkansas at Little Rock Law Review
UCalP	University of California Press
UCCRepServ	Uniform Commercial Code Reporting Service
UChiLegalF	University of Chicago Legal Forum
UChiLRev	University of Chicago Law Review
UChiP	University of Chicago Press
UCinLRev	University of Cincinnati Law Review
UCLA	University of California Los Angeles
UCLAJIntL	UCLA Journal of International Law
UCLALRev	UCLA Law Review
UCLP	University College London Press
UFlaLRev	University of Florida Law Review
UGC	user-generated content, including any user modification, manipulation or development of operator and third user generated content (Appendix A)
UIllLRev	University of Illinois Law Review
UK	United Kingdom
UMichP	University of Michigan Press
UOttL & TechJ	University of Ottawa Law and Technology Journal
UPaLRev	University of Pennsylvania Law Review
UPittLRev	University of Pittsburgh Law Review
UrbLaw	Urban Lawyer
US	United States of America, United States Supreme Court, or United States Reports (as applicable)
USA/United States	United States of America
USC	United States Code/US Code
USFLRev	University of San Francisco Law Review
UStThomasLJ	University of St Thomas Law Journal
Va	Virginia Supreme Court
VA	virtual asset (Appendix A)
VaJIntlL	Virginia Journal of International Law

VaJL & Tech	Virginia Journal of Law and Technology
VaLRev	Virginia Law Review
VandJEnt & TechL	Vanderbilt Journal of Entertainment and Technology Law
VandLRev	Vanderbilt Law Review
VaTaxRev	Virginia Tax Review
VillLRev	Villanova Law Review
VillSports & EntLJ	Villanova Sports and Entertainment Law Journal
vol/vols	volume/volumes
Vt	Vermont Supreme Court
VW	virtual world
W Va	West Virginia Supreme Court
WakeForestJBus & IPL	Wake Forest Journal of Business and Intellectual Property Law
WakeForestLRev	Wake Forest Law Review
WashburnLJ	Washburn Law Journal
WashLeeLRev	Washington and Lee Law Review
WD Pa	Western District of Pennsylvania
WD Wis	Western District of Wisconsin
Wis	Wisconsin Supreme Court
Wis2d	Wisconsin Reports, Second Series
WisIntlLJ	Wisconsin International Law Journal
WisLRev	Wisconsin Law Review
WL	Westlaw
WmMLRev	William and Mary Law Review
WoW	*World of Warcraft* (<https://worldofwarcraft.com>)
WVaLRev	West Virginia Law Review
Wyo	Wyoming Supreme Court
YaleLJ	Yale Law Journal
YaleLJPP	Yale Law Journal Pocket Part
YaleLSch LegalSRepoPa	Yale Law School Legal Scholarship Repository
YaleUP	Yale University Press
YouTube	YouTube LLC
ZGE	Zeitschrift für Geistiges Eigentum (law journal)
ZUM	Zeitschrift für Urheber- und Medienrecht (law journal)

Table of Legislation, Contracts and Abbreviations

International Treaties, Conventions and Agreements

Berne Convention for the Protection of Literary and Artistic Works of 9 September 1886 (**Berne Convention**)

WIPO Draft Treaty on Intellectual Property in Respect of Databases 1996

US Legislation (Federal and State Acts, Bills, Codes, and Restatements)

15 US Code, ch 1, ss 1-2 on Monopolies and Combinations in Restraint of Trade **OR** Sherman Antitrust Act 1890 (**Sherman Act/SHA**)

15 US Code, ch 1, ss 12ff on Monopolies and Combinations in Restraint of Trade **OR** Clayton Antitrust Act 1914 (**Clayton Act/CLA**)

15 US Code, ch 103, ss 7701ff on Controlling the Assault of Non-Solicited Pornography and Marketing **OR** Controlling the Assault of Non-Solicited Pornography and Marketing Act 2004

15 US Code, ch 2, subch 1, ss 41ff on Federal Trade Commission **OR** Federal Trade Commission Act 1914 (**Federal Trade Commission Act/FTCA**)

15 US Code, ch 96, ss 7001ff on Electronic Signatures in Global and National commerce **OR** Electronic Signatures in Global and National Commerce Act 2000 (**ESIGN**)

17 US Code on Copyrights (1909) (**17 USC [1909]**), s 41

17 US Code on Copyrights **OR** Copyright Act 1976 (**17 USC/Copyright Act**)

18 USC, pt I, ch 113, ss 2311ff on Transportation of Stolen Goods, Securities, Moneys, Fraudulent State Tax Stamps, or Articles Used in Counterfeiting (**18 USC**)

37 Code of Federal Regulations on Patents, Trademarks and Copyrights (**37 CFR**)

47 US Code, ch 5, subch II, pt I, ss 201ff on Protection for Private Blocking and Screening of Offensive Material **OR** Communications Decency Act 1996 (**47 USC**)

California Business and Professions Code (**Cal Bus & Prof Code**), ss 16600ff; *16720*; 17200ff; 17500) (the italicised section is also known as the California Cartwright Act [**Cartwright Act**] and the underlined sections are also known as the California Unfair Competition Law [**UCL**])

California Civil Code (**Cal Civ Code**), ss 1670.5(a); *1750ff*; *1770(a), 1780(a); 1780(a)(14); 17808(a)(19)* (the italicised sections are also known as the California Consumers Legal Remedies Act [**CLRA**])

California Commercial Code

California Revenue & Tax Code (1986 & Supp 1990) (**Cal Rev & Tax Code**)

Constitution of the United States of 17 September 1787 (**US Constitution**)

Delaware Annotated Code, Commerce and Trade (2006) (**Del Code Ann**)

Fifth Amendment to the US Constitution (**Fifth Amendment**)

House Bill 3531 – Database Investment and Intellectual Property Antipiracy Act of 1996, 104th Congress (1995-1996) (unenacted)

Maryland Annotated Code, Commercial Law (2011) (**Md Code Ann**)

Restatement (Second) of Conflict of Laws 1971 (**Restatement (Second) of Conflict of Laws/R2CoL**)

Restatement (Second) of Contracts 1981 (**Restatement (Second) of Contracts/R2K**)

Restatement (Second) of Torts 1965 (**Restatement (Second) of Torts/R2T**)

Texas Annotated Code, Tax General (1969) (**Tex Code Ann**)

Uniform Commercial Code 2002 (and revised Art 9 from 2010) (**Uniform Commercial Code/UCC**)

Uniform Commercial Code 2005 (**UCC [2005]**) (withdrawn 2011)

Uniform Computer Information Transactions Act 1999 (**UCITA**)

Uniform Electronic Transactions Act 1999

Uniform Sales Act 1906

C) EU/EC Legislation (Conventions, Regulations and Directives)

Consolidated Version of the Convention 80/934/EEC on the Law Applicable to Contractual Obligations Opened for Signature in Rome on 19 June 1980 [1980] OJ L266/1 (**Rome Convention**)

Consolidated Version of the Treaty on the European Union [2012] OJ C326/13

Consolidated Version of the Treaty on the Functioning of the European Union [2012] OJ C326/47 (**TFEU**)

Convention on the Grant of European Patents of 5 October 1973

Council Directive (EEC) 91/250/EEC of 14 May 1991 on the Legal Protection of Computer Programs [2009] OJ L22/42

Council Directive (EEC) 93/13 of 5 April 1993 on Unfair Terms in Consumer Contracts [1993] OJ L95/29 (**UCT Directive**)

Council Regulation (EC) 1/2003 of 16 December 2002 on the Implementation of the Rules on Competition Laid Down in Articles 81 and 82 of the Treaty [2003] OJ L1/1

Council Regulation (EC) 44/2001 of 22 December 2000 on Jurisdiction and the Recognition and Enforcement of Judgements in Civil and Commercial Matters [2000] L12/1(**Brussels I**)

Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society [2001] OJ L167/10 (**InfoSoc Directive**)

Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 Concerning Unfair Business-to-Consumer Commercial Practices in the Internal Market [2005] OJ L149/22

Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the Legal Protection of Computer Programs [2009] OJ L111/16 (**Software Directive**)

Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on Consumer Rights [2011] OJ L304/64 (**Consumer Rights Directive**)

Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases [1996] OJ L77/20 (**Database Directive**)

Regulation (EC) 593/2008 of the European Parliament and of the Council of 17 June 2008 on the Law Applicable to Contractual Obligations [2008] OJ L177/6 (**Rome I**)

Regulation (EC) 864/2007 of the European Parliament and of the Council of 11 July 2007 on the Law Applicable to Non-Contractual Obligations [2007] OJ L199/40 (**Rome II**)

Regulation (EU) 1215/2012 of the European Parliament and of the Council of 12 December 2012 on Jurisdiction and the Recognition and Enforcement of Judgments in Civil and Commercial Matters [2012] OJ L 351/1

D) UK Legislation

Competition Act 1998

Consumer Protection from Unfair Trading Regulations 2008

Consumer Rights Act 2015 (**CRA**)

Contracts (Rights of Third Parties) Act 1999

Copyright and Rights in Databases Regulations 1997

Copyright, Designs and Patents Act 1988 (**CDPA**)

E) German Legislation

Act Against Restraints of Competition/Gesetz gegen Wettbewerbsbeschränkungen

<www.gesetze-im-internet.de/englisch_gwb/index.html>

Act Against Unfair Competition/Gesetz gegen den unlauteren Wettbewerb

<www.gesetze-im-internet.de/englisch_uwg/>

Act on Author's Right and Related Rights/Gesetz über Urheberrecht und verwandte Schutzrechte (**UrhG**)

<www.gesetze-im-internet.de/englisch_urhg/englisch_urhg.html>

Civil Law Code/Bürgerliches Gesetzbuch (**BGB**)

<www.gesetze-im-internet.de/englisch_bgb/>

Introductory Act to the Civil Law Code/Einführungsgesetz zum Bürgerlichen Gesetzbuch (**EGBGB**)

<www.gesetze-im-internet.de/englisch_bgbeg/>

F) Swedish Legislation

Act on Contracts and other Legal Documents on Wealth and Commercial Matters/Lag om avtal och andra rättshandlingar på förmögenhetsrättens område (1915:218)

Act on Copyright in Literary and Artistic Works/Lag om upphovsrätt till litterära och konstnärliga verk (1960:729)

<www.wipo.int/wipolex/en/text.jsp?file_id=290912>

Consumer Contracts Act/Lag om avtalsvillkor i konsumentförhållanden (1994: 1512)

Group Proceedings Act/Lagen om grupprättegång (2002:599)

<www.government.se/government-policy/judicial-system/group-proceedings-act/>

G) Contracts

A Tale in the Desert Terms and Conditions (***ATITDT&Cs***)

<www.desert-nomad.com/Terms>

Blizzard Battle.Net Terms of Use of 2004 (***Battle.NetToU [2004]***)

<https://web.archive.org/web/20040604215028/http://www.battle.net:80/tou.shtml>

Blizzard Code of Conduct (US/EU) (***BlzdCoC[US/EU]***)

<https://us.battle.net/support/en/article/42673>

<https://eu.battle.net/support/en/article/42673>

Blizzard End User License Agreement (EU) of 25 August 2017 (***BlzdEULA[EU]***)

<http://eu.blizzard.com/en-gb/company/legal/eula.html>

Blizzard End User License Agreement (US) of 1 June 2018 (***BlzdEULA[US]***)

<http://us.blizzard.com/en-us/company/legal/eula.html>

Blizzard Terms of Sale (EU) of 27 August 2018

<www.blizzard.com/en-gb/legal/db1143a0-8f3c-49b6-b431-97bde499141e/terms-of-sale>

Blizzard Terms of Sale (US) of 12 January 2015

<http://us.blizzard.com/en-us/company/about/termsofsale.html>

Craigslist Terms of Use (US) of 28 April 2009

<http://web.archive.org/web/20081217043943/http://www.craigslist.org/about/terms.of.use>

Entropia Universe Account Terms of Use from 25 May 2018 (***EUAToU***)

<http://legal.entropiauniverse.com/legal/terms-of-use.xml>

Entropia Universe End User License Agreement of 16 October 2007

<https://web.archive.org/web/20071119133434/http://www.entropiauniverse.com/pe/en/rich/107004.html>

Entropia Universe End User License Agreement of 24 May 2018 (***EUEULA***)

<http://legal.entropiauniverse.com/legal/eula.xml>

Fornite Terms of Service (US/EU) from 2018 (***FNToS***)

<www.epicgames.com/site/en-US/tos>

Fortnite End User License Agreement (US/EU) from 2018 (***FNEULA***)

<www.epicgames.com/fortnite/en-US/eula>

Minecraft End User License Agreement (***MCEULA***)

<https://account.mojang.com/documents/minecraft_eula>

Second Life Terms and Conditions from 31 July 2017 (***SLT&Cs***)

<www.lindenlab.com/legal/second-life-terms-and-conditions>

Second Life Terms of Service from 15 December 2010 (***SLToS [2010]***)

<https://web.archive.org/web/20121006173958/http://secondlife.com/corporate/tos.php?lang=en-US>

Second Life Terms of Service from 31 July 2017 (***SLToS***)

<www.lindenlab.com/tos>

World of Warcraft End User License Agreement (EU) of 15 December 2010 (***WoWEULA[EU]***)

World of Warcraft Terms of Use (US) of 11 January 2007

<https://web.archive.org/web/20070118153618/www.worldofwarcraft.com/legal/termsofuse.html>

Table of Contents

Table of Examples

> There is nothing which so generally strikes the imagination and engages the affections of mankind, as the right of property; or that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe. And yet there are few, that will give themselves the trouble to consider the origin and foundation of this right.
>
> William Blackstone (1765-69)[1]

Chapter 1 Introduction

Most people who craft, buy or possess things and create, license or use intangibles will have a basic understanding of what ought or ought not to be their property. In its broadest sense, property may be understood and described as usable wealth,[2] but social and technological progress may challenge common notions of property eventually raising the questions of what assets may qualify as property and who may qualify as property right holder.

Only recently the Internet has been enriched by a new phenomenon with some economical and mass media importance.[3] A real phenomenon which beats hollow most well-known communication forms that has been described as a 'virtual world',[4] 'synthetic world',[5] 'virtual environment',[6] 'virtual community',[7] or 'cyberspace'[8] (**VW**).[9]

The history of today's VWs has begun in 1976 when Crowther wrote the computer game *Advent*.[10] The game was a 'navigable textual database'[11] loosely based on the Mammoth Cave in Kentucky 'replete[d] with complicated puzzles requiring [similar to a *Dungeons & Dragons*

[1] William Blackstone, *Commentaries on the Law of England (1765-1769)*, vol 2, ch1, 2 (Clarendon 2005).
[2] Sarah Worthington, 'The Disappearing Divide Between Property and Obligation: The Impact of Aligning Legal Analysis and Commercial Expectation' (2007) 42 TexIntlLJ 917, 919.
[3] Linden Lab, 'Second Life in the News: Archive' (*SecondLife.com,* nd) <https://secondlife.com/news/archive/?year=2006> accessed 17 November 2018; Aleks Krotoski, 'The Rise of the eNation' (*BBC,* 6 August 2009) <www.bbc.co.uk/blogs/legacy/digitalrevolution/2009/08/the-rise-of-the-enation.shtml> accessed 17 November 2018; Lisa Millar, 'What happened to Second Life?' (*BBC News Magazine,* 20 November 2009) <http://news.bbc.co.uk/1/hi/magazine/8367957.stm> accessed 17 November 2018; Jack Schofield, 'Reuters quits Second Life' *Guardian* (London 23 November 2008) <www.theguardian.com/technology/blog/2008/nov/23/reuters-quits-secondlife>.
[4] Francis Gregory Lastowka and Dan Hunter, 'The Laws of the Virtual Worlds' (2004) 92 CalLRev 1.
[5] Edward Castronova, *Synthetic Worlds: The Business and Culture of Online Games* (UChip 2005); Edward Castronova, 'The Right to Play' (2004) 49 NYLSchLRev 185, 189.
[6] Nicholas Yee, 'The Psychology of Massively Multi-User Online Role-Playing Games: Motivations, Emotional Investment, Relationships and Problematic Usage' in R Schroeder and A Axelsson (eds), *Avatars at Work and Play: Collaboration and Interaction in Shared Virtual Environments* (Springer 2006).
[7] Howard Rheingold, *The Virtual Community: Homesteading on the Electronic Frontier* (Addison Wesley 1993).
[8] Crosbie Fitch, 'Cyberspace in the 21st Century: Part One, Mapping the Future of Multiplayer Games' (*Gamasutra,* 20 January 2000) <www.gamasutra.com/view/feature/3421/cyberspace_in_the_21st_century_.php> accessed 17 November 2018.
[9] Subch2.1
[10] Richard A Bartle, *Designing Virtual Worlds* (New Riders 2003) 3ff; Chris McGowan and Jim McCullaugh, *Entertainment in the Cyberzone: A Behind the Scenes Look* (Random House 1995) 69-72.
[11] Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 17; Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet* (Simon & Schuster 1995) 181 ('All users are browsing and manipulating the same database.')

dungeon master] its players to perform certain tasks with specific objects to avoid death and to progress in the game'.[12] Later in 1978, Trubshaw and Bartle created the first multi-player world *MUD1*,[13] where users could talk with others via simple text commands.[14] In the mid 1980s Farmer and Morningstar then developed arguably one of the first visual VWs, *Habitat*, for Lucasfilm,[15] and in 1993 Curtis established the well-known, for some time *self-governing*, world of *LambdaMOO*.[16] Since then a vast increase in network connectivity and bandwidth, more powerful computers, advances in three-dimensional graphics and object-oriented programming have enabled VWs to become even larger, more sophisticated, and populated with an increasing number of users.[17]

Often different in appearance, aim and objective, today's VWs can broadly be classified in **metaverses** and massively multiplayer online games (**MMOGs**).[18] *Second Life*, *There.com, A Tale in the Desert* and other metaverses offer first and foremost a platform for social (and economical) experience where every user can have his/her own agenda.[19] In contrast, *World of Warcraft*, *Everquest*, *Fortnite*, *Entropia Universe*[20] and other MMOGs typically ask their

[12] Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 17; Rick Adams, 'Colossal Cave Adventure Page' <http://rickadams.org/adventure/> accessed 17 November 2018; Julian Dibbell, 'A Marketable Wonder: Spelunking the American Imagination' (2002) ToMag <www.juliandibbell.com/texts/cavespace.html> accessed 17 November 2018; Beverly I Schwartz, 'Everything You've Ever Wanted to Know About Adventure! A Quick Introduction to the Game...' (nd) <www.ir.bbn.com/~bschwart/adventure.html> accessed 18 February 2014 (explaining textual commands to navigate within the *Advent* database).

[13] In *Advent* only one avatar could exist within the textual database at any given time.

[14] Turkle, *Life on the Screen: Identity in the Age of the Internet* (n11) 181 ('MUDs are text-based, social virtual reality.'); Richard A Bartle, 'MUD Glorious Mud' (21 January 1999) <www.mud.co.uk/richard/gnome.htm> accessed 17 November 2018; Rheingold, *The Virtual Community: Homesteading on the Electronic Frontier* (n7) (*MicroMUSE* MUD); Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 19 (fn84) (on MOOs, MUCKs and MUSHes); Leigh Ann Hussey and Emerson Hayseed, 'The Lost Library of MOO' <www.hayseed.net/MOO/> accessed 17 November 2018.

[15] Chip Morningstar and F Randall Farmer, 'The Lessons of Lucasfilm's Habitat' in Michael L Bendikt (ed), *Cyberspace: First Steps* (MITP 1990).

[16] *LambdaMOO* (<telnet://lambda.moo.mud.org:8888/>); Jennifer L Mnookin, 'Virtual(ly) Law: The Emergence of Law in LambdaMOO' (1996) 2 JCompMediatedComm 1.

[17] Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 25; KZero Worldswide, 'Growth: Number of VWs' (30 September 2009) <www.slideshare.net/nicmitham/virtual-worlds-2010-2098472?src=embed> accessed 17 November 2018; Permalink, 'Worldwide Digital Games Market: August 2018' (*Superdata - Games & Interactive Media Intelligence,* 25 September 2018) <www.superdataresearch.com/us-digital-games-market/> accessed 17 November 2018; Statista.com, 'Number of World of Warcraft (WoW) Subscribers from 2015 to 2023' (nd) <www.statista.com/statistics/276601/number-of-world-of-warcraft-subscribers-by-quarter/> accessed 17 November 2018; Lee Cliff, 'Who Still Hangs Out on Second Life? More than Half a Million People' (*The Globe and Mail,* 17 May 2017) <www.theglobeandmail.com/life/relationships/who-still-hangs-out-on-second-life-more-than-half-a-million-people/article35019213/> accessed 17 November 2018; Jambon, 'Ever Wonder the Number of Active Players over the Years?' (*PlanetCalypsoForum.com,* 24 January 2018) <www.planetcalypsoforum.com/forums/showthread.php?302197-Ever-wonder-the-number-of-active-players-over-the-years> accessed 17 November 2018; Statista.com, 'Number of Players of Fortnite Worldwide from August 2017 to June 2018' (nd) <www.statista.com/statistics/746230/fortnite-players/> accessed 17 November 2018; Samuel Horti, 'Minecraft Had 74 Million Active Players in December, a New Record for the Game' (*PCGamer,* 21 January 2018) <www.pcgamer.com/minecraft-had-74-million-active-players-in-december-a-new-record-for-the-game/> accessed 17 November 2018.

[18] Castronova, 'The Right to Play' (n5) 185; 201f; Neal Stephenson, *Snow Crash* (Bantam Books 1992).

[19] *SL* (<https://secondlife.com>); *There* (<www.there.com>); *ATITD* (<www.desert-nomad.com>).

[20] In direct comparison to *WoW* (<https://worldofwarcraft.com>), *EQ* (<www.everquest.com>) and *Fortnite* (<www.epicgames.com>), *EU* (<www.entropiauniverse.com>) may be regarded as a hybrid VW (located between metaverses and MMOGs), which does not only provide an environment for living and socialising, but also 'missions'

players to slay monsters, battle other characters, cast spells, explore foreign civilizations, or complete related tasks to avoid certain death, compete and level-up.[21]

Interesting from a legal point of view, both classes of VWs often (1) pursue different approaches to the creation of user-generated content (**UGC**),[22] (2) provide different stringent property rights terms,[23] and (3) make different use of client/server system architecture[24] with the potential to affect user's property rights claims. Only a few users may earn a living in VWs,[25] but many of them invest considerable amounts of time, effort and money to create, accumulate and develop **characters**,[26] **objects**[27] and **items**[28] (virtual assets or **VA**s) to gain prestige or competitive advantage, or simply to have more fun playing. Soon users, who often build strong emotional connections to *their* characters[29] and may place a high value on some accumulated operator, **third user,**[30] and user-generated content,[31] have started trading VAs first within the boundaries of the VW, but gradually expanded to eBay and other online auction sites.[32]

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and areas of player versus player combat (Letum Mr Latro, 'Guides: Entropia Universe Player vs Players Beginners Guide' (*EntropiaForum.com,* nd) <www.entropedia.info/Page.aspx?page=Guides%3AEntropia+Universe+Player+vs+Players+Beginners+Guide> accessed 17 November 2018). See also *Minecraft* (<https://minecraft.net>); Minecraft Wiki, 'Gameplay' (nd) <https://minecraft.gamepedia.com/Gameplay> accessed 17 November 2018 (Minecraft offers 'creative', 'survival', 'adventure', 'spectator' and 'hardcore' game modes); Nick Statt, 'Fortnite Is the Biggest Game on the Planet right now because It's a Living, Breathing World' (*The Verge.com,* 6 May 2018) <www.theverge.com/2018/5/6/17321172/fortnite-epic-games-biggest-game-living-breathing-world-mmo-rpg-battle-royale> accessed 17 November 2018 (on *Fortnite's* transformation to become an MMOG ['*Fortnite*: Save the World']).

[21] Often starting with fairly weak and untrained characters, players must perform tasks to gain a certain number of experience points to achieve the next stage of character development (there is no end-state to the MMOG). As the players move up in level, the players' statistics (eg, maximum agility, intellect, spirit, stamina, and strength), tools (eg, weapons, armour, and equipment), and abilities (eg, spells, and combat techniques) increase correspondingly. See Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 16 (describing levelling in *Dungeons & Dragons*); Cory R Ondrejka, 'Escaping the Gilded Cage: User Created Content and Building the Metaverse' (2004) 49 NYLSchLRev 81, 89.

[22] Subchs7.2ff.

[23] Subchs5.2.2; 6.4; Chapter 6.

[24] nn101ff.

[25] Although this 'earning a living' happens more often in metaverses (Susan Wu, 'Virtual Goods: The Next Big Business Model' [2007] <http://techcrunch.com/2007/06/20/virtual-goods-the-next-big-business-model/> accessed 17 November 2018), businesses may be everything from mining, crafting, creating and trading objects, trading and levelling-up characters (n21) and providing services and add-on software to licensing rights and becoming a virtual landlord or virtual real estate agent but also anything in between. See Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 10.

[26] The character chosen by the user, (1) tied to his/her user account, (2) graphically, textually or digitally represented in the VW as an avatar, (3) and depicted in human, animal or imaginary form.

[27] Objects are the building blocks of the VW and may include everything imaginable from armoury, weapons, tools, furniture and everyday commodities to *real estate*.

[28] An item is something that a user can carry, either in his/her inventory, represented by an inventory icon, or tracked on a page in the character sheet (*WoW*). An item is a conceptual object, not *per se* a virtual object, but often associated. For instance, whilst clothing gear items are equipped, clothing gear objects appear on the avatar.

[29] Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 66 (with further references).

[30] Any subscriber to the VW who entered into a Third Contract with the operator and is not a party to the Contract between the user and the operator.

[31] An object created, modified or manipulated by the user using editors or other software tools or accumulated for the use in VWs. See David G Post, *In Search of Jefferson's Moose: Notes on the State of Cyberspace* (OUP 2009) 181.

[32] Early trade was still affected with virtual currency (eg, L$; *EQ* platinum pieces). Nowadays, some of this virtual currency can be converted into actual money at online currency-exchanges (Seth Schiesel, 'Entropia Universe Players Can Cash Their Online Earnings at the ATM' *New York Times* [New York 2 May 2006] <www.nytimes.com/2006/05/02/arts/02entr.html>; MindArk, 'Withdrawals Information [Fixed Exchange Rate]' [*EntropiaUniverse.com,* nd] <https://account.entropiauniverse.com/account/deposits/> accessed 17 November 2018) or into game time (*WoW*

Following the economic *law* of supply and demand,[33] this real money trade (**RMT**) is thriving,[34] virtual real estate has since been traded for up to $6 million (Planet Calypso),[35] a virtual space station $330,000[36] and even a level-70 Night Elf rogue named Zeuzo was sold for almost $10,000.[37] At times more than $1,5 million changed hands among *Second Life* users on an average day[38] and in 2001 the players of *Everquest's* fantasy world, Norrath, produced with their labours on average 'about $15,000 in avatar capital in an hour. This [made] the gross national product of Norrath about $135 million. Per capita, it [came] to $2,266. According to GNP [per capita] data from the World Bank Norrath [was then] the 77th richest country in the

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Token). The *WoW* Token allows players to purchase gold pieces. Players can buy *WoW* Tokens from the in-game shop for $20 and then sell it in the *WoW* Auction House for gold pieces, or buy a *WoW* Token with gold pieces from the *WoW* Auction House and then use it to add 30 days of game time to the player's subscription (Blizzard, 'Blizzard Shop: WoW Token' [*US.Battle.net,* nd] <https://us.battle.net/shop/en/product/world-of-warcraft-token> accessed 17 November 2018). After eBay banned VA auctions in 2007 (Daniel Terdiman, 'eBay Bans Auctions of Virtual Goods' [*CNET,* 29 January 2007] <www.cnet.com/news/ebay-bans-auctions-of-virtual-goods/> accessed 17 November 2018; Greg Sandoval, 'eBay, Yahoo Crack Down on Fantasy Sales' [*CNET,* 26 January 2001] <www.cnet.com/news/ebay-yahoo-crack-down-on-fantasy-sales/> accessed 17 November 2018), users turned to different auction platforms and, to date, several VWs have established their own online trading platforms (eg, *SL* Market Place [Linden Lab, 'Second Life: Marketplace' (*SecondLife.com,* nd) <https://marketplace.secondlife.com/?> accessed 17 November 2018]; *EU* trade terminals [EntropiaDirectory.com, 'Trade Terminal' (nd) <www.entropiadirectory.com/wiki/trade_terminal/> accessed 17 November 2018]; *EU* Auctioneers & Auction Houses [EntropiaDirectory.com, 'Auction' (nd) <www.entropiadirectory.com/wiki/auction/> accessed 17 November 2018]; Alice, 'Basic Trading Tutorial' [*PlanetCalypso Forum.com,* 23 December 2006] <www.planetcalypsoforum.com/forums/showthread.php?49103-Basic-Trading-Tutorial> accessed 17 November 2018; *WoW* Auction House [WoWWiki, 'Auction House' (nd) <http://wowwiki.wikia.com/wiki/Auction_House> accessed 17 November 2018]). Interestingly, despite the eBay ban and a prohibition of RMT *Fortnite* characters, objects and items and *Clash of Clans* user accounts are auctioned on eBay. Eg, Braedorother0, 'Fortnite Account: Renegade Raider, Ghoul Trooper, Red Nose Raider' (*ebay.com,* 8 November 2018) <www.ebay.com/itm/OG-Fortnite-Account-Christmas-skins-Renegade-Raider/401628592598?hash=item5d82edf9d6:g:PW8AAOSwo2xb3e3V> accessed 8 November 2018 (the current bid was $2,025).

[33] Rarer VAs are in particular valuable to those users who do not have them and do not want to spend their own time creating and/or obtaining them. See Post, *In Search of Jefferson's Moose: Notes on the State of Cyberspace* (n31) 181; Mandy Salomon and Serge Soudoplatoff, 'Virtual Economies, Virtual Goods and Service Delivery in Virtual Worlds: Why Virtual-World Economies Matter' (2010) 2 JVWR 1 (on virtual economies, scarcity and rivalrousness).

[34] See for example, James Batchelor, '69% of Fortnite Players Have Bought In-game Purchases, Average Spend Is $85' (*Gamesindustry.biz,* 27 June 2018) <www.gamesindustry.biz/articles/2018-06-27-69-percent-of-fortnite-players-have-bought-in-game-purchases-average-spend-is-usd85> accessed 17 November 2018; Mark Molloy, Duarte Dias and Izzy Lyons, 'Meet the Gamers Willing to Spend Hundreds of Thousands Living Their Video Game Fantasy' (*The Telegraph,* 16 July 2018) <www.telegraph.co.uk/news/2018/07/16/meet-gamers-willing-spend-hundreds-thousands-living-video-game/> accessed 17 November 2018.

[35] Andrea Divirgilio, 'Most Expensive Virtual Real Estate Sales' (*Bornrich,* 23 April 2011) <www.bornrich.com/most-expensive-real-estates-from-the-virtual-world.html> accessed 17 November 2018.

[36] Rainier, 'Planet Calypso Virtual Space Station Sets New Record, Sold for $330,000' (*WorthPlaying,* 6 January 2010) <http://worthplaying.com/article/2010/1/6/news/71319/> accessed 30 October 2018. See also Daniel Terdiman, 'Man Pays $100,000 for Virtual Resort' (*CNET,* 11 November 2005) <www.cnet.com/news/man-pays-100000-for-virtual-resort/> accessed 17 November 2018.

[37] Christina Jimenez, 'The High Cost of Playing Warcraft' (*BBC News,* 24 September 2007) <http://news.bbc.co.uk/1/hi/technology/7007026.stm> accessed 17 November 2018; Salomon and Soudoplatoff, 'Virtual Economies, Virtual Goods and Service Delivery in Virtual Worlds: Why Virtual-World Economies Matter' (n33) 6 (stating that the price of VAs is 'attached to the value of the usage in a given context. [As] Shakespeare beautifully describes it when King Richard III says: "A horse! A horse! My kingdom for a horse!" The cost of fabricating a kingdom is not comparable to the cost of fabricating a horse, but given the context, the king would trade one for another').

[38] Miranda Marquit, 'Is Second Life's Economy Too Big To Fail?' (*Phys.org,* 13 October 2009) <http://phys.org/news/2009-10-life-economy-big.html> accessed 17 November 2018; Nic Flemming, 'Virtual World Disputes Heading for Real Courtrooms' (*NewScientist.com,* 30 September 2009) <www.newscientist.com/article/mg20427285.900-virtual-world-disputes-heading-for-real-courtrooms.html> accessed 17 November 2018; Brent CJ Britton, 'Does Virtual Reality Alter the Rules?' (2007) 151 SJ 1214.

world, roughly equal to Russia'.[39] Seventeen years after Castronova's impetus for the legal discussion of VWs, *Everquest* has long been dethroned as market leader in the number of players,[40] and VWs are less popular than previously predicted.[41] But a review of the *Fortnite* player's listings in eBay,[42] the *Second Life* market place and *Entropia Universe* auction house[43] or non-empirical spot-checks on the prices of major grey market vendors, for example for *World of Warcraft* gold pieces and characters,[44] insofar similar to Castronova's economic analysis[45] may still illustrate the continued, but slightly unbalanced[46] vitality of VW economies. And where there is value, there is dispute often followed by litigation.

The users' experience of VAs as tradable and usable wealth, contrasts starkly with most in-world property models where initial property rights belong to the operator (as the creator of the VW [and all the operator-generated content] and traditional [intellectual] property right holder[47]), subsequent rights are delineated by contract, and emerging property rights are transferred to the operator or waived by the user.[48] Having invested up to hundreds of millions of US Dollars to create, uphold, and develop the VW,[49] operators may follow different strategies

[39] Edward Castronova, 'Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier' (2001) SSRN eLibrary <http://ssrn.com/paper=294828> accessed 17 November 2018 33.

[40] Ellie, 'Most Played MMORPG Games of 2016' (*IGCritic,* 17 March 2016) <http://igcritic.com/most-played-mmorpg-games-of-2016/> accessed 17 November 2018; Omer Altay, 'Most Popular MMORPGS in the World' (*MMOs.com,* 28 April 2015) <https://mmos.com/editorials/most-popular-mmorpgs-world> accessed 17 November 2018; Simon Hill, 'MMO Subscriber Populations' (*Altered Gamer.com,* 17 April 2012) <www.alteredgamer.com/pc-gaming/35992-mmo-subscriber-populations/> accessed 17 November 2018 (discussing the difficulties to compare different VWs or to find accurate information); n17 (on *WoW* and *Fortnite*).

[41] According to Gartner, one of the leading information technology research firms, four out of five active internet users (and Fortune 500 enterprises) should have shopped, played and worked in VWs by the end of 2011 (Gartner, 'Gartner Says 80 Percent of Active Internet Users Will Have A "Second Life" in the Virtual World by the End of 2011' [*Gartner Incorporated,* 24 April 2007] <www.gartner.com/newsroom/id/503861> accessed 17 November 2018). See Tom DiChristopher, 'World of Warcraft Faces Decline as Gamers Tastes Shift' (*CNBC,* 11 November 2014) <www.cnbc.com/id/102172664> accessed 17 November 2018; Sigmund Leominster, 'Why Have Virtual Worlds Declined?' (*Metaverse Tribune,* 15 May 2013) <http://metaversetribune.com/2013/05/15/why-have-virtual-worlds-declined/> accessed 17 November 2018; Cliff, 'Who Still Hangs Out on Second Life? More than Half a Million People' (n17).

[42] n32. See also Odealo.com, 'Buy Fortnite Items, Weapons, Mats' (12 September 2018) <https://odealo.com/games/fortnite> accessed 12 September 2018.

[43] n32.

[44] 'Without a broad survey of participants, it is impossible to estimate the gross volume of this trade' (Castronova, 'Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier' [n39] 31). 50,000 gold pieces have been traded for up to $41.50, and a level 100 human (paladin) for up to $1,299. See Appendix D2.2 (on spot checks for *WoW* gold pieces and characters).

[45] ibid 33.

[46] One might find that less successful VWs tend to have less vibrant VW economies. See Emanuel Maiberg, 'Why Is "Second Life" still a Thing?' (*Motherboard,* 29 April 2016) <http://motherboard.vice.com/read/why-is-second-life-still-a-thing-gaming-virtual-reality> accessed 17 November 2018 (citing Linden Lab CEO Ebbe Altberg, '[In 2015], users redeemed $60 million [USD] from their *Second Life* businesses, and the virtual world's GDP is about $500 million, which is the size of some small countries.')

[47] Although the operator is often different from the developer/programmer of the VW, Software and character database, in this thesis the operator shall be regarded as its creator and author.

[48] Subch4.4.2.

[49] Omer Altay, 'The Most Expensive MMORPGs Ever Developed' (*MMOs.com,* 23 August 2015) <https://mmos.com/editorials/most-expensive-mmorpgs-ever-developed> accessed 17 November 2018; Digitalbattle, 'World of Warcraft Cost $63 Million' (*Internet Archive WayBackMachine,* June 2006) <https://web.archive.org/web/20130910180530/http:/digitalbattle.com/2006/06/15/world-of-warcraft-cost-63-million/> accessed 17 November 2018.

to recover costs and earn money,[50] but typically try to limit their liability and keep as much control of and as many rights in their creation as possible.

With the late success of VWs, their growing numbers,[51] user acceptance,[52] and trade volume,[53] more and more users—who have virtually no choice but to accept the terms of the Contract or be excluded from the VW altogether[54]—started arguing about this one-sided allocation of property rights.[55] But only a few court decisions have yet been concerned with VWs (all of which settled early), leaving the classification of VAs still open and uncertain.[56]

Noting the quasi-absolute effect of the multiple-separate user agreement (**Contract**),[57] insofar different to a regular bilateral or multilateral contract or *in personam* right,[58] this thesis questions common concepts of property and proposes instead in sub-chapter 8.1.2 a new quasi-property right based on the contractual obligation of the operator and in sub-chapter 9.3 the Contract (terms) as *new* default legal rules for VWs and similar online communities.[59]

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[50] Users may be asked to pay a monthly subscription fee for the MMOG Services as well as for an upgrade to the premium Services of the metaverse (Linden Lab, 'Second Life: Go Premium & Get More' [*SecondLife.com,* nd] <https://secondlife.com/premium/> accessed 17 November 2018; Erin Hoffman, 'Protect the Children - Slave to the Beat' [*Escapist,* 10 June 2008] <www.escapistmagazine.com/articles/view/video-games/issues/issue_153/4959-Slave-To-The-Beat.3> accessed 17 November 2018), to pay for in-world advertisement (Andrew Sparrow, *The Law of Virtual Worlds and Internet Social Networks* [Gower 2010] ch6.4, 130ff), or to buy in-game content sometimes necessary to progress in the VW (eg, *EU* [n20]; *WoW* [nn32; 982]; *Fortnite* [n20]). See Batchelor, '69% of Fortnite Players Have Bought In-game Purchases, Average Spend Is $85' (n34); Nick Statt, 'Fortnite Made Nearly $300 Million in the Month of April 2018' (*TheVerge.com,* 24 May 2018) <www.theverge.com/2018/5/24/17390004/fortnite-battle-royale-money-made-revenue-300-million-april-2018> accessed 17 November 2018.

[51] n17.

[52] At times, millions of people spent on average almost twenty-three hours per week in VWs (Yee, 'The Psychology of Massively Multi-User Online Role-Playing Games: Motivations, Emotional Investment, Relationships and Problematic Usage' [n6]).

[53] KZero Worldswide, 'Virtual Goods Revenues (USD)' (30 September 2009) <www.slideshare.net/nicmitham/virtual-worlds-2010-2098472?src=embed> accessed 17 November 2018; Juho Hamari and others, 'How Big Is the RMT Market Anyway?' (*Virtual Economy Research Network,* 2 March 2007) <https://virtualeconomyresearchnetwork.wordpress.com/2007/03/02/how_big_is_the_rmt_market_anyw/> accessed 17 November 2018; Maiberg, 'Why Is "Second Life" still a Thing?'; n32 (on trading platforms).

[54] Every user must 'agree to' the Contract before entering the VW (Sara M Grimes, 'Online Multiplayer Games: A Virtual Space for Intellectual Property Debates?' [2008] 8 NMS 969 [n63] 981). Although users may have a choice among different VWs, their terms will be similar. In consequence the actual choice may be illusory, having multiple sellers offering similar terms is tantamount to having no meaningful choice at all (Richard Craswell, 'Property Rules and Liability Rules in Unconscionability and Related Doctrines' [1993] 60 UChiLRev 1, 47). And there is no evidence that any operator has ever negotiated the content of the Contract (Michael Meehan, 'Virtual Property: Protecting Bits in Context' [2006] 13 Richmond Journal of Law and Technology 1, 15).

[55] Whilst property rights in VAs may exist independent of value, the need to examine them did not arise before users started to spend actual money in VWs. Subchs5.4; 8.2.3.

[56] *Bragg v Linden Research Inc* 487 FSupp2d 593, 606 (ED Pa 2007) (discussing the seizure of VAs within *SL*); *Hernandez v Internet Gaming Entertainment (Ltd and IGE) US LLC* 1:07-cv-21-21403-JIC (Claim) (SD Fla 2007) (discussing a *WoW* player's claim [as allegedly intended third-party beneficiary of the *WoW* Contract] against RMT); *Blizzard Entertainment Inc v In Game Dollar LLC* 8:07-cv-00589-JVS-AN (Consent Order) (CD Cal 2008) (discussing RMT in *WoW* alleging the tort of inducing a breach of contract and trespass to chattels); *Evans v Linden Research Inc* 2012 WL 5877579 (ND Cal 2012) (discussing virtual *real estate* that has been converted by Linden Lab's suspension or closure of accounts).

[57] The operator enters into a Contract with each user on the same terms (**multiple**), but the Contract with user A is separate from the Contract with user B, the Contract with user C is separate from the Contract with User A and the Contract with User B and so forth (**separate**). See subch9.2.

[58] Subch8.1.2.2.1.

[59] Default or background legal rules—as used in this thesis—are rules that will, in the absence of express exclusion, govern the parties' relationship.

This thesis is divided into ten chapters: Following a general introduction in Chapter 1, the reader is provided in Chapter 2 with an insight into the *new* real phenomenon of VWs and its technology and in Chapter 3 with an outline of the significance of this research. Chapter 4 is devoted to the questions: why would the operator want to claim 'all rights, title and interest' in the VW, Software and character database and prohibit RMT, what property rights can be claimed by the operator, and can they be used to protect its interest against claims of property rights by the users and to restrict RMT, or should the operator use contractual terms to protect its interest in the VW, Software and character database? In Chapter 5, the influence of the Contract (from the Client Software transaction [sales contract[60]], the use of the Client Software [**Software Contract**[61]] and the supply of the Services [**Services Contract**[62]] to the *purchase* of characters, objects and items [investing money]) on the transfer of property rights is analysed,[63] before the general enforceability of shrink-wrap/click-wrap Contracts and the unenforceability of some restriction-of-rights clauses in these Contracts are examined in Chapter 6. In Chapter 7, it is questioned whether the existing law (as previously examined) recognises user property rights in UGC (investing time and effort), followed by a discussion in Chapter 8 of whether a new virtual or quasi-property right property right is needed and may be justified economically, normatively or otherwise. Considering the previous findings, in Chapter 9, the premise is examined of whether the contractual governance system in VWs could support a new quasi-property right—a new virtual social contract, law of the firm and some self-governance in a magic circle, finally leading to the overall conclusion in Chapter 10.

[60] Subch5.2.
[61] Any agreement regulating the use of the Software. Eg, *EUEULA*; *BlzdEULA(US)/(EU)*; *SLToS*; *SLT&Cs*.
[62] Any agreement regulating the use of the Services (including the online access). Eg, *EUAToU*; *BlzdEULA (US)/(EU)*; *BlzdCoC(US/EU)*; *SLToS; SLT&Cs*.
[63] The term Contract refers to the Software Contract, the Services Contract, or both, because often they may be difficult to separate and to distinguish, and both allocate the rights and obligations between the operator and the user to VAs and beyond.

Chapter 2 What Are Virtual Worlds and How Do They Work?

Considering the various press reports on *Second Life*, *World of Warcraft* and RMT,[64] one might assume that even readers without any further interest in video games or computer programming will know about VWs. But what exactly are VWs, are they merely virtual and hence not real? Swiftly changing, and conceptually uncertain,[65] a common understanding and definition of the terms **virtual** and **world** seems necessary for any further legal discussion. And if VWs are real and someone engages in RMT or claims (property) rights in *his/her* VAs otherwise, what does he/she *sell*, what does he/she *purchase*? Does the technology of VWs have legal effect?

2.1 The New Real Phenomenon of Virtual Worlds

The English word **virtual** is derived from the Medieval Latin *virtualis* (potential) both sharing roots with the Latin *virtus* (strength, manliness, virtue);[66] notions of the virtual are to be found *inter alia* in scholastic philosophy[67] and technical sciences, but the ambivalence in the etymology and the differing connotations and denotations have soon engendered some confusion.[68] Lexical definitions of the virtual vary from something that is 'almost or nearly as described, but not completely'[69] to a mere optical definition of 'image[s] formed by a mirror ([as] opposed to [the] real)'.[70]

The virtual is colloquially understood as the opposite of the real, being 'false, illusory or imaginary',[71] a mere 'facsimile of the real'.[72] But the virtual has increasingly real ramifications—'what happens in virtual worlds often is just as real, just as meaningful,'[73] to users as experiences in the real life may be[74]—item theft may be revenged with real crime,

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[64] n3.

[65] Patricia G Lange, 'Terminological Obfusication in Online Research' in Sigrid Kelsey and Kirk St. Amant (eds), *Handbook of Research on Computer Mediated Communication*, vol 1 (Information Science Global 2008); John Smart, James Cascio and Jerry Paffendorf, 'Metaverse Roadmap: Pathways to the 3D Web' (2007) <www .metaverseroadmap.org/MetaverseRoadmapOverview.pdf> accessed 17 November 2018.

[66] Pierre Lévy, *Becoming Virtual: Reality in the Digital Age* (Plenum 1998) 23; Marie-Laure Ryan, 'Virtuality and Textuality: Reading in the Electronic Age' in Steven Tötösy de Zepetnek and Irene Sywenky (eds), *The Systemic and Empirical Approach to Literature and Culture as Theory and Application* (Lumis 1997) 121, 122.

[67] Aristotle, *Metaphysics*, vol 9 (part 7) (1924) ('[I]n the cases in which the source of the becoming is in the very thing which comes to be, a thing is potentially all those things which it will be of itself if nothing external hinders it. E.g. the seed is not yet potentially a man; for it must be deposited in something other than itself and undergo a change. But when through its own motive principle it has already got such and such attributes, in this state it is already potentially a man; [...].')

[68] John Wood, *The Virtual Embodied: Presence/Practice/Technology* (Routledge 1998) 4.

[69] Oxford Dictionaries, 'virtual' <www.oxforddictionaries.com/definition/english/virtual> accessed 17 November 2018.

[70] Dictionary.com, 'virtual' <www.dictionary.reference.com/browse/virtual> accessed 17 November 2018 (the theory of light, being closer to ordinary intuition, opposes the virtual and the real).

[71] Lévy, *Becoming Virtual: Reality in the Digital Age* (n66) 16.

[72] Marcus A Doel and David B Clarke, 'Virtual Worlds: Simulation, Suppletion, S(ed)uction and Simulacra' in Mike Crang, Phil Crang and Jon May (eds), *Virtual Geographies: Bodies, Space and Relations* (Routledge 1999) 265.

[73] TL Taylor, *Play Between Worlds: Exploring Online Game Culture* (MITP 2006) 19.

[74] A phrase like 'in real life' often 'demarcates those experiences that occur offline' (Annette N Markham, *Life Online: Researching Real Experience in Virtual Space* [AltaMira 1998] 115 [internal quotation marks omitted]).

virtual currency may have been assigned real value and an online partner may become a real spouse.[75] After all it appears as if 'the virtual is [not] opposed (...) to the real but [rather] to the actual [in concrete form]. The virtual [it seems] is fully real in so far as it is virtual (...) [and] must be defined as strictly a part of the real object.'[76]

Accordingly, the virtual may be defined as anything that possesses essence and effect[77] (or potential with regard to an actualisation which may or may not take place[78]) with a measurable impact on the real but without having a concrete form.[79] Virtualisation (being the process of making something to appear by using software) therefore allows for the entire VW to be real,[80] even if the programming code (in contrast to its copy) is not actual.[81]

A **world**[82] may be described pluralistically as any place where the denotation of an inherently logically divided entity—an internally structured diversity and its complexity—is concerned that can be distinguished from other areas,[83] or rather monistically as a totality which is then further structured and subdivided.[84] Any attempt to describe a world leads to a relativist position which is entirely dependent on the perspective, 'If there is but one world, it embraces a multiplicity of contrasting aspects; if there are many worlds, the collection of them all is one. The one world may be taken as many, or the many worlds [may be] taken as one; whether one

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'Real often acts simply as a synonym for offline, and does not imply a privileged ontological status' (Tom Boellstorff, *Coming of Age in Second Life: An Anthropologist Explores the Virtual Human* [PrincetonUP 2008] 20).

[75] Boellstorff, *Coming of Age in Second Life: An Anthropologist Explores the Virtual Human* (n74) 21 ('our virtual relationships are just as real as our rl [real life] ones'); Mike Musgrove, 'Tokyo Woman Jailed for Avatar "Murder"' (*Washington Post,* 23 October 2008) <http://voices.washingtonpost.com/post-i-t/2008/10/tokyo_woman_jailed_for_avatar.html> accessed 17 November 2018 (describing a virtual divorce in *MapleStory*).

[76] Gilles Deleuze, *Difference and Repetition* (Athlone 1994) 208-09.

[77] Ken Pimentel and Kevin Teixeira, *Virtual Reality: Through the New Looking Glass* (2 edn, McGraw-Hill 1995) 417.

[78] Serge Proulx and Guillaume Latzko-Toth, 'Mapping the Virtual in Social Sciences: On the Category of "Virtual Community"' (2005) 2 JCoInf 42, 43 ('In this sense, the virtual is real but not present.')

[79] Deleuze, *Difference and Repetition* [n76] 209) ('[T]he virtual must be defined as strictly a part of the real object [...].')

[80] cf Denis Berthier, *Méditations sur le Réel et le Virtuel* (L'Harmattan 2004) ('virtuel ce qui, sans être réel, a, avec force, les qualités de' [defining virtual as something which is not real, but which displays the full qualities of the real]).

[81] VWs/VAs are neither completely intellectual nor purely corporeal; while the intangible programming code is virtual and real (but not actual), the tangible copy of the programming code is actual and real (but not virtual). cf Gilles Deleuze, *Bergsonism* (Zone Books 1988); Deleuze, *Difference and Repetition* (n76) 208-09.

[82] The English word *world* is derived from the Old English *weorold (-uld)*, *weorld*, *worold (-uld*, *–eld)*, meaning human existence, human race, mankind (Online Etymology Dictionary, 'world' <www.etymonline.com/index.php?term=world> accessed 17 November 2018).

[83] Ulrich Dirks, 'Welt' in Joachim Ritter, Karlfried Gründer and Gottfried Gabriel (eds), *Historisches Wörterbuch der Philosophie* vol 12 (W-Z) (Schwabe 2004) 407 ('Überall, wo es um die Bezeichnung einer in sich sinnvoll gegliederten Ganzheit, einer intern strukturierten Vielfalt und ihrer Komplexität geht, die von anderen Bereichen abgegrenzt werden kann, springt das Wort Welt ein.'); John Dewey, 'World' in James Mark Baldwin (ed), *Dictionary of Philosophy and Psychology*, vol 2 (Macmillam 1902) 821 ('Any sphere or domain of existence, or even of subjective experience, regarded as a relatively self-included whole.'); Bartle, *Designing Virtual Worlds* (n10) 1 ('[A] world is an environment that its inhabitants regard as being self-contained. It doesn't have to mean an entire planet: It's used in the same sense as "the Roman world" or "the world of high finance."')

[84] John Wilkins, *The Discovery of a World in the Moone (or, a Discovrse Tending to Prove that 'tis probable there May Be another Habitable World in that Planet)* (EG 1638) 41ff ('[T]he terme World, may be taken in a double sense, more generally for the whole Universe [...] [or] more particularly for an inferiour World consisting of elements.'); Dirks, 'Welt' (n83) 408.

or many depends on the way of taking.'[85]

In any event, a world can only be grasped and circumscribed as a separate entity if all that exists in the world is consistent and can be defined according to fixed rules.[86] If the border to the outside, ie, the original boundary separating the world from that which does not belong to the world, is blurry, it is not a world; and the same applies to the boundary inward, ie, the rule of what remains part of the world. Without specific boundaries it can never be definitely stated whether an object is indeed a part of the world or not. Such boundaries may be defined for VWs from the outside by the Software and its interoperability and from the inside by the bare requirement for the definition, affiliation and consistency of virtual objects.[87]

Without world specific *laws*, nothing can be classified as belonging to a world. That does not necessarily mean that certain physical *laws* (eg, gravity) must be defined because objects are not always physically manipulated. Sufficient is that rules define the affiliation of objects in terms of all possible actions provided in the world.[88] Moreover, a world requires space;[89] without locally embedded objects, the user cannot perceive how the space of the world as such is structured or which objects are affiliated. The spatial position of any object must be clear.[90] Depending on the design of the room, definition of a certain distance between various objects may or may not be necessary (but if they can be physically manipulated, it logically follows that physical *laws* are required). The world does not have to be configured three-dimensionally; simple landscapes can be displayed even in web browsers.[91]

Considering that VWs are foremost virtual,[92] the general criteria applicable to such a world should then be amended to include persistency and interconnectivity.[93] Virtual objects and

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[85] Nelson Goodman, *Ways of Worldmaking: Words, Works, Worlds* (Harvester 1978) 2.

[86] Dirks, 'Welt' (n83) 408.

[87] n394 (on Software).

[88] Pimentel and Teixeira, *Virtual Reality: Through the New Looking Glass* (n77) 420 ('The dynamics of an environment are the rules for how its contents [people, rocks doors, everything] interact in order to exchange energy of information. A simple example of dynamic rules are the Newtonian laws to describe the behaviour of billiard balls reacting to the impact of a cue ball. A medical simulation would be based on the dynamics of the human body. Alice's looking-glass wonderland would follow the wacky laws that Lewis carol created, based partially on the game of chess [...].')

[89] Benjamin Tyson Duranske, *Virtual Law: Navigating the Legal Landscape of Virtual Worlds* (1st edn, AmBA 2008) 2; Ross A Dannenberg and others (eds), *Computer Games and Virtual Worlds: A New Frontier in Intellectual Property Law* (1st edn, AmBA 2010) 3; Ola Fosheim Grøstad, 'Define: Virtual World' (*worldtheory.blogspot,* 15 June 2007) <http://worldtheory.blogspot.co.uk/2007/06/define-virtual-world.html> accessed 17 November 2018.

[90] Every character and every moveable object in the VW has location data (spatial coordinates, [x, y, z] tuples). The VA's GUID and location data are stored in the client version and the server version to allow for client/server communication. See also Appendix A.

[91] See Appendix A.

[92] n81.

[93] Nate Combs, 'A Virtual World by any Other Name?' (*Terra Nova,* 7 June 2004) <http://terranova.blogs.com/terra_nova/2004/06/a_virtual_world.html> accessed 17 November 2018; Bartle, *Designing Virtual Worlds* (n10) 1ff; Castronova, 'Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier' (n39) 5ff; Duranske, *Virtual Law: Navigating the Legal Landscape of Virtual Worlds* (n89) 2; similar Viktor Mayer-Schönberger and John R Crowley, 'Napster's Second Life? The Regulatory Challenges of Virtual Worlds' (2006) 100 NwULRev 1775, 1784ff.

places are persistent, if they continue to exist and do not fade, even when there are no users interacting with them.[94] As long as the operator chooses to sustain (and run continuously) the servers, allowing the Software and other users to alter the VW while the user is offline, VWs are persistent.[95] And the VW is interconnected if one user's behaviour can affect the state of any other user, and any object or place may be experienced (though not always controlled) by various users.[96] Interconnectivity hence requires that the world is accessible to more than one user (being insofar not too different to persistency), hereby separating VWs from single player applications such as the classic video game. Some scholars[97] argue eventually for a scarcity of resources as a separate criterion for VWs, but scarcity results already from the regulatory constraints in and the persistency of VWs, and would only have some effect (if applied) on the trade in VWs. For the purpose of this thesis,

> VWs shall be defined as computer-generated, self-contained, controlled, spatial, persistent and interactive environments which may be accessed by a large number of people, represented as avatars[98], simultaneously.[99]

2.2 Technology of Virtual Worlds

Most VWs run on client/server system architecture that basically consists of two physically separate *computer programs* which control the entire VW.[100] One *computer program* then operates as a fat or thin-client on the user's personal computer (**Client Software**), or on the server (in the case of a web-client),[101] and a different program runs on a centralised server (**server program**[102]), to allow multiple Internet users simultaneous access.

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[94] Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 5ff; Joshua AT Fairfield, 'Virtual Property' (2005) 85 BULRev 1047 (n63) 1054. Eg, a painting in the actual world is persistent because it only needs to be drawn once.

[95] Considering the necessity of regulatory constraints, there have to be rules regulating the (dis-)appearance of VAs or the VW would be in danger to negate its existence.

[96] Objects in the actual world can affect each other by the *laws* of physics.

[97] Castronova, 'Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier' (n39) 16ff; contra Vili Lehdonvirta, 'Economic Integration Strategies for Virtual World Operators' (Helsinki University of Technology 2005) 7.

[98] The graphical, textual or digital representation of the character (client version) on display, depicted in human, animal or imaginary form.

[99] See Mark W Bell, 'Toward a Definition of "Virtual Worlds"' (2008) 1 JVWR 1; Carina Girvan, 'What Is a Virtual Wold? Definition and Classification' (2018) 66 Educational Technology Research and Development 1087.

[100] Subch3.5 (on P2P worlds).

[101] MMOGS and metaverses often make different use of client/server system architecture. In particular, MMOGs may install copies of VA client versions permanently in the client program on the user's computer to lower network communication (**fat client**). Metaverses, on the other hand, typically store those copies of VA client versions in a CDN (n118), readily available for the client program to download (**thin client**). Thin clients will mainly be used to temporarily load client copies into RAM or sometimes to cache them on the user's computer hard disk, to reduce download bandwidth and disk I/O. Advancing in development, browser worlds may even use web-client programs that reside in the web browser and not on the user's computer (**web-client**). See Sanjeev Kumar and others, 'Second Life and the New Generation of Virtual Worlds' (2008) 41 IEEE 48, 53; subchs5.2 (on fat and thin clients); 5.3 (on thin and web-clients); 5.3.2.1 (on web-clients).

[102] The actual server is no longer a single existing physical entity, but has been replaced by a control software (or

While the client program decodes the VW data, renders the graphic and sound files, *suggests* the movement of VAs according to the user's input,[103] and communicates to the server, the server program controls the VW, provides stored triggers and procedures,[104] maintains the state of the VW,[105] and stores all the information of any shared aspects of the VW.[106]

All the currently available information about the different activities and characters in the VW is communicated from the clients. In return the server sends information about the number of users, necessary character information of those users,[107] and the time of day effective in the VW to all the clients in order to finally update the state of the VW.[108] For clarification purposes one might consider the following scenario:

Example 2-1 Server Authoritative Movement

> If user A approaches user B in the VW, client A sends the information to the server that user A has started moving in a certain direction and thus has occupied a new position in the virtual space. The server receives this data and sends it to all the other clients in the immediate virtual surroundings. Client B receives this information and thus can represent the movement of user A toward user B from the perspective of user B. If user B now wants to move to a position that is already occupied by user A, client B sends the information about the initiated movement to the server. The server then calculates the consequences of this movement in the virtual space and comes to the conclusion that this movement is not possible, because the spot is already occupied by user A. The server sends this information back to client B, which then does not carry out the command for changing the position. Since user B has not changed his position, the server does not need to send this information to client A.

To maintain the state of each single character, the server program further operates a character database, containing all information regarding the name, profession and particular skills of the character as well as a list of his/her possessions (**character database**).[109]

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master server coordinator), which distributes the sum of data and the load of required calculations and memory processes to different computers in a cluster (Mike McShaffry).

[103] **Example 2-1** Server Authoritative Movement. See n90; Appendix A (on location data updates and the necessary synchronisation between the client and the server).

[104] The Software determines the objects, events and the requirements for levelling-up (n21). See Darleen Sadowski and Frank Rogers, 'Client/Server Software Architectures: An Overview' (*Carnegie Mellon Software Engineering Institute,* 1997) <www.sei.cmu.edu/str/descriptions/clientserver_body.html> accessed 20 March 2015.

[105] Molly Stephens, 'Sales of In-Game Assets: An Illustration of the Continuing Failure of Intellectual Property Law to Protect Digital-Content Creators' (2002) 80 TexLRev 1513, 1517.

[106] Meehan, 'Virtual Property: Protecting Bits in Context' (n54) 24; Kumar and others, 'Second Life and the New Generation of Virtual Worlds' (n101) 50.

[107] The server program typically exposes as little information about other users as possible to impede cheating. (Mike Sellers).

[108] Fitch, 'Cyberspace in the 21st Century: Part One, Mapping the Future of Multiplayer Games' (n8); Stephens, 'Sales of In-Game Assets: An Illustration of the Continuing Failure of Intellectual Property Law to Protect Digital-Content Creators' (n105) 1517.

[109] Michael Rymaszewski and others, *Second Life: The Official Guide* (John Wiley & Sons 2007); Toby Ragaini, 'Postmortem: Turbine Entertainment's Asheron's Call' (*Gamasutra,* 25 May 2000) <http://web.archive.org/web/20001202145000/http://www.gamasutra.com/features/20000525/ragaini_pfv.htm> accessed 17 November 2018. A

Although the character database keeps information about VAs in possession, often neither the appearance nor the functionality of the VA is stored in the character database itself, but only references to the memory location of its properties (including its identifier[110] and location data),[111] fixed script[112] and programming code (**server version**)[113]

In order for the operator to keep control over its VW[114] and to save some memory space[115] in client/server system architecture, every VA in possession then requires two parts of a fragmented copy[116] to be displayed on the user's computer screen and used in the VW—the server version in the character database[117] and the client version in the Client Software, content delivery network (**CDN**)[118] or on the server made available to the user.[119]

Whilst the server version holds references to its properties, fixed script and programming code (defining its attributes/determining its value), the **release**/**client version** of the VA contains all its display related aspects (ie, images, textures,[120] models and animations).[121] Only its identifier and often its location data[122] are stored in both to allow for client/server communication.

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list of possessions (**character inventory**) is basically a list of item GUIDs (n110; 113).

[110] From the moment of creation a unique identifier is assigned to each individual VA (typically a 32-bit or 64-bit number [Globally Unique Identifier or **GUID**]) that identifies the VA in client/server system architecture and can be used as a key to access the data structure holding the character database information in memory. Eg, the *SL* character of this author named JonasJustus has the GUID fff94202-ca57-4084-882d-25192a8c25d9. Once assigned by the Software, a GUID will only refer to that VA, and no other, for the lifespan of that VA. Appendix A (describing the use of data structures in computer programming to define how data is arranged in memory and can be operated on by using various algorithms).

[111] Character properties often include the character's GUID, name, description, weight, size, speed and skin colour, and may be complemented in MMOGs by its agility, intellect, spirit, stamina and strength. Object/item properties typically include its GUID, name, description, weight, size, as well as (sometimes) durability and value. Moreover, the properties of every moveable VA will include its location data (n90; Appendix A).

[112] A script is a set of self-contained instructions, mostly used for the functionality of objects (eg, to open and close virtual doors [**Example 7-2** Building Stools from Prims in *Second Life*]). Script and programming code may be used to achieve the same or similar results (Appendix A).

[113] While GUIDs typically refer to the VA itself (n110), additional internal references are used within the database entry to refer to its properties, fixed script and programming code (Appendix A [providing detailed information on references]). From most general to most specific, references may hence be used as follows: user account > character (GUID) > character properties, fixed script and programming code **or** user account > character (GUID) > item (GUID) > item properties, fixed script and programming code.

[114] The operator controls the server version of the VA without which a VA cannot be displayed and also the release version (sometimes called master copy) of the client version (n121).

[115] See Appendix A.

[116] The term **copy** is referring to the fixed programming code (subchs4.3.2; 5.2.1.2.2.3); it does not mean that the copies of the server version and the client version are in any way the same or even similar.

[117] nn110; 111; 112; 113.

[118] A content delivery network or CDN is a form of pre-cache of anything necessary for the user's access to the VW that is not kept on the server and used for thin clients and web-clients. When the VW loads up on the user's computer, the thin client or web-client (as the case may be) does not request all the display related client data of the different VAs one-by-one but hauls down all client data at once for efficiency reasons. See Appendix A.

[119] Subch4.4.3 (*right to use*).

[120] A texture or image is a two-dimensional piece of visual art used to cover the surfaces of objects (eg, visual representation of the material and look of an object, clothes and tattoos). See Appendix A.

[121] The **release version** is the dominant and editable copy of the images, models, animations and sounds stored in the development repository (ie, a central file storage location used in software development, that is not kept on the server) used as a template to update the very same information on the release server and eventually the client copy in the **installer** (ie, the installer program installing or updating the client program), CDN (n118), or on the server when required. A non-editable copy of the release version—the client version—is then transferred to the user.

[122] n90.

Example 2-2 Client/Server Communication

> If the client requests 'What is this character wearing?' the server usually returns a list of GUIDs for the client to look up and select all the objects to display.[123] The *Second Life* character of this author JonasJustus (GUID: fff94202-ca57-4084-882d -25192a8c25d9),[124] for example, might be wearing sunglasses (GUID: 7a18cfcb -9a43-45b9-8d25-941b7684071c) and a chequered shirt (GUID: 6993ad1f-8173 -4323-b78a-f492ddaf7e0f). The client would select and display the character with exactly these sunglasses (GUID: 7a18cfcb-9a43-45b9-8d25-941b7684071c) and chequered shirt (GUID: 6993ad1f-8173-4323-b78a-f492ddaf7e0f).[125]

Without the server version it would not only be impossible for the client to know, whether this author's Second Life character does actually possess a chequered shirt and sunglasses,[126] but these objects' attributes,[127] eventually accounting for their value (which might remind the reader of the earlier definition of property in this thesis as usable wealth[128]), would not be shown.

2.3 Summary: Virtual Worlds

Finding that VWs are a real phenomenon with real ramifications, a further examination of the technology of VWs was necessary for the uninitiated reader to gain a basic understanding of the nature of VAs and to start the discussion on property rights. Whilst this author has made an attempt to avoid or at least minimise the use of technical terms, unfortunately you cannot make an omelette without breaking some eggs. More information on how VWs work can be found Appendix A (**Glossary of Legal and Technical Terms**).

This short analysis of the VW technology has shown that for the operator to keep control over its creation[129] and to save some memory space in the typical client/server system architecture, it is necessary to separate the server version of the VA (defining its attributes and determining its value) from its release/client version (providing its graphical elements). Only if those two fragments of the copy come together, the VA can be displayed, used and experienced.

And new content is not that different. Whilst uploaded UGC is typically tested for errors, bugs and viruses, copyright infringement and Contract violations in a holding area[130] every truly new operator and user-generated content[131] has to be *defined* in the Software, fragmented and added

[123] The VA's GUID and location data will be part of both copies to allow for client/server communication.
[124] n110.
[125] Mike Sellers.
[126] nn110; 111; 113.
[127] The attributes of the chequered shirt and the sunglasses are described in their properties (ie, name, description, weight, and size), script and programming code (eg, for the sunglasses to automatically adjust tint levels to match the position of the sun).
[128] n2.
[129] nn18ff. Depending on the client in use, the transfer of the copy of the VA client version is more (fat client) or less (thin client and web-client) permanent. See also n121 (on updates and changes).
[130] Comments of Chuck Clanton (describing the process followed by *There*) and Mike Sellers.
[131] Only if the VW programmers made 'any provisions for [a new] object [...], or for players to create new objects and

to the central server system to make it allocatable, usable and perceptible in the VW.[132]

Every time a user obtains, installs and uses the Software to enter the VW copies of VA client versions are transferred to his/her personal computer.[133] Considering that users often build strong emotional connections to *their* characters, place a high value on accumulated operator, third user and user-generated content, and may experience VAs as tradable usable wealth, such a transfer eventually raises the question whether—next to copyright—physical property rights in the VA copy can exist and should be examined for this research.[134]

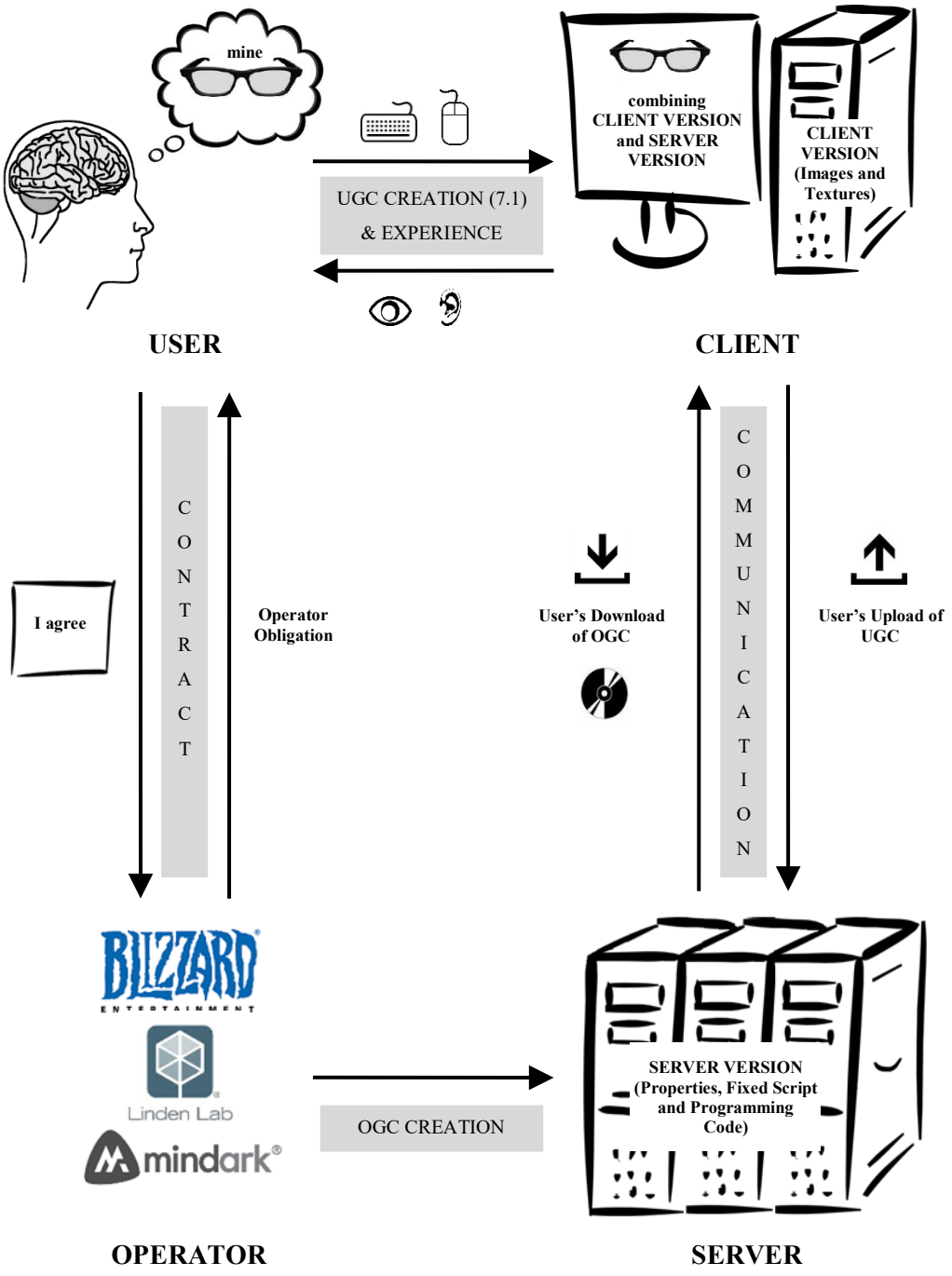
name them' they would be *defined* in the Software and added to the central server system (Mike Sellers). See also nn1170ff (and accompanying text) (on *new* objects that are not truly new).

[132] n110 (on the use of GUIDs to identify characters, objects and items in client/server system architecture).

[133] *BlzdEULA(US)*, c3; *WoWEULA(EU)*, cc2; 4 (on pre-loaded and locked software). A *right to use* a copy of the pre-loaded but locked content may be granted, if the user advances in the game or *purchases* objects/items from the operator. Subchs5.2.2.2; 5.4.

[134] Subchs7.2; 4.3.2; 7.3.

Figure 2-3 Technology of Virtual Worlds



Chapter 3 The Research

Although VWs are not as popular in today's time as previously predicted,[135] continuously high numbers of users invest time, effort and money in VWs. This leads those users to experience VAs as property and raises challenging, unresolved legal issues. And where there is value, there is dispute often followed by litigation.

Is it possible that VAs qualify as property and who may qualify as property right holder? This thesis examines the users' claims to (possession and) control over VAs, starting from copyright, physical and virtual property rights to quasi-property rights based on the Contract itself.

3.1 Hypothesis and Research Question(s)

Noting the value of VAs,[136] the omnipotence of Linden Lab, Blizzard, Mindark and other operators,[137] the immanent imbalance in the allocation of property rights[138] but also the users' experience of VAs as property, this author examines property rights disputes in VWs to test the following two hypotheses: (1) Property rights disputes in VWs should be governed by contract law because an enforceable Contract protects not only the operator and its creation but its quasi-absolute/property like effect matches users' expectations. (2) Given the quasi-absolute effect, multiple-separate user contract (terms) should provide the *new* default legal rules for VWs and similar online communities.[139] To do so, this thesis evaluates the following research question:

> Could/should (1) contract law govern property rights disputes in VWs, and (2) multiple-separate user contract(s) (terms) provide the default legal rules for VWs and similar online communities?

Without legal guidance on property rights disputes in VWs, the importance of part one of this question lies with the dispute itself.[140]

Various legal scholars have made an attempt to classify VAs as property, using copyright,[141] physical property rights in the server,[142] or a newly proposed virtual property right[143] as vehicle, but they mostly ignored the Contract itself. Notably, most Contracts require a transfer/waiver of

[135] n41.
[136] Chapter 1; Appendix D2.2.
[137] Subch4.4.4.
[138] Chapter 1.
[139] cf James M Buchanan, *The Limits of Liberty: Between Anarchy and Leviathan* (UChiP 1975) 9, 87, 33 (discussing the 'calculus of consent', the 'surrender of their own independence', and the 'emergence of property' due to the social contract [Jean-Jacques Rousseau, Thomas Hobbes]). nn57; 59.
[140] n56.
[141] Subchs4.3.1; 7.2.
[142] Subch4.3.2.
[143] Subch8.1.1.

(future) (property) rights,[144] which cannot be overcome if that clause is enforceable.[145]

But if the restriction-of-rights clauses in the Contract were in fact considered unenforceable by the courts, its property like effect (as discussed in sub-chapters 8.1.2 and 9.2) should be sufficient to claim usable wealth. A new virtual property right does not seem necessary.

Moreover, the Contract itself may offer some well-needed legal certainty, transparency and enforceability within the online community (being part two of the question),[146] protecting the operator's creation and matching the users' expectations.

3.2 Research Methodology

The findings of this thesis are based on an extensive review of the relevant legal, economics, philosophy, computer and social science literature, an analysis of primary and secondary legal sources of the United States, California, Delaware, European Union, United Kingdom, Germany and Sweden, including a comprehensive and original review of the relevant case law. And not to forget this author's email correspondence with some computer science scholars, computer programming and industry experts[147] as well as various hours of *playing* and analysing *Second Life*, *World of Warcraft* and *Entropia Universe*.

Noting the differing connotations and denotations of the *virtual*, this thesis uses philosophy and computer science literature to establish a workable definition of the term VW. Information on VWs in online journals, blogs, wikis, and on fan websites then helped to flesh out that definition and to illustrate the importance of this legal research. After all VWs have increasingly real ramifications.[148]

Online and offline literature on computer science, and this author's lengthy correspondence with computer science scholars, computer programming and industry experts[149] made it possible to provide to the reader the first comprehensive analysis of client/server system architecture in legal literature, important for the legal analysis of property rights disputes in VWs.[150]

After learning about client/server system architecture, this author has soon started *playing*, building, crafting, creating and trading in *Second Life*, *World of Warcraft* and *Entropia Universe* to gain a proper understanding of what the VW is all about. Information in online journals, blogs, wikis, and on fan websites, as well as in social sciences literature then helped to compare this author's own experience with the well-established expectations of other users

[144] Subch4.4.2.
[145] n174.
[146] Subch9.3.
[147] Mike McShaffry, Matt Mihaly, Mike Sellers, Richard Leinfellner and Chuck Clanton.
[148] Subch2.1.
[149] ibid.
[150] Various attempts of this author to make contact to MindArk and Blizzard were in vain, both operators are rather secretive regarding their technology used.

regarding property rights.

Notable differences between the users' expectations, the advertisements for *Entropia Universe* and *Second Life* (promising value/usable wealth[151]) and the Contract (denying any meaningful property rights) as well as the restraints of trade in *World of Warcraft* have raised the question of the enforceability of these Contracts—selected for this research because Contracts in similar form are typically used for metaverses, MMOGs and hybrid VWs respectively[152]—and led to this partly comparative legal analysis of VWs.

This thesis is based on US federal law, California state law, the relevant sections of the Uniform Commercial Code (**UCC**),[153] and the respective common law supplemented by the Restatement (2nd) of Conflict of Laws, Restatement (2nd) of Contracts and Restatement (2nd) of Torts,[154] because (1) most VWs developed, operated and provided in the Western world are originated in the United States (California), (2) the Contracts often choose US law as the applicable law,[155] (3) the biggest Western user base is located in the United States,[156] (4) European consumer law is rather unique in rejecting the choice-of-law clauses to subject foreign operators to local law, (5) real money traders may not always qualify as consumers,[157] and last but not least (6) because the debate of property rights in VWs and the governance of online communities is most developed in the United States.[158]

Only where it may be required by the choice-of-law rules[159] or where this author thinks

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[151] Subch6.4.1; n2.

[152] nn18ff.

[153] The UCC is a 'uniform law that governs commercial transactions, including sales of goods, secured transactions, and negotiable instruments. The code has been adopted in some form by every state.' (Bryan A Garner and others [eds], *Black's Law Dictionary [Pocket Edition]* [3 edn, Thomson West 2006] 745). It should be kept in mind that there might be some variance in certain jurisdictions, and that 'The Uniform Commercial programming code, which has been adopted in all fifty states, is not completely uniform since its interpretation is up to state courts.' (Margaret Jane Radin, 'Regime Change in Intellectual Property: Superseding the Law of the State with the "Law" of the Firm' [2004] 1 UOttL & TechJ 173, 184 [fn24]). But because contract law is governed at a state, rather than federal level, this thesis will—for the sake of argument—use the UCC as the standard pertinent law.

[154] Restatements are 'compilations or summaries in statute form of the common law in designated areas of the law (...)[,] prepared by the American Law Institute [**ALI**], an organization of eminent scholars and practitioners in the given fields.' (William Burnham, *Introduction to the Law and Legal System of the United States* [4 edn, 2006] 75). See also Willis LM Reese and Austin W Scott, *Restatement of the Law, Second, Conflict of Laws*, vol 1 (§§1-221) (ALI 1971) [in subsequent footnotes use: **R2CoL**]; Robert Braucher and E Allan Farnsworth, *Restatement of the Law Second, Contracts*, vol 1 (§§ 1-177) (ALI 1981) [in subsequent footnotes use: **R2K**]; William L Prosser, *Restatement of the Law, Second, Torts*, vol 1 (§§1-280) (ALI 1965) [in subsequent footnotes use: **R2T**].

[155] Eg, *SLToS*, c11.5(para1).

[156] Statista.com, 'Leading Gaming Markets Worldwide as of December 2017, by Gaming Revenue (in Billion US Dollars)' (nd) <www.statista.com/statistics/308454/gaming-revenue-countries/> accessed 17 November 2018; NewZoo, 'Infographic: Global PC/MMO Gaming Revenues to Total $24.4BN this Year' (17 November 2014) <https://newzoo.com/insights/articles/pcmmo-gaming-revenues-total-24-4bn-2014/> accessed 17 November 2018; NewZoo, *2016 Global Games Market Report: An Overview of Trends & Insights*, 2016) (in comparison to UK and German users).

[157] Subch6.2.2

[158] n56.

[159] Considering the various different legal aspects (of copyright [n1144], physical property [nn318; 403], quasi-property and contractual rights [subch6.2]) and choice-of-law rules, to speak of only one applicable law would be too simplistic. This does not mean, however, that the contract choice-of-law rules may not ultimately be applicable to quasi-property rights.

necessary to find a reasonable answer—in comparative interpretation—to the research question, references are made to the laws of the European Union (Regulations and Directives[160]), the United Kingdom, Germany and Sweden (*Entropia Universe*[161]). The United Kingdom and Germany are not only two of the biggest single markets for VWs in the European Union, they also represent both a common law and a civil law country which may help to gain some fresh perspective when dealing with quasi-property rights and contractual governance systems.[162]

An in-depth analysis of the legal literature on VWs and beyond (ie, copyright, cybertrespass, virtual property rights and contract law) helped this author understand the view of other legal scholars on property rights disputes in VW and property in general, and what they think property ought to be and who ought to be the property right holder.

Using economic and normative analysis, this author rejects a full property right in the Contract but proposes instead in sub-chapter 8.1.2 a new quasi-property right, which is only property like, and identifies in sub-chapter 9.3 the multiple-separate user contract (terms) as the best possible default legal rules for VWs and similar online communities.[163]

3.3 Literature Review

Noting the value of VAs to the users, the omnipotence of the operators and imbalance in property rights, US legal scholars have soon begun to question the contractual governance of VWs, the enforceability of the Contract and the allocation of property rights.[164]

Whilst common notion seems to be that VAs are more than the display on a user's computer screen, 'simulate[ing] the look and utility of real-world goods',[165] only a few scholars have yet considered client/server system architecture in their legal research describing VAs as a 'collection of data on a server',[166] a 'bundle[s] of mathematic algorithms',[167] or 'entries in a database',[168] but without providing any more detail.

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[160] Europa.eu, 'Regulations, Directives and Other Acts' (nd) <https://europa.eu/european-union/eu-law/legal-acts_en> accessed 30 October 2018 (Both Regulations and Directives are legislative acts, but only Regulations are binding and 'must be applied in [their] entirety across the EU'. Directives set out goals 'that all EU countries must achieve'. The UK, Germany, Sweden and all other Member States 'devise their own [national] laws on how to reach these goals'.) According to Article 288(3) of the Consolidated Version of the Treaty on the Functioning of the European Union [2012] OJ C326/47 (**TFEU**) and Article 4(3) of the Consolidated Version of the Treaty on the European Union [2012] OJ C326/13, national law has to be interpreted in accordance with the Directives. Because of this rule of interpretation, the laws of the UK; Germany and Sweden will only be referenced in this thesis where they are different.

[161] Subch6.2.

[162] Subchs8.1.2; 9.2; 9.3.

[163] nn57; 59.

[164] Subch6.4.1 (and accompanying footnotes).

[165] Theodore J Westbrook, 'Owned: Finding a Place for Virtual World Property Rights' (2006) MichStLRev 779, 780; Edward Castronova and others, 'As Real as Real? Macroeconomic Behavior in a Large-Scale Virtual World' (2009) 11 NMS 685, 691.

[166] Meehan, 'Virtual Property: Protecting Bits in Context' (n54) 29.

[167] Westbrook, 'Owned: Finding a Place for Virtual World Property Rights' (n165) 780.

[168] Stephens, 'Sales of In-Game Assets: An Illustration of the Continuing Failure of Intellectual Property Law to

Much has been written about copyright claims, cybertrespass and the unconscionability of restriction-of-rights clauses;[169] but not before recognising and acknowledging that there is more to the VA than its programming code; legal scholars such as Lastowka/Hunter, Fairfield, Meehan, and others proposed a new virtual property right to protect the interest of the user.[170] Fairfield has since become one of the most influential VW scholars discussing *inter alia* the Contract, its potential for horizontal effect, community rules and the magic circle.[171]

Accepted by most scholars, virtual property rights may still be the most convincing weapon in the current armoury of the user,[172] but this thesis will show that the reasoning for a new virtual property right is flawed.[173] Similar to any other property rights discussed in this thesis, virtual property rights cannot overcome an enforceable transfer/waiver of (future) property rights clause,[174] and if the Contract is deemed unreasonable, unbalanced and unenforceable, virtual property rights may not be necessary after all.[175]

3.4 Contribution

Considering the difficulties to classify the nature of software and the widespread confusion between the software copy and the programming code in legislature, jurisprudence and legal literature—mostly ignoring its 'physical properties of mass and volume',[176] this thesis will illustrate that not only software and data but also characters, objects and items can be distinguished into a tangible copy and some intangible programming code.[177]

But because the creation of physical ownership (first possession[178]) is subject to the Contract,[179]

Protect Digital-Content Creators' (n105) 1518 ('For example, multiple players may possess an iron sword. Only one copy of the software code that defines the appearance of an iron sword exists in the server memory, and the location of that code in the memory has an address. [...] When a player loses an iron sword, the server program simply deletes its address from the list of assets associated with that player's character, [...].')

[169] Subchs4.2ff; 4.3.2.2; 7.2ff; 6.4.1 (and accompanying footnotes).

[170] Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 29ff; Fairfield, 'Virtual Property' (n63); Meehan, 'Virtual Property: Protecting Bits in Context' (n54). Subch8.1.1.

[171] Fairfield, 'Virtual Property' (n63); Joshua AT Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (2007) 53 McGillLJ 427; Joshua AT Fairfield, 'The Cost of Consent: Optimal Standardization in the Law of Contract' (2009) 58 EmoryLJ 1401; Joshua AT Fairfield, 'The God Paradox' (2009) 89 BULRev 1017; Joshua AT Fairfield, 'The Magic Circle' (2009) 11 VandJEnt & TechL 823; Joshua AT Fairfield, 'Mixed Reality: How the Laws of Virtual Worlds Govern Everyday Life' (2012) 27 BerkeleyTechLJ 55; Joshua AT Fairfield, 'Nexus Crystals: Crystallizing Limits on Contractual Control of Virtual Worlds' (2012) 38 WmMitchellLRev 43.

[172] Chapter 8.

[173] Subch8.1.1.

[174] Contra Steven J Horowitz, 'Competing Lockean Claims to Virtual Property' (2007) 20 Harvard Journal of Law and Technology 1 (n63) 2 ('Indeed, if a user's claim to a virtual product is strong enough, courts might be justified in ignoring the terms of a EULA that limit virtual property rights.'); Westbrook, 'Owned: Finding a Place for Virtual World Property Rights' (n165) 795-97; 803 (arguing that public policy may potentially invalidate the Contract).

[175] Subchs8.1.2; 6.4ff.

[176] Robert D Crockett, 'Software Taxation: A Critical Reevaluation of the Notion of Intangibility' (1980) BYULRev 859 870-71 (also stating that 'Software, defined as the machine-readable end-product of program design, must possess physical properties to enable the host hardware unit to act in a predetermined manner.') See also Jürgen Taeger, *Außervertragliche Haftung für fehlerhafte Computerprogramme* (Mohr 1995) 155, 163.

[177] Subchs4.3.2.2; 5.2.1.2.1.

[178] Subchs4.3.2; n315 (on first possession).

[179] Subch4.4 (on the transfer/waiver of [future] [property] rights).

and, even more importantly because the allocation of property rights is starkly influenced by client/server system architecture, physical property rights in the tangible copy do not support a user's claim to *his/her* VAs. Indeed, this thesis will show that traditional physical (and intellectual) property rights cannot sufficiently protect the conflicting interests of the parties.[180]

Instead of making another helpless attempt to justify a new virtual property right for the user which—for various reasons—is rather unlikely to be ever acknowledged in court,[181] this author examines typical Contracts to illustrate that property rights disputes in VWs are first and foremost a contract law rather than a property law question and proposes: (1) a new quasi-property right in sub-chapter 8.1.2, and (2) the multiple-separate user agreement (terms) as new default legal rules for VWs and similar online communities.[182]

This new quasi-property right is originated in the contractual obligation of the operator to grant the user a *right to use*, *to exclude* other users from and *to transfer his/her* VAs, completed by the *rules of conduct* and has property like effect.[183] It is more transparent and easier to apply to VWs than traditional property rights and less likely to cause litigation in state courts.[184]

Establishing the tangibility of software/data (and the possibility of physical property rights in the copy), questioning common notions of property and turning contractual obligations into quasi-property makes this research most important for property, contract and technology lawyers, users, operators and their legal advisors.

But with the multiple-separate user contract answering many tort, constitutional and sometimes criminal law questions[185] this contribution becomes interesting for Internet scholars—and their quest for cybersovereignty—as well.[186]

3.5 Limitation of Scope

Considering the definition of VWs used in this thesis, peer-to-peer (**P2P**) worlds are intentionally omitted from consideration and the scope of this research restricted to the most common client/server worlds (including browser worlds).[187]

In a P2P world data transmits directly between users and the user computers are server and client at the same time (similar to today's file-sharing[188]). However, without the operator's

[180] Subchs4.3.3; 9.3.4 (on frustrated operator interests); subchs7.2; 7.3 (on frustrated user interests).
[181] Subchs8.1.1; 8.3; 8.4.
[182] nn57; 59.
[183] Subch4.4.3.
[184] Subch9.3.
[185] Other than fraud, theft, computer misuse and similar committed by third parties outside the *jurisdiction* of the VW and its Contract. Subch9.2.4.
[186] Subch9.3.
[187] Eg, Björn Knutsson and others, 'Peer-to-Peer Support for Massively Multiplayer Games' (IEEE Conference on Computer Communications, Hong Kong, 2004). Because the users define and host parts of the environment, the P2P world will cease to exist as soon as none of the users is online. Subch2.1, Appendix A.
[188] Mayer-Schönberger and Crowley, 'Napster's Second Life? The Regulatory Challenges of Virtual Worlds' (n93)

supervision, all the important (and valuable[189]) content will be unsecured and open to manipulation.[190] The property issues will be very different for P2P worlds and will require separate investigation at a later date.

In contrast, browser worlds are already included in the definition of VWs.[191] But because the web-client is technically similar to a thin-client, browser worlds may only justify a more detailed and separate discussion in this thesis in regard to any shown differences (ie, the classification of the Contract[192]).

Similarly, property rights disputes between users, or users and non-users,[193] questions on e-money and financial regulation,[194] gambling,[195] taxation,[196] bankruptcy and the end of the VW[197] or the liability of the operator for the users' loss and damages as well as tort, constitutional and criminal law questions with real ramifications[198] and the discussion of an online dispute resolution procedure for VWs[199] to complement the virtual social contract and allow for some self-governance in a magic circle are outside the scope of this thesis.

The law is up to date and changes to the reference material (and End User License Agreements [**EULA**], Terms of Use [**ToU**], Terms of Service [**ToS**] and Terms and Conditions [**T&Cs**][200]), websites and other electronic resources have been considered until 17 November 2018.

1822ff.

[189] Subch2.2 (on valuable server versions).

[190] Patric Kabus and others, 'Addressing Cheating in Distributed MMOGs', *NetGames '05 Proceedings of 4th ACM SIGCOMM Workshop on Network and System Support for Games* (Association for Computing Machinery 2005); Knutsson and others, 'Peer-to-Peer Support for Massively Multiplayer Games' (n187).

[191] Eg, *OGame* (<https://us.ogame.gameforge.com>).

[192] Subch5.3.

[193] Kurt Hunt, 'This Land Is Not Your Land: Second Life, CopyBot, and the Looming Question of Virtual Property Rights' (2008) 9 TexRevEnt & SportsL 141; Mechagliel Gears, 'The Facts about Copybot in Second Life' (*Krypton Radio,* 18 April 2010) <https://kryptonradio.com/2010/04/18/the-facts-about-copybot/> accessed 17 November 2018 (discussing the content theft tool copybot); Duranske, *Virtual Law: Navigating the Legal Landscape of Virtual Worlds* (n89) 149ff (discussing trademark law).

[194] Olivier Hueber, 'Innovation in Virtual Social Networks: The Widespread of New Electronic Currencies and the Emergence of a New Category of Entrepreneurs' (2011) 1 IJTIS 163; Heather Harmer, 'The Necessity of Government Regulation of Virtual Economies' (20 October 2009) <https://virtualcrimlaw.wordpress.com/2009/10/19/the-necessity-of-government-regulation-of-virtual-economies/> accessed 17 November 2018.

[195] Sebastian Schwiddessen and Karius Philipp, 'Watch Your Loot Boxes! – Recent Developments and Legal Assessment in Selected Key Jurisdictions from a Gambling Law Perspective' (2018) 1 InteractiveEntLRev 17 (discussing loot boxes subject to UK, US and German law). Margaret Rouse, 'Loot Box' (*WhatIs.com,* nd) <https://whatis.techtarget.com/definition/loot-box> accessed 17 November 2018 ('a loot box is an in-game purchase consisting of a virtual container that awards players with items and modifications based on chance').

[196] Leandra Lederman, '"Stranger than Fiction": Taxing Virtual Worlds' (2007) 82 NYULRev 1620; Steven S Chung, 'Real Taxation of Virtual Commerce' (2008) 28 VaTaxRev 101; Theodore P Seto, 'When is a Game Only a Game?: The Taxation of Virtual Worlds' (2009) 77 UCinLRev 1027.

[197] Joshua Fairfield, 'The End of the (Virtual) World' (2009) 112 WVaLRev 53.

[198] Subchs2.1; 9.2.4

[199] Ethan Katsh, 'Bringing Online Dispute Resolution to Virtual Worlds: Creating Processes through Code' (2004) 49 NYLSchLRev 271; Ethan Katsh, 'Online Dispute Resolution: Some Implications for the Emergence of Law in Cyberspace' (2007) 21 IntlRevLComp & Tech 97; Colin Rule, 'Designing a Global Online Dispute Resolution: Lessons Learned from eBay' (2017) 13 UStThomasLJ 354.

[200] nn61f.

Chapter 4 Virtual World Creation

4.1 Operator-Generated Content

Notwithstanding its basic structure and geography,[201] a VW mainly consists of characters, non-player characters (**NPC**s),[202] objects and items.[203] Whilst there is no doubt that any initial property rights in the VW, Software and character database should belong to its creator/operator,[204] the most important questions for the operator seems to be:

- Why would the operator want to claim 'all rights, title and interest' in the VW, Software and character database (including all operator and user-generated content) and/or prohibit RMT?[205]

- What property rights can be claimed by the operator in the VW, Software and character database? Can the operator use those property rights to protect its interests against claims of property rights in accumulated operator, third user and user-generated content by its users and to restrict RMT?

- Can the operator use contractual terms to protect its interests in the VW, Software and character database against claims of (property) rights in accumulated operator, third user and user-generated content by its users and to restrict RMT? What contractual terms does the operator typically use?

4.2 Importance of (Property) Rights / Prohibition of Real Money Trade

Owning 'all rights, title and interest' in the VW, Software and character database[206] would mean that the users cannot have any (property) rights in *their* characters, objects and items (whether accumulated operator, third user, or user-generated[207]), without (1) the restriction-of-rights clauses in the Contract being unenforceable,[208] (2) the operator transferring rights, title and interest in the accumulated operator-generated content,[209] and/or (3) the users having been

[201] Subch2.1.
[202] Similar to characters AND objects, NPCs are sometimes described as 'active objects', because they move on their own and have their own internal state (eg, number of hit points) that the server manages. Active objects take up a lot more programming and server time than the usual object that just sits there and does not have any functionality of its own (eg, when a character wields a sword, it is the character and not the object that gains additional damage).
[203] nn26; 27; 28 (on characters, objects and items).
[204] n47 (on the use of operators, programmers, developers, authors and creators in this thesis).
[205] *EUEULA*, c2(para3); *BlzdEULA(US)*, c2(A); Ryan Vacca, 'Viewing Virtual Property Ownership Through the Lens of Innovation' (2008) 76 TennLRev 33, 43.
[206] n205.
[207] Subch5.4 (*purchase* of operator and third user generated content [investing money]); Chapter 7 (creation of UGC [investing time and effort]).
[208] Subch6.4.
[209] cf subchs5.2.1; 5.3; 5.4.

granted the right to establish new rights, title and interest in UGC.[210]

Rights, title and interest are also a pre-requisite for RMT. Hence, an admission of RMT (ie, the *right to transfer*; being one of the most essential sticks in the bundle of rights that are commonly characterised as property[211]) might lead users to understand, and the courts to consider, this admission of RMT as an acknowledgement of users' property rights. Not every user may want to engage in RMT and to capitalise on his/her past investments of time, effort, and money, but without rights, title and interest those users who do would not have anything to *sell*.

Considering the financial risks of the operator that creates, upholds, and develops the VW, Software, and character database (investing up to hundreds of millions of US Dollars), to attract (paying) users,[212] most of them would want to deny (property) rights and prohibit RMT not only to limit their liability for loss and damages arising out of, or in connection with the de-valuation, destruction or seizure of VAs,[213] but also to keep control (ie, to thwart any attempt to exploit their investments made and to take away their in-game revenues and to avoid VW imbalance and a glut of virtual currency).[214]

An unbalanced and possibly inflated VW without a real incentive for the users to invest more time and effort—when they might simply use money—to advance in the VW may lose existing users and fail to attract new ones.[215] Of course, this will be different between VWs. Whilst RMT may destroy the game objective, lead to competitive disadvantage and diminished experience in MMOGs, a *proper* economy may be just that what a metaverse needs to thrive.[216]

But what property rights can be claimed by the operator, and can they be used to protect its interests in the VW, Software and character database against claims of property rights in accumulated operator, third user and user-generated content by its users and to restrict RMT?

4.3 Property Rights in Operator-Generated Content

4.3.1 Copyright

Because VWs mainly consist of images, sounds, texts and code, the following discussion of

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[210] cf subchs7.2; 7.3.
[211] *Kaiser Aetna v US* 444 US 164, 176 (1979) (n276) 176 (similar regarding the *right to exclude*). Subch4.3.2.1.
[212] n49.
[213] Without rights, title and interest, the users do not have anything to claim.
[214] n50 (in-game revenues); subch4.4.4 (imbalance). See Julian Dibbell, *Play Money: Or, How I Quit My Day Job and Made Millions Trading Virtual Loot* (Basic Books 2007) 48 (inflation); Julian Dibbel, 'Owned! Intellectual Property in the Age of eBayers, Gold Farmers, and Other Enemies of the Virtual State - Or, How I Learned to Stop Worrying and Love the End-User License Agreement' in Jack M. Balkin and Beth Simone Noveck (eds), *The State of Play: Law, Games, and Virtual Worlds* (NYUP 2006) 141 ('The cash market for gold drove the gold farmers, and the gold farmers drove hyperinflation within the game [...]').
[215] One might find that ultimately any effort of the operator may be for economic reasons, the well-being of the users may be important but often only secondary.
[216] Eg, *SL*. Subch6.4 (discussing the two conflicting interests faced by operators such as MindArk and Linden Lab, [1] to restrict rights, title and interest, whilst [2] permitting RMT to allow for a *proper* economy).

intellectual property rights in VAs is intentionally restricted to copyright protection (excluding trademark and/or patent protection).

Copyright is a property right regulated in the United States by the Copyright Act.[217] It subsists in 'original works of authorship fixed in any tangible medium of expression'.[218] Works of authorship may include, literary, pictorial, graphic and audiovisual works.[219] But similar to video games, complex VWs do not fit neatly into one single category. In fact, VWs are likely to comprise a complex bundle of discrete copyrighted works.[220]

Almost every aspect of the operator-generated content will benefit from copyright protection as long as it is original and fixed. The US Supreme Court stated in *Feist Publications v Rural Telephone Service*[221] that 'original (...) means only that the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity'.[222] The requisite level of creativity implied in this judgement is extremely low—even a slight amount or some creative spark will suffice.[223]

A work is fixed, 'when its embodiment in a copy (...), by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration'.[224] In other words, one should be able to see, feel or hear it either 'directly or with the aid of a machine or device'.[225]

Some might argue that client copies temporarily stored in RAM or cached on the user's computer hard disk (when using a thin or web-client) are not sufficiently fixed to meet the fixation requirement. However, the US Courts have long confirmed that information in RAM is fixed because it can be 'perceived, reproduced, or otherwise communicated for a period of more than transitory duration' and may last 'for minutes or longer'.[226] And because the courts state

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[217] Copyright Act of 1976 (codified in 17 USC) [in subsequent footnotes use: **Copyright Act** or **17 USC**].

[218] 17 USC, s102(a). Subch7.2.5 (computer-generated works).

[219] Any work category listed in the Copyright Act but less likely to be affected by RMT has not been mentioned. The sound of an audiovisual work is not a sound recording (17 USC, s101 ['Audiovisual works']). Sound recordings and musical works (eg, the woosh sound of a virtual sword) are only secondary in RMT and will not be part of this consideration.

[220] Christopher Reed and John Angel (eds), *Computer Law: The Law and Regulation of Information Technology* (6 edn, OUP 2007) §7.2.1.1.

[221] *Feist Publications Inc v Rural Telephone Service Co Inc* 499 US 340 (1991).

[222] ibid 345.

[223] ibid. See also *Bleistein v Donaldson Lithographing Co* 188 US 239, 251f (1903)*Alfred Bell & Co Ltd v Catalda Fine Arts Inc* 191 F2d 99, 102f (2d Cir 1951).

[224] 17 USC, s101 ('fixed').

[225] 17 USC, s102(a).

[226] *MAI Systems Corp v Peak Computer Computer Inc* 991 F2d 511, 518 (9th Cir 1993) (internal quotation marks omitted) (holding that a copyrighted program loaded into RAM which allows to 'view the system error log and diagnose the problem with the computer' shows that 'the representation created in the RAM is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration'); *Advanced Computer Services of Michigan Inc v MAI Systems Corp* 845 FSupp 356, 363 (ED Va 1994) (holding that if 'a copyrighted program is loaded into RAM and maintained there for minutes or longer, the RAM representation of the program is sufficiently "fixed" to constitute a "copy" under the [Copyright] Act'); *Stenograph LLC v Bossard Associates Inc* 144 F3d 96, 101-02 (DC App 1998).

that a RAM copy may suffice for copyright infringement, one might assume that the same would apply for the granting of copyright,[227] and the occasional temporary caching of client copies on the user's computer hard disk.[228]

4.3.1.1 Audio-Visual Work and Display

While VAs may be protected by copyright as pictorial or graphic works if they are fixed and demonstrate originality and some creative spark,[229] only those original works consisting of 'a series of related images which are intrinsically intended to be shown by the use of machines or devices (...) together with accompanying sounds, if any, regardless of the nature of the material objects (...) in which the works are embodied' may also be protected as audiovisual works.[230] VWs are a rich combination of sights and sounds. Considering that the audiovisual display changes over time,[231] however, only recorded original short clips (eg, explaining the next quest in MMOGs) but not VAs may be repetitive enough to merit copyright protection.[232]

4.3.1.2 Literary Work / Computer Program

Any Software and/or VA programming code fixed optically on DVD-ROM, magnetically on computer hard disk, semiconductor in RAM, or otherwise may also be protected by copyright as a literary work if they are original computer programs. According to the Copyright Act, a computer program is a 'set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result'.[233]

Computer programs consist of source and object code. Source code instructions are either directly used by a computer,[234] or are translated into the computer's machine language as object code. Whilst object code is barely intelligible to humans, usually printed as ones and zeros,

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[227] Melville B Nimmer and David Nimmer, *Nimmer on Copyright: A Treatise on the Law of Literary, Musical and Artistic Property, and the Protection of Ideas* (Matthew Bender) §2.03(B)(2) (Rel 69-5/2006).
[228] Subch2.2.
[229] 17 USC, s101 ('Pictorial, graphic, and sculptural works'). Although not specifically confirmed by the courts, digital images seem to be eligible for copyright protection (*Kelly v Arriba Soft Corp* 280 F3d 934 [9th Cir 2002]; Daniel C Miller, 'Determining Ownership in Virtual Worlds: Copyright and License Agreements' [2003] 22 RevLitig 435, 451-52; Todd David Marcus, 'Fostering Creativity in Virtual Worlds: Easing the Restrictiveness of Copyright for User-Created Content' [2008] 52 NYLSchLRev 67, 77; Stephens, 'Sales of In-Game Assets: An Illustration of the Continuing Failure of Intellectual Property Law to Protect Digital-Content Creators' [n105] 1521). The '**useful article doctrine**' does not seem to affect the display's eligibility for copyright protection (subch7.2.1).
[230] 17 USC, s101 ('Audiovisual works'). *Digital Communications Associates Inc v Softklone Distributing Corp* 659 FSupp 449, 454-55 (ND Ga 1987); *Midway MFG Co v Dirkschneider* 543 FSupp 466, 479 (D Neb 1981); *Stern Electronics Inc v Kaufman* 523 FSupp 635, 639 (EDNY 1981); *Stern Electronics Inc v Kaufman* 669 F2d 852, 856 (2d Cir 1982); *Computer Associates International Inc v Altai Inc* 982 F2d 693, 703 (2d Cir 1992); *Midway MFG Co v Strohon* 564 FSupp 741, 746, 750-51 (ND Ill 1983); *Midway MFG Corp v Arctic International Inc* 704 F2d 1009, 1011-1012 (7th Cir 1983); *M Kramer Manufacturing Co Inc v Andrews* 783 F2d 421, 436 (4th Cir 1986); Miller, 'Determining Ownership in Virtual Worlds: Copyright and License Agreements' (n229) 453ff.
[231] Subch7.2.2.
[232] *Stern Electronics Inc v Kaufman* (2d Cir 1982) (n230) 852; *Williams Electronics Inc v Arctic International Inc* 685 F2d 870, 875 (3d Cir 1982). Subch7.2.2 (discussing copyright protection for UGC as audio-visual works).
[233] 17 USC, s101 ('computer program').
[234] n112 (scripts).

source code can be written in English or in entirely synthetic languages, but both codes may be protected by copyright as a literary work.[235]

Most interestingly, some of the programming code used in VWs 'to bring about a certain result' (eg, instructions to transform data into optical and acoustical displays of pixels and sound) may still not qualify as a computer program protected by copyright.[236] Digital transformation alone cannot justify a qualification as computer program, because otherwise almost all works in digital form would be protected by copyright as literary works (17 USC, s 101).[237]

But a distinction between copyright in the Software programming code and copyright in the VA programming code (that may be included[238]) is not necessary until more than one copyright holder is possible (eg, when the user uses the *build editor* of the VW to create UGC which becomes *part* of the VW, Software and character database).[239]

4.3.1.3 Compilation

Considering (1) the Software, (2) the references in the server version to the properties, fixed script and programming code of (and combined to form) the VA,[240] and (3) the character database in memory,[241] the operator may also have a compilation copyright.[242]

A compilation is 'a work formed by the collection and assembling of preexisting materials or of data that are selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship'.[243] Since the requisite level of creativity is extremely low, one might argue, for example, that the character database in the Software fixed on the server is protected by copyright.[244]

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[235] See *Whelan Associates Inc v Jaslow Dental Laboratory Inc* 797 F2d 1222, 1234 (3d Cir 1986); *Digital Communications Associates Inc v Softklone Distributing Corp* (n230) 449ff; *Computer Associates International Inc v Altai Inc* (n230) 693ff; *Gates Rubber Co v Bando Chemical Industries Ltd* 9 F3d 823 (10th Cir 1993); *Lotus Development Corp v Borland International Inc* 49 F3d 807, 813 (1st Cir 1995); *Softman Products Co LLC v Adobe Systems Inc* 171 FSupp2d 1075, 1083 (CD Cal 2001); Stephens, 'Sales of In-Game Assets: An Illustration of the Continuing Failure of Intellectual Property Law to Protect Digital-Content Creators' (n105) 1521. See generally Duncan M Davidson, 'Protecting Computer Software: A Comprehensive Analysis' (1983) ArizStLJ 611, 620.

[236] Geometries, images and textures (n120) are non-literal elements of the Software (subch7.2.1). See also *Computer Associates International Inc v Altai Inc* (n230) 693ff (discussing copyright for non-literal elements of software); Harris Weems Henderson, 'Through the Looking Glass: Copyright Protection in the Virtual Reality of Second Life' (2008) 16 JIPL 165, 178 ('non-literal elements of the software are protectable only to the extent that those elements can be classified as expressions rather than ideas').

[237] Subchs7.2.1; 7.2.4. 17 USC, s101 ('the design of a useful article [...] shall be considered a pictorial, graphic, or sculptural work only if, and only to the extent that, such design incorporates pictorial, graphic, or sculptural features that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article').

[238] nn101; 129.

[239] 17 USC, s201(c); subchs7.2.5; 7.2.6.

[240] n113.

[241] n110.

[242] 17 USC, s103(a).

[243] 17 USC, s101 ('compilation'). See generally Catherine Colston, 'Protecting Databases: A Call for Regulation' (2007) 19 DenningLJ 85; Nimmer and Nimmer, *Nimmer on Copyright: A Treatise on the Law of Literary, Musical and Artistic Property, and the Protection of Ideas* (n227) §3.04(B)(2) (Rel 75-5/2008).

[244] *Feist Publications Inc v Rural Telephone Service Co Inc* (n221) 345.

However, the Software and the references are different. Whilst their arrangement in memory or selection may perhaps qualify as a compilation, they are already protected by copyright as a literary work (if at all eligible for copyright protection).[245] A compilation copyright granted additionally to the existing copyright is unlikely to be ever considered by the courts.[246]

4.3.1.4 Summary: Copyright (and Real Money Trade)

Considering the intellectual creation of the Software, VA displays and programming code, and the arrangement of the character database in memory, the operator could claim copyright in a rather complex bundle of discrete original works.

But in regard to property rights disputes in VW the most important question will be if the operator can use this copyright claim to protect its interests in the VW, Software and character database against claims of property rights in accumulated operator, third user and user-generated content by users and to restrict RMT?[247]

Whilst part one of that question will be examined in sub-chapters 5.4.1.3 and 7.2,[248] a possible restriction of RMT shall be discussed below:

Since the operator is the copyright holder,[249] any making of an identical or substantially similar copy of the original Software, VA display or programming code when engaging in RMT would constitute a copyright infringement.[250] Taking screen shots of an original VA display to advertise a sale, for example, would infringe the operator's copyright.[251] But RMT is even more likely to infringe the operator's exclusive reproduction and distribution right (because of the typical transfer/waiver of [future] [property] rights clause[252]), if the *transfer* itself required the

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[245] Subch4.3.1.2 (literary work).

[246] Eg, House Bill 3531—Database Investment and Intellectual Property Antipiracy Act of 1996, 104th Congress (1995-1996) (unenacted), s 3(d) ('Computer programs are not subject to this Act, including without limitation any computer programs used in the manufacture, production, operation or maintenance of a database.'); Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases [1996] OJ L77/20 [in subsequent footnotes use: **Database Directive**], Rec(17); Art1(3); WIPO Draft Treaty on Intellectual Property in Respect of Databases 1996, Art1(4).

[247] n1144 (applicable law).

[248] Subch4.3.2 (**Example 4-1** Different Property Rights in Copy and Programming Code).

[249] Subch4.3.1; n47 (on the use of operators, programmers, developers, authors and creators in this thesis).

[250] Copyright protection is subject to the idea-expression dichotomy (17 USC, s102[b]; eg, *Baker v Selden* 101 US 99, 102f [1879]; *Mazer v Stein* 74 SCt 460, 470f [1954]; *M Kramer Manufacturing Co Inc v Andrews* [n230] 435; *Atari Inc v North American Philips Consumer Electronics Corp* 672 F2d 607, 615ff [7th Cir 1982]), the 'merger doctrine' (eg, *Broderbund Software Inc v Unison World Inc* 648 FSupp 1127, 1131 [ND Cal 1986]; *Digital Communications Associates Inc v Softklone Distributing Corp* [n230] 457; *Lotus Development Corp v Paperback Software International* 740 FSupp 37, 59 [D Mass 1990]), and fair use (17 USC, s107). See in particular *Midway MFG Co v Strohon* (n230) 747; *Stern Electronics Inc v Kaufman* (ED NY 1981) (n230) 639; *M Kramer Manufacturing Co Inc v Andrews* (n230) 445 ('Because the audiovisual is fixed in the computer program, the computer program underlying the audiovisual constitutes a copy of the audiovisual. It necessarily follows from that holding that the audiovisual copyright may be infringed in one of two ways: The infringer may copy the audiovisuals themselves or the infringer may copy the underlying computer program.')

[251] A screen shot is 'a frozen image from a personal video game' (*Sony Computer Entertainment America Inc v Bleem* 214 F3d 1022, 1023 [9th Cir 2000]) See also *Micro Star v Formgen Inc* 154 F3d 1107 (9th Cir 1998) (discussing the copyright in screen shots of *Duke Nukem 3D*).

[252] Subch4.4.2.

copying of the VA display and/or programming code from one computer to another (possibly using the central server as intermediary), from one folder to another, from the user's computer hard disk to its RAM, or otherwise.[253] The *purchasing* user would then be a direct infringer by making the copy of the VA display and/or programming code, whilst the *selling* user would be a contributory infringer by inducing the *purchasing* user to make that copy.[254]

But client/server system architecture of VWs does not support an infringement of the reproduction right. When the *selling* user transfers a character, he/she will merely transfer his/her user account username and password to the *purchasing* user,[255] a copy will not be made. And if the user *sells* an object,[256] the object is not copied either. At any one time only one (copy of that[257]) object is displayed on the users' computers and in the VW.[258] Regardless of who *owns* that object or who has the contractual *right to use* it, both, the computer of the *seller* and the computer of the *buyer*, display its client version (ie, images, textures, models and animations)—installed in the client program, loaded into RAM, or sometimes cached on computer hard disk[259]—and that display does not change with the *transfer*. Even the character database does not make a copy of the programming code to change the *ownership* of that object but removes the copy of the item GUID (which does not in itself infringe copyright[260]) from the inventory of the *selling* user and adds it to the inventory of the *purchasing* user.

The operator may be the copyright holder, but its copyright cannot impede RMT. This does not necessarily mean that the user can claim rights, title and interest in *his/her* VAs,[261] but that the operator would want to use restrictions in the Contract to protect its creation.[262]

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[253] The distribution right presupposes that copies have already been made.

[254] Stephens, 'Sales of In-Game Assets: An Illustration of the Continuing Failure of Intellectual Property Law to Protect Digital-Content Creators' (n105) 1522; cf Dibbel, 'Owned! Intellectual Property in the Age of eBayers, Gold Farmers, and Other Enemies of the Virtual State - Or, How I Learned to Stop Worrying and Love the End-User License Agreement' (n214) 137, 139 (stating that the item transfer does not infringe copyright because it only involves a procedure of trivial copying [moving the item from one folder to another] without economic purposes).

[255] This will allow the purchaser to use the character and take possession of any objects associated with it (novation). The information in the character database is not affected. Please note that most Contracts will prohibit a transfer of user accounts. Eg, *BlzdEULA(US)*, c2(A)(vii). Until 2012, however, *UO* allowed for user account transfers (Electronic Arts Incorporated, 'Ultima Online New Player Guide: Origin Account Access Transfer: Frequently Asked Questions' [*Internet Archive WayBackMachine,* 2009] < https://web.archive.org/web/20090207052332/www.uo.com /acct_xfer.html > accessed 17 November 2018).

[256] n27 (objects); n28 (item). An item is a conceptual object, not *per se* a virtual object, but often associated. For instance, whilst clothing gear items are equipped, clothing gear objects appear on the avatar.

[257] Subch2.2 (copy fragmentation).

[258] Stephens, 'Sales of In-Game Assets: An Illustration of the Continuing Failure of Intellectual Property Law to Protect Digital-Content Creators' (n105) 1523.

[259] n101 (fat clients, thin clients and web-clients).

[260] Subchs4.3.2.3 (tangibility of GUIDs); 4.3.1.3 (copyright protection for compilations). GUIDs are typically a 32-bit or 64-bit number [nn110f] and not eligible for copyright protection, neither in themselves nor as an entry in the database (17 USC, 103[b]).

[261] n248. Subch7.2 (copyright in UGC).

[262] Subch4.4.

4.3.2 Physical Property Rights in the Server / Copy

Noting that copyright only prohibits the copying of, or producing of similar, fixed expressions of ideas,[263] but does not impede another person from using the original copy,[264] US (legislature,) jurisprudence and literature generally acknowledge the need for a property right in digital content other than copyright, but because of its dual nature have experienced major difficulties to establish the necessary legal rules for such property right.

Physical property rights can only exist in tangible things. Whilst US courts turned to physical property rights in the server and the common law tort of 'trespass to chattels' to protect digital content,[265] this author proposes physical property rights in the—soon to be examined—tangible copy.[266] According to this author a distinction should be made between physical property rights in the tangible copy and copyright in the intangible programming code. Someone may have physical ownership in the copy (here the fixed programming code) without having copyright ownership in the programming code and vice versa.[267]

For clarification purposes one might consider the following example of a book:

Example 4-1 Different Property Rights in Copy and Programming Code

> If someone buys a book, he/she purchases a particular copy of the book; possession of, and title to, that copy are transferred to him/her. In relation to that particular copy, the buyer has physical ownership rights, such as the *right to use*, *to transfer* and *to exclude* a large and indefinite class of other people—the world, including the seller—from that book.[268] However, he/she cannot reproduce, copy or distribute that book without the permission of the copyright owner.

[263] This is a simplified account. See n250 (idea-expression dichotomy); 17 USC, s106 (providing a list of exclusive rights). Please note that copyright only applies to non-rivalrous goods. 'One person's use of the [programming] code does not impede another person from making use of it.' (Fairfield, 'Virtual Property' [n63] 1053).

[264] Subch4.3.1.4 (any use of a character, object or item by another person requires its *transfer*, but due to the client server system architecture this transfer does not infringe copyright).

[265] R2T, ss217(b) ('intermeddling with a chattel in the possession of another'); 218.

[266] Subch4.3.2.3.

[267] Lothar Determann and Aaron Xavier Fellmeth, 'Don't Judge a Sale by Its License: Software Transfers Under the First Sale Doctrine in the United States and the European Community' (2002) 36 USFLRev 1, 7 (stating that the 'common judicial dichotomization of a "license" of software and a "sale" of software [is misleading because] the gravamen of a software transfer is the license itself and therefore such a transfer can involve either a sale or a lease of a software copy, but it must always involve a license in some form.')

[268] Thomas W Merrill and Henry E Smith, 'What Happened to Property in Law and Economics?' (2001) 111 YaleLJ 357, 360; *Kaiser Aetna v US* (n276) 176 ('one of the most essential sticks in the bundle of rights that are commonly characterized as property'). See also Courtney W Franks, 'Analyzing the Urge to Merge: Conversion of Intangible Property and the Merger Doctrine in the Wake of Kremen v Cohen' (2005) 42 HousLRev 489, 505; Hunt, 'This Land Is Not Your Land: Second Life, CopyBot, and the Looming Question of Virtual Property Rights' (n193) 162; Jacqueline Lipton, 'Mixed Metaphors in Cyberspace: Property in Information and Information Systems' (2004) 35 LoyUChiLJ 235, 249ff; Adam Mossof, 'What is Property? Putting the Pieces back together' (2003) 45 ArizLRev 371, 389; David P Sheldon, 'Claiming Ownership, but Getting Owned: Contractual Limitations on Asserting Property Interests in Virtual Goods' (2007) 54 UCLALRev 751, 759; Shyamkrishna Balganesh, 'Common Law Property Metaphors on the Internet: The Real Problem with the Doctrine of Cybertrespass' (2006) 12 MichTelecomm & TechLRev 265, 311.

When separating the copy from the programming code and hence physical property rights in the copy from copyright in the programming code as proposed in this thesis, a similar argument can be made in regard to the Client Software, VA and any reference thereto.[269]

But can physical property rights in the server, in the (Software, VA and reference) copy, or possibly in both, be claimed by the operator to protect its interests in the VW, Software and character database against claims of property rights in accumulated operator, third party and user-generated content by its users and to restrict RMT?

4.3.2.1 A 'Bundle of Rights'?

One might say that ownership is the most extensive personal property right, but if so, what exactly is property?[270] There are basically two different approaches to property rights, the traditional concept of property[271] and the concept of a 'bundle of rights'.[272]

Historically personal property rights (including physical and intellectual property rights[273]) have been classified as rights *in rem* or multital rights[274]—being good against the world.[275] Allocated to a person in relation to a(n) (in)tangible thing (eg, ownership, as the most extensive property right), property rights allow that person to exclude a 'large and indefinite class of other people ("the world") from the thing'.[276] Honoré defined ownership as 'the greatest possible interest in a thing which a mature legal system recognizes', describing standard incidents of ownership[277] as,

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[269] Subch5.2.3.2.3.

[270] *Kremen v Cohen* 337 F3d 1024, 1030 (9th Cir 2003) ('Property is a broad concept that includes every intangible benefit and prerogative susceptible of possession or disposition.'); James V DeLong, *Property Matters: How Property Rights Are Under Assault and Why You Should Care* (Simon & Schuster 1997) 26 ('anything that can be used, physically or mentally, so as to provide value of some kind'); Mossof, 'What is Property? Putting the Pieces back together' (n268).

[271] Merrill and Smith, 'What Happened to Property in Law and Economics?' (n268) 360.

[272] Wesley Newcomb Hohfeld, 'Fundamental Legal Conceptions as Applied in Judicial Reasoning' (1917) 26 YaleLJ 710; Merrill and Smith, 'What Happened to Property in Law and Economics?' (n268) 365 ('Hohfeld did not use the metaphor "bundle of rights" to describe property[,] [b]ut his theory of jural opposites and correlatives, together with his effort to reduce in rem rights to clusters of in personam rights, provided the intellectual justification for this metaphor'); Arthur L Corbin, 'Taxation of Seats on the Stock Exchange' (1922) YaleLSch LegalSRepoPa No2929, 429, 429; Max Radin, 'A Restatement of Hohfeld' (1938) 51 HarvLRev 1141.

[273] Hohfeld, 'Fundamental Legal Conceptions as Applied in Judicial Reasoning' (n272) 85 ('A multital right or claim [right *in rem*], is not always one relating to a thing, i.e., a tangible object [...]. The term right *in rem* [multital right] is so generic in its denotation as to include [...] [m]ultital rights [or claims] relating neither to a definite tangible object nor to [tangible] person, e.g., a patentee's right, or claim, that any ordinary person shall not manufacture articles covered by the patent.') See also Niva Elkin-Koren, 'Copyright Policy and the Limits of Freedom of Contract' (1997) 12 BerkeleyJIntL 93 102 ('copyright law defines entitlements protected under a property rule, and therefore creates rights *in rem*, that is rights against everyone else') (emphasis added); James GH Griffin, 'The Interface between Copyright and Contract: Suggestions for the Future' (2011) 2 EJL & Tech 1 ('copyright is a right *in rem*').

[274] Hohfeld, 'Fundamental Legal Conceptions as Applied in Judicial Reasoning' (n272) 13f (stating that rights *in rem* are 'multital rights' while rights *in personam* are 'paucital rights', new terms 'free from all suggestion that legal relations *in rem* relate necessarily to a physical *res* or thing or are "rights against a thing"; [...] [not leading] to the usual confusion with reference to the relation of rights *in rem* and *in personam* to actions and procedures *in rem* and *in personam*').

[275] Merrill and Smith, 'What Happened to Property in Law and Economics?' (n268) 360. Subch8.1.2.2.1 (rights *in rem* and rights *in personam*).

[276] ibid 360; n268.

[277] AM Honoré, 'Ownership' in Anthony G Guest (ed), *Oxford Essays in Jurisprudence (First Series)* (Clarendon 1961) 108 (emphasis added).

'the right to possess, the *right to use*, the right to manage, the right to the income of the thing, the right to the capital, the right to security, the rights or incidents of transmissibility and absence of term, the prohibition of harmful use, liability to execution, and the incident of residuarity'.[278]

In contrast to the traditional concept of property, the 'bundle of rights' concept reduces property to a recognisable 'collection[] of functional attributes, such as the *right to exclude*, *to use*, *to transfer* or to inherit particular resources'[279] but ignores the thing.[280] With the focus shifting to 'a composite of legal relations that holds between persons (...) only secondarily or incidentally [involving] a "thing"',[281] however, property rights might become 'simpl[e] rights, to which the term "property" adds nothing at all'.[282]

Noting the disappearing divide between property rights and obligations,[283] this thesis recognises the *right to use*, *to exclude* and *to transfer* as the three most essential attributes of (physical and intellectual) property rights.[284] Instead of ignoring the (in)tangible thing, however, this research argues that finding physical property rights in the copy without consideration of the (here almost intangible) thing is impossible.[285]

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[278] ibid 124-28 (one might still be an owner without having all of the listed incidents of ownership); Sarah Worthington, *Personal Property Law: Text, Cases and Materials* (Hart 2000) 40 ('For example, an owner remains "the owner" even after granting rights of possession to a third party [whether in terms of hire, gratuitous loan, or pledge].')

[279] Merrill and Smith, 'What Happened to Property in Law and Economics?' (n268) 365; Felix S Cohen, 'Dialogue on Private Property: I. The Pragmatice Meaning of Private Property' (1954) 9 RutgersLRev 357, 374; cf James E Penner, 'The "Bundle of Rights" Picture of Property' (1996) 43 UCLALRev 711, 723 ('[If] "property is [considered] a bundle of rights" [this would assert] the claim that property is a concept without a definable "essence"; different combinations of the bundle in different circumstances may all count as "property" and no particular right or set of rights in the bundle is determinative.')

[280] Walter Wheeler Cook, 'Introduction' in Walter Wheeler Cook (ed), *Fundamental Legal Conceptions as Applied in Judicial Reasoning and other Legal Essays* (YaleUP 1920) 14 (emphasis added) (stating that Hohfeld's analysis has shown that 'what the owner of property has is a very complex aggregate of rights, privileges, powers and immunities,' not in a(n) (in)tangible thing [*in rem*] but rather against other people [*in personam*]).

[281] Merrill and Smith, 'What Happened to Property in Law and Economics?' (n268) 357; Michael J Madison, 'Law as Design: Objects, Concepts, and Digital Things' (2005) 56 CaseWResLRev 381, 478 ('[A]bandonment of thing-based descriptions in favour of rights and rules-based descriptions leaves us without a vocabulary adequate to capture actual human experience.'); Clarisa Long, 'Information Costs in Patent and Copyright' (2004) 90 VaLRev 465, 473 ('Using things as a referent for complex relationships provides a way to reduce information costs. When the subject matter of the property rights is an intellectual good for which information costs loom large, "thingness" becomes even more important.'); cf David McGowan, 'The Trespass Trouble and the Metaphor Muddle' (2005) 1 JLEcon & Pol 109, 139 ('Scholars have made sense of the notion of property by insisting that it has no inherent or intrinsic relation to things, and instead must be analyzed in terms of relations among persons with regard to things.')

[282] Emily Sherwin, 'Two- and Three-Dimensional Property Rights' (1997) 29 ArizStLJ 1075, 1078; Michael A Heller, 'The Boundaries of Private Property' (1999) 108 YaleLJ 1163, 1193-94 ('As long as theorists and the Court rely on the bundle-of-legal-relations metaphor, they need some analytical tool to distinguish things from fragments, bundles from rights, and private from nonprivate property.')

[283] Worthington, 'The Disappearing Divide Between Property and Obligation: The Impact of Aligning Legal Analysis and Commercial Expectation' (n2) 917ff; subch8.1.2.2.

[284] n273.

[285] Similar to physical property rights that might consider the tangible copy, copyright might consider the intangible programming code, display and compilation of VAs to facilitate the finding of property rights in VWs. See also Madison, 'Law as Design: Objects, Concepts, and Digital Things' (n281) 444 ('Agreements can thingify data'; providing the example of data protection through a net of contracts). cf Juliet M Moringiello, 'False Categories in Commercial Law: The (Ir)Relevance of (in)Tangibility' (2007) 35 FlaStULRev 119, 143f. Subch8.1.2.2.

4.3.2.2 Cybertrespass Doctrine

Still ignoring software's 'physical properties of mass and volume', courts have gradually extended the traditional requirement of physical contact in the common law tort of trespass to chattels to include influential electronic signals reasoning that any electronic interference with server space may constitute a tangible invasion (cybertrespass doctrine).[286]

According to the cybertrespass doctrine changes to the character database to transfer objects from one user to another would constitute a tangible invasion of server space,[287] but its flaws should effectively prohibit its application. First of all, the character database is different to the server that forms the basis for the trespass action.[288] And whilst the courts' notions of the chattel trespassed against has changed to include the computer's bandwidth, processing power, and network,[289] one might find that these *chattels* are not 'actually chattels at all',[290] ultimately conflating 'intangible and tangible injury'.[291] Even if the courts were to acknowledge the tangibility of the copy, as suggested by this author, a lack of convergence would still exist.

For example, if person A owns a box with content that is allocated to person B, a transfer of rights to that content (insofar similar to a transfer of the item GUID stored on the server) from person B to person C without touching the box would hardly damage or impair the box itself.

4.3.2.3 Tangibility of the Copy (Software / Virtual Asset / Reference)

The classification of software has often been subject to litigation,[292] but despite its ambivalent nature most courts still rely on a 'technologically inaccurate portrayal of software', that ignores

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[286] Crockett, 'Software Taxation: A Critical Reevaluation of the Notion of Intangibility' (n176) 870-71. *Thrifty-Tel Inc v Myron Bezenek* 46 CalApp4th 1559, 1567 (fn6) (1996); *Compuserve Inc v Cyber Promotions Inc* 962 FSupp 1015, 1022 (SD Ohio 1997); *eBay Inc v Bidder's Edge Inc* 100 FSupp2d 1058 (ND Cal 2000); *Ticketmaster Corp v Tickets.com Inc* 2000 WL 525390 (CD Cal 2000); *Oyster Software Inc v Forms Processing Inc* 2001 WL 1736382, *13 (ND Cal 2001) (holding that copying website information without authorisation 'was sufficient to establish a cause of action for trespass; not because the interference was "substantial" [causing damages] but simply because the defendant's conduct amounted to "use" of [the claimant's] computer'); cf *Intel Corp v Hamidi* 30 Cal4th 1342, 1347 (2003) (confirming that actual damage or impairment to the chattel was indeed necessary for a trespass to chattel claim). See Fairfield, 'Virtual Property' (n63) 1080; Mary WS Wong, 'Cyber-trespass and "Unauthorized Access" as Legal Mechanisms of Access Control: Lessons from the US Experience' (2007) 15 IntlJL & InfTech 90, 108; Francis Gregory Lastowka, 'Decoding Cyberproperty' (2007) 40 IndLRev 23, 40; Michael A Carrier and Francis Gregory Lastowka, 'Against Cyberproperty' (2007) 22 BerkeleyTechLJ 1483, 1488ff.

[287] The character database does not make a copy of the programming code to change the *ownership* of the object but removes the copy of the item GUID from the inventory of the *selling* user and adds it to the inventory of the *purchasing* user. Trespass against the release version or client version does not seem possible, the allocation of VAs does not rely on the release version or the client version but only on the server version. Subch4.3.1.4 (n255) (character transfers).

[288] Fairfield, 'Virtual Property' (n63) 1075.

[289] n286.

[290] Dan Hunter, 'Cyberspace as Place, and the Tragedy of the Digital Anticommons' (2003) 91 CalLRev 439, 486.

[291] Michael J Madison, 'Rights of Access and the Shape of the Internet' (2003) 44 BCLRev 433, 470.

[292] Subch5.2.1.2.1. See generally Amelia H Boss, Harold R Weinberg and William J Woodward, 'Scope of the Uniform Commercial Code: Advances in Technology and Survey of Computer Contracting Cases' (1989) 44 BusLaw 1671; Jeffrey B Ritter, 'Scope of the Uniform Commercial Code: Computer Contracting Cases and Electronic Commercial Practices' (1990) 45 BusLaw 2533; Jeffrey B Ritter, 'Software Transactions and Uniformity: Accomodating Codes under the Code' (1991) 46 BusLaw 1825; Andrew Rodau, 'Computer Software: Does Article 2 of the Uniform Commercial Code Apply?' (1986) 35 EmoryLJ 853; Bonna Lynn Horovitz, 'Computer Software as a Good under the Uniform Commercial Code: Taking a Byte Out of the Intangibility Myth' (1985) 65 BULRev 129.

the fact that computer software has 'physical properties of mass and volume'.[293]

Noting that the fragmented copy of every character, object and item[294] and any copy of the references used in client server system architecture has binary form[295] and are physically equivalent to—the more often discussed—software,[296] one might only assume that they are likely to be treated similarly by the courts in the event of litigation.

Unless and until the programmer's 'know how' culminates in the physical programming of a piece of hardware, there is no VA, only the idea and the knowledge to create it. Once this idea has been implemented, and possibly a computer program produced,[297] however, an additional,[298] potentially legally different entity—the copy—is created.[299]

This fragmented copy[300] is then referenced in client/server system architecture using copies of GUIDs[301] and of various different internal references such as type numbers,[302] long integers, memory pointers (or pointers to function)[303] and function names.[304] Although these copies may be stored differently (optically, magnetically or on semiconductor), they will always have some form of material presence because they 'cannot float in space'.[305]

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[293] n176.

[294] The VA copy is fragmented into a server version (including internal references to its properties, fixed script and programming code) and a release version (ie, images, textures, models and animations).

[295] A compiler is used to compile all source code files into object code including GUIDs, type numbers, long integers, memory pointers (or pointers to function), function names and other references as well as graphics and textures. (Per Christensson, 'Compiler' [*Techterms.com,* nd] <https://techterms.com/definition/compiler> accessed 17 November 2018).

[296] Crockett, 'Software Taxation: A Critical Reevaluation of the Notion of Intangibility' (n176) 865. Computers represent information in binary code, written as sequences of 0s and 1s, single instruction to the computer to do (1) or not to do (0) a particular function. See John von Neumann, *The Scientific Genius Who Pioneered the Modern Computer, Game Theory, Nuclear Deterrence, and Much More* (OUP 2000) (providing information on the four-step system [von Neumann architecture] that turns bits into computer operations or data). cf *Janesville Data Center Inc v Wisconsin Department of Revenue* 84 Wis2d 341 (Wis 1978) (holding that coded or processed data is intangible).

[297] Not all programming code will qualify as a computer program protected by copyright. See subchs4.3.1.2; 7.2.4.

[298] When a software copy is produced, no aspect of the intellectual product (the intangible computer program) is altered, and it continues to exist.

[299] In contrast to some computer-generated data (ie, calculations), most operator-generated content results from the computer programmer's mind. See also 17 USC, s202 ('Ownership of a copyright, or of any of the exclusive rights under a copyright, is distinct from ownership of any material object in which the work is embodied.'); here the work being the intangible programming code and the copy being the tangible copy.

[300] n294.

[301] n110ff.

[302] An object may have a number that describes its type that would be part of the XML file and/or database. 'For example, a game might have zebras, and they might have a type number (138404 or whatever). All zebras would carry that number to show that they are zebras. But if in this game it was important to refer to individual zebras, each one would have its own GUID. [...] The GUID would typically be assigned by the program as each object was created.' (Mike Sellers). See n1737 (class names)

[303] cf Eric S Roberts, *The Art and Science of C: A Library Based Introduction to Computer Science* (Addison Wesley 1995) 395 (discussing the use of pointers in C to refer to large data structures). Some textures may not exist as a file. If they are programmatically created, the object points to a particular function that is run by the display portion of the client that constructs the apparent texture on the fly (pointer to function).

[304] Used to refer to scripts.

[305] *Comptroller of the Treasury v Equitable Trust Co* 296 Md 459, 484 (Md App 1983). Next to copies, one might also discuss the tangibility of the VA display. When using cathode ray tubes, these light spots are generated by electron beams that are converted into visible light upon impact with a phosphor layer on the inside of the screen. In liquid crystal displays, passage and reflection of the incident light is affected by the composition of the liquid that is controlled by means of electric fields. In plasma displays, gases are ionised and thus light up. All these display

When stored (optically) on DVD-ROM, each bit of information is represented by either the presence (0) or absence (1) of a tiny pit in the surface of the disc[306] determining the amount of light reflected back when a laser 'reads' the computer instructions and the data provided by the software.[307] Even if stored less permanently, temporarily or transmitted from one computer to another, each bit of binary data would still have some physical presence.

When stored (magnetically) on a computer hard disc, for example, tiny magnets are used to store the information and the magnets' North and South poles (directed towards or away from the surface of the medium) represent the 0s (south-up) and 1s (north-up) for the machine to read.[308] And (semiconductor) storage in computer RAM is not that different.[309] Information is stored in a memory cell and represented by an electrical charge (1) or a lack of an electrical charge (0)[310] at different positions within that memory cell.[311]

Since pits may be moulded, magnets may be (re)directed and memory cells may be (dis)charged as appropriate when copies are written, overwritten or erased, each storage medium loaded with a copy is physically different from that same storage medium with a different copy on it and also different from any blank medium, regardless of whether or not this difference can be perceived by the naked eye. As long as the copy exists, it therefore does so in corporeal form (not only contained in a physical medium, but as a corporeal feature of that medium). This corporeal nature is also illustrated by the fact that hardware has only a finite capacity for storage because of its material presence, copies take up physical space on whichever medium they are stored.[312]

Although the Software, VAs and references in binary form cannot be touched or felt fragmented copies of the Software and VAs, but definitely not their programming code,[313] and all the reference copies thereto are as tangible as the typical tangible thing.[314]

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devices create VAs through rays, gases or liquids, but their tangibility is questionable. Their concrete arrangement, representing the VA is not separated from the outside by technical means or fixed but subject to constant change due to the dependence on electric fields. Subch5.2.1.2.2.4 (nn496ff [on downloads and electricity]).

[306] See Kevin W Saunders, 'Virtual Worlds - Real Courts' (2007) 52 VillLRev 187, 241; Chris Bishop, 'How do CDs, DVDs and Hard Discs Store Information' (*Naked Scientist,* 22 March 2009) <www.thenakedscientists.com /HTML/questions/question/2270/> accessed 17 November 2018.

[307] The amount of light reflected back is converted by a photo-electric cell into electrical signals and the two different states, non-reflective (pit) and reflective (no-pit), will be recorded as 0s (off) or 1s (on) respectively.

[308] Bishop, 'How do CDs, DVDs and Hard Discs Store Information' (n306); Donald H Sanders, *Computers Today, with Basic: Inside Computers Today, Study Guide* (3 edn, McGraw-Hill 1988) 229, 233.

[309] Appendix A; *Advanced Computer Services of Michigan Inc v MAI Systems Corp* (n226) 363 (fn8) ('To visualize the materiality of a program in RAM, one need only consider the fact that a program in RAM takes up RAM space. RAM is not infinite in capacity; the process of loading a program into RAM reduces the amount of available space in RAM to be used for other programs or information.')

[310] Information can be transmitted on wires by varying voltage or current (Andrew S Tanenbaum and David J Wetherall, *Computer Networks* [5 edn, Pearson 2011] 110).

[311] Sanders, *Computers Today, with Basic: Inside Computers Today, Study Guide* (n308) 167, 233.

[312] Subch5.2.1.2.2.4 (on tangibility during transit/download); nn496ff.

[313] Even those commentators who believe software to be tangible agree that programs themselves (abstract instructions) are intangible (Davidson, 'Protecting Computer Software: A Comprehensive Analysis' [n235] 616).

[314] A copy of those references but not the GUID, type numbers, long integers, memory pointers (or pointers to

4.3.2.4 First Possession

In accordance with the dominant understanding in the Anglo-American tradition that original physical ownership is established by first possession,[315] one might agree that the operator as the creator of the VW, Software and character database (including all operator-generated content) is initially the single holder of any physical property rights in them.[316]

4.3.2.5 Summary: Physical Property Rights (and Real Money Trade)

A discussion of the initial property rights in the VW, Software and character database has illustrated that the operator is not only the creator of the Software copy, the VA copy—fragmented into a server version and a release/client version—and the reference copies in the server version but that it has—subject to the first possession doctrine—the *right to use*, *to transfer* and *to exclude* others from exercising control over them (answering to both, the traditional and the 'bundle of rights' concept of property[317]).

But in regard to property rights disputes in VW the most important question will be if the operator can use these physical property rights to protect its interests in the VW, Software and character database against claims of property rights in accumulated operator, third party and user-generated content by its users and to restrict RMT?[318]

Whilst part one of that question will be examined in sub-chapters 5.2.1.2.4.2; 5.4.1; 5.4.1.3 and 7.3,[319] a possible restriction of RMT shall be discussed below:

If the US courts were to acknowledge the tangibility of the copy, an object transfer from one user to another, that would effectively trigger the re-allocation of reference copies,[320] might possibly constitute trespass to chattel (and conversion) in regard to the character database (insofar different to cybertrespass, where the server forms the basis for the action).[321]

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function), and function names causal to that copy. Subch5.4.1.2 (transfer of reference copies).

[315] John Locke, *An Essay Concerning the True Original Extent and End of Civil Government: Of Property* (Edes & Gill 1690) §26 ('every man has a "property" in his own person' and he is therefore entitled to whatever he 'removes out of the state [of] nature' and 'mixe[s] his labour with'); Richard A Epstein, 'Possession as the Root of Title' (1979) 13 GaLRev 1221; Dean Lueck, 'The Rule of First Possession and the Design of the Law' (1995) 38 JL & Econ 393; Thomas W Merrill, 'Accession and Original Ownership' (2009) 1 JLegalA 459 ('Resources are imagined as originally existing in an open-access commons or the public domain. Individuals acquire property rights in some portion of this common pool by being the first to reduce particular things to possession.') Subch8.2.2.1.

[316] n47 (on the use of operators, programmers, developers, authors and creators in this thesis). Subch7.3. A regular user who is not a skilled computer expert will not be able to modify or manipulate the Software.

[317] Subch4.3.2.1.

[318] *Babcock v Jackson* 191 NE2d 279 (NY 1963) (discussing *lex loci delicti commissi);* R2Col, s6 ('most significant relationship'); Art4(1) of Regulation (EC) 864/2007 of the European Parliament and of the Council of 11 July 2007 on the Law Applicable to Non-Contractual Obligations [2007] OJ L199/40 [in subsequent footnotes use: **Rome II**], 'the law applicable to a non-contractual obligation out of tort/delict shall be the law of the country in which the damage occurs irrespective of the country in which the event giving rise to the damage occurred (...)'; Haimo Schack, 'Internationale Urheber-, Marken- und Wettbewerbsrechtsverletzungen im Internet: Internationales Privatrecht' (2000) MMR 59, 60.

[319] Subch4.3.2 (**Example 4-1** Different Property Rights in Copy and Programming Code).

[320] Subchs2.2 (nn110ff) (references); 4.3.1.4 (n255) (character transfers).

[321] Fairfield, 'Virtual Property' (n63) 1075 (cybertrespass); R2T, ss217, 222. See John William Nelson, 'Fiber Optic

According to R2T, s217 trespass to chattel requires the intentional 'intermeddling with a chattel in the possession of another',[322] but the trespasser shall only be liable if he/she 'dispossesses the other of the chattel', 'impair[s] [the chattel] as to its condition, quality or value', or 'deprive[s] [the possessor] of the use of the chattel for a substantial time'.[323]

Applied to VW, one might quickly find that the user's RMT would indeed interfere with the character database (by triggering the re-allocation of reference copies[324]) but that none of the above pre-requisites on liability would apply to the user in regard to the operator. A claim for trespass to chattel (and conversion) would therefore be unlikely to be successful.

4.3.3 Summary: Property Rights in Operator-Generated Content

Copyright and physical property rights cannot be used by the operator to impede RMT.

This does not necessarily mean that the user can claim rights, title and interest in *his/her* VAs,[325] but that the operator would want to use (enforceable) restrictions-of-rights clauses in the Contract to protect its creation.

Whilst the Contract is not a Holy Grail, it typically includes a transfer/waiver of (future) (property) rights clause—just in case that a court rules that property rights in VAs do exist and may potentially vest in the user.[326]

4.4 Software Contract / Licence Agreement

4.4.1 Restriction-of-Rights Clauses in the Contract

With the sword of Damocles dangling over their heads, not knowing whether the courts will or will not acknowledge users' property rights, the operator has ultimately turned to the Contract (ie, the Software Contract and the Services Contract[327]) to include a transfer/waiver of (future) (property) rights clause, to limit its liability and seek protection for its creation.[328]

Foxes: Virtual Objects and Virtual Worlds Through the Lens of Pierson v Post and the Law of Capture' (2009) 14 JTechL & Pol 5, 17; Sarah Green, 'Can a Digitized Product be the Subject of Conversion?' (2006) Lloyd's Maritime and Commercial Law Quarterly 568; William Lloyd Prosser, 'Nature of Conversion' (1957) 42 CornellLRev 168.

[322] R2T, s217(b).

[323] R2T, s218(a)-(c).

[324] Subch2.2 (nn110ff).

[325] Subchs5.2.2; 5.4.1.3; 7.2 (copyright); 5.2.1.2.4.2; 5.4.1; 5.4.1.3; 7.3 (physical property rights); Chapter 8 (quasi-property rights).

[326] See subch4.4.2; n56 (existing case law).

[327] nn61ff.

[328] Bryan A Garner and others (eds), *Black's Law Dictionary* (9 edn, Thomson Reuters 2004) 1002 (describing licensing as granting of certain rights that the licensor has the power to withhold); Raymond T Nimmer and Jeff C Dodd, *Modern Licensing Law* (Thomson West 2011) §1:2 (describing licensing as a promise not to sue the licensee for conduct that would otherwise constitute infringement under intellectual property law); *Spindelfabrik Suessen-Schurr Stahlecker & Grill GmbH v Schubert & Salzer Maschinenfabrik AG* 829 F2d 1075, 1081 (Fed Cir 1987) ('[A] patent license agreement is in essence nothing more than a promise by the licensor not to sue the licensee.'); Daniel Greenberg (ed), *Jowitt's Dictionary of English Law*, vol 2 (J-Z) (3rd edn, Sweet & Maxwell 2010) (describing a licence as the 'permission given by one person to another to do some act which without such permission would be unlawful or legally ineffective').

Initially employed 'to augment trade secret protection (...) at a time when (...) the existence of a copyright in computer programs was doubtful, and, later [continued], when the extent to which copyright provided protection was uncertain',[329] software developers still license their software—even though nowadays, copyright protection for software is well established.[330] Licensing is used in an attempt to avoid the application of UCC, Art 2,[331] the impact of the first sale doctrine,[332] or similar provisions on the sale of goods and copyright, and to impose liability-limiting contract terms that may apply according to the choice-of-law rules.[333]

Not every Software Contract will be as unambiguous as the *World of Warcraft* EULA (EU),[334] where Blizzard states in predominant capital letters—right at the beginning—that:

> IMPORTANT! (...) THIS SOFTWARE IS LICENSED, NOT SOLD. IF YOU DO NOT AGREE WITH THE TERMS OF THIS AGREEMENT, PLEASE DELETE THE SOFTWARE PROGRAM IMMEDIATELY AND ARRANGE TO RETURN THE GAME TO YOUR RETAILER.[335]

Nonetheless, most Software Contracts selected and examined for this research employ some form of limited, revocable, non-transferable, non-sublicensable and non-exclusive licence for the user to access and use the VW, Software and character database.[336]

Whilst the question whether the software transaction is a sales contract, a licence agreement, or both, is discussed in detail in sub-chapters 5.2 and 5.4, this sub-chapter shall briefly introduce the reader to the restriction-of-rights clauses in the Contract typically used by operators in an attempt to protect their interests in the VW, Software and character database[337] before their enforceability is discussed in Chapter 6.

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[329] *Softman Products Co LLC v Adobe Systems Inc* (n235) 1083.

[330] David A Rice, 'Licensing the Use of Computer Program Copies and the Copyright Act First Sale Doctrine' (1990) 30 JurimetricsJ 157, 159 (fn8); *Williams Electronics Inc v Arctic International Inc* (n232) 875 ('the copyrightability of computer programs is firmly established after the 1980 amendment to the Copyright Act').

[331] Jean Braucher, 'Contracting out of Article 2 Using a License Label: A Strategy That Should Not Work for Software Products' (2006) 40 LoyLALRev 261, 275; Rice, 'Licensing the Use of Computer Program Copies and the Copyright Act First Sale Doctrine' (n330) 157; *Adobe Systems Inc v One Stop Micro Inc* 84 FSupp2d 1086, 1091-92 (ND Cal 2000) ('The rate of change of technology is orders of magnitude greater than the ability of intellectual property laws to keep up. The industry must be able to license its products in order to create and protect innovation.') In a typical licensing transaction, the title to the software would not be transferred.

[332] John A Rothchild, 'The Incredible Shrinking First-Sale Rule: Are Software Resale Limits Lawful?' (2004) 57 RutgersLRev 1, 17-18.

[333] Christian H Nadan, 'Software Licensing in the 21st Century: Are Software "Licenses" really Sales, and How Will the Software Industry Respond?' (2004) 32 AIPLAQJ 555, 557.

[334] *WoWEULA(EU)*. This author may only assume that the relevant *WoWEULA (US)* in DVD-ROM boxes sold in the United States would be rather similar. See *BlzdEULA(US)*.

[335] *WoWEULA(EU)*, para1; less predominant *BlzdEULA(US)*, paras1-3. See also *FNEULA*, c1 ('The Software is licensed, not sold, to you under the License. The License does not grant you any title or ownership in the Software.')

[336] *WoWEULA(EU)*, c1; *BlzdEULA(US)/(EU)*, c1(B); *EUEULA*, c2(para4); *SLToS*, c2.2.

[337] Subch6.4. Eg, *EUAToU*, c8(para6) ('All and any behavior, utterance or action in the Entropia Universe or in any of MindArk's forum or website that MindArk, at it [sic] sole and absolute discretion, FIND TO be a violation of the Rules of Conduct could result in the Account being Banned or Terminated WITHOUT ANY CLAIMS WHATSOEVER.')

4.4.2 Transfer/Waiver of (Future) (Property) Rights

In the early days, operators asked users to assign their future property rights before entering the VW,[338] but nowadays Contracts often simply state wording similar to or the same as: the operator owns, holds or retains 'all rights, title and interest' to all VAs,[339] which has the legal effect of a waiver on the part of the user.[340]

Whilst a user may indeed assign in equity for consideration his/her future copyright, physical property and contractual rights;[341] including such a request in the Contract would already suggest that users' property rights might exist, or rather that the operator thinks that they might exist (hence justifying the imposition of an user-alienating transfer clause).[342]

One might therefore argue that the operators have changed the wording of the Contract and included a waiver instead, to not raise users' expectations or strengthen such claim any further. Any such waiver of property rights, similar to the sometimes requested waiver of copyright, however, may be unconscionable and unenforceable.[343]

4.4.3 Granting the Rights to Use, to Exclude and to Transfer

Whilst the Contract grants the user a *right to use* the VW, Software and character database, this *right to use* will ultimately include a *right to use*, *to exclude* others from and sometimes *to transfer his/her* VAs.[344] Compared to the traditional understanding of property as rights *in rem*—being good against the world,[345] however, these contractual rights are limited by the Software, the Contract and its *rules of conduct*.[346]

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[338] EUEULA (2007), c7 ('As part of your interactions with the System, you may acquire, create, design, or modify Virtual Items, but you agree that you will not gain any ownership interest whatsoever in any Virtual Item, and you hereby assign to MindArk all of your rights, title and interest in any such Virtual Item.') (MindArk, 'EUEULA [2007]' [*Internet Archive WayBackMachine,* 16 October 2007] <httpshttps://web.archive.org/web/20071119133434/http://www.entropiauniverse.com/pe/en/rich/107004.html> accessed 17 November 2018).

[339] *EUEULA*, c2(para3); *BlzdEULA(US)/(EU)*, c2(A); *SLToS*, c1.5(para2); *FNEULA*, c4; Vacca, 'Viewing Virtual Property Ownership Through the Lens of Innovation' (n205) 43.

[340] Users may also be required to license all of *their* intellectual property rights to the operator. Eg, *SLToS*, cc2.3(paras4-5); 2.4 (para1); *BlzdEULA(US)/(EU)*, c1(D)(i)(4); *EUEULA*, c11(para10).

[341] As epitomised in the maxim *nemo dat qui non habet* ('one who does not have cannot give'), common law does not recognise a present transfer of property rights that have yet to be created (E Allan Farnsworth, *Contracts* [4 edn, Aspen 2004] §11.5). But in equity: *Beley v Naphtaly* 169 US 353, 363 (1898) (holding that 'the assignment of a right before entry was [...] valid'); *Contractual Obligation Productions LLC v AMC Networks Inc* 546 FSupp2d 120, 126 (SDNY 2008) ('because the Assignment expressly extended to works "that are, or will be, written, created, or developed" by Plaintiff, any copyright interest that Plaintiff did not have at the time of the Assignment's execution was necessarily assigned to [the defendant] at the time any such future copyright interest arose.'); *Mitchell v Winslow* 17 FCas 527, 533 (CCD Me 1843); *Portuguese-American Bank of San Francisco v Paul Welles* 37 SCt 3, 4 (1916) ('When a man sells a horse, what he does, from the point of view of the law, is to transfer a right, and a right being regarded by the law as a thing, even though a *res incorporalis*, it is not illogical to apply the same rule to a debt that would be applied to a horse.') See also 1001 (on UK, German and Swedish law).

[342] Marcus, 'Fostering Creativity in Virtual Worlds: Easing the Restrictiveness of Copyright for User-Created Content' (n229) 75 (fn56).

[343] Subch6.4.1.

[344] Without a *right to use*, the notion of using VAs in a VWs would not exist.

[345] Merrill and Smith, 'What Happened to Property in Law and Economics?' (n268) 360. Subch8.1.2.2.1.

[346] Lawrence Lessig, *Code and Other Laws of Cyberspace* (Basic Books 1999); James T Grimmelmann, 'Virtual Worlds as Comparative Law' (2004) 49 NYLSchLRev 147, 150-51 ('If I "own" an enchanted sword [in the VW], I

For instance, users are often prohibited to use *their* characters to harass or offend other users, to impersonate a staff member of the operator, to defraud other users, or to conduct any illegal activity. If someone were to engage in these types of activities in the actual world, he/she may break the law; but unlike in the VW, complying with state law is not a condition of ownership. And a breach of state law may just as little result in the termination of the social contract, or the sovereign excluding the person in breach from state territory.[347]

Example 4-2 Critical Comments in VWs

> In the actual world, someone who posts critical comments about his/her employer on a social networking website, may lose his/her job, but any personal belongings (eg, a plant, or cushion) remain his/her property. In the VW, however, using *his/her* character to defame the operator may not only lead to the exclusion of the user, but may also result in the loss of *his/her* character and possessions.[348]

Similar to the *right to use*, the *right to exclude* others from exercising control, being 'one of the most essential sticks in the bundle of rights that are commonly characterized as property',[349] has been seriously curtailed or refused by most operators.

The *right to exclude* has been granted together with the *right to use* because without a *right to exclude*, the user cannot use *his/her* VAs in the VW, experience the metaverse economy, or compete and level-up in MMOGs.[350] It is further supported by the *rules of conduct*[351] and the fact that the licensed *right to use* is non-transferable and non-sublicensable.[352]

Although the chosen language may differ from Contract to Contract, most Contracts reserve an absolute *right to exclude* only for the operator (eg, the licence granted to the user in the VW, Software and character database [necessarily including *his/her* character, objects and items[353]] is non-exclusive). This is usually expressed as a retention of all 'rights, title, and interest' in VAs,[354] and shall even apply to UGC.[355] According to the typical Contract users may only ever exclude other users but not the operator from exercising control over *their* characters, objects

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am guaranteed to be the only player who can use that sword. No other player can use my virtual personalty, let alone take it from me. The game's interface typically won't even have a command allowing another player to attempt to use the sword; such a concept is inexpressible within the game's interface.')

[347] Subch4.4.4.

[348] *EUAToU*, c8(k).

[349] *Kaiser Aetna v US* (n276) 176.

[350] nn18ff.

[351] The protection of the user's *right to exclude* through *rules of conduct* is only indirect because the user's *right to use* is only protected by the *rules of conduct* in Third Contracts. See subch9.2.1.1.

[352] nn346; 336 (If the licensed right is non-transferable and non-sublicensable, the licensee must have a right to exclude others from using the licensed right.)

[353] n344.

[354] n339.

[355] Miller, 'Determining Ownership in Virtual Worlds: Copyright and License Agreements' (n229) 463-64 (describing the limits on rights to UGC in *UO* and *EQ*); n339.

and items.

In contrast to Blizzard and MindArk, only Linden Lab allows the users of *Second Life* to retain intellectual property rights,[356] but they must still grant Linden Lab a,

> non-exclusive, unrestricted, unconditional, unlimited, worldwide, irrevocable, perpetual, and cost-free right and license to use, copy, record, distribute, reproduce, disclose, modify, display, publicly perform, transmit, publish, broadcast, translate, make derivative works of, and sell, re-sell or sublicense (...), and otherwise exploit in any manner whatsoever, all or any portion of your User Content (and derivative works thereof), for any purpose whatsoever (…).[357]

Because 'Linden Lab has [also] the right to change, limit access to, and/or eliminate any aspect(s), feature(s) or functionality of the [s]ervice (including [the] [u]ser [c]ontent) as it sees fit', the users' *right to exclude* is far from absolute,[358] and in any event Linden Lab will 'own the bits and bytes of electronic data stored on its [s]ervers'.[359]

Considering the limited *rights to use* and *to exclude*, the *right to transfer* is just another story of protecting the operators' interests. Whilst Blizzard and Epic prohibit RMT,[360] Linden Lab allows RMT but basically restricts it to the Second Life Market Place[361] and Mindark allows RMT but emphasises and possibly exaggerates the risks of engaging in RMT elsewhere.[362] An unfettered exchange of VAs may therefore not be possible, or at least not for anyone else but the operator itself, unless such restriction of trade is unenforceable.[363]

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[356] *SLToS*, c2.3(para1); Ondrejka, 'Escaping the Gilded Cage: User Created Content and Building the Metaverse' (n21) 87-88, 95 (2004) (describing the amount of UGC in *SL*, and Linden Lab's efforts to allow users to retain IPRs in their creations).

[357] *SLToS*, c2.3(para5)

[358] *SLToS*, c1.2(para2).

[359] *SLToS*, c1.5(para2).

[360] *BlzdEULA(US)*, cc 2(A)(vii) (prohibiting to 'purchase, sell, gift or trade any Account'); 2(A)(i); (v); 1(C)(x) (prohibiting to 'sell, sublicense, rent, lease, grant a security interest in or otherwise transfer any copy of the Platform or component [including, but not limited to, visual components, narrations, characters, items and computer code]'). Similar *Fortnite*, FNEULA, c2 ('You may not do [...] with respect to the Software or any of its parts [including 'any copies' and 'all Game Currency and Content (including "any virtual items")' (ibid, c16)] [d] sell, rent, lease, license, distribute, or otherwise transfer it').

[361] *SLT&Cs*, cc1.6(para1) ('You agree that you will not copy, transfer, or distribute outside of Second Life any Content that contains any Linden Content, in whole or in part or in modified or unmodified form [...] or that infringes or violates any Intellectual Property Rights of Linden Lab, other Content Providers, or any third parties.'); 3.3 ('Any purchase or sale of Linden Dollars through any means other than the LindeX is not permitted and is considered a violation of these Terms of Service which may result in suspension or termination of your Account.')

[362] *EUEULA*, c10(para2); *EUAToU*, c6.1(para2) ('Please notice that transactions concerning payment for Virtual Items, including PED, outside the Entropia Universe often involve fraudulent activities. You acknowledge that any transaction regarding Virtual Items, including PED, carried out using any service or system other than one of MindArk's Approved Transaction systems is at Your own risk.') A trading platform offers additional control and revenue (e.g. 'Seller Sales Commissions'; 'Seller "Process Credit" Fees'; 'Seller Fees for "Enhanced" Listings' (Linden Lab, 'Second Life Marketplace Fee and Listing Policies' [*SecondLife.com,* nd] <https://marketplace .secondlife.com/listing_guidelines> accessed 17 November 2018).

[363] Subch6.4. See *Keeler v Standard Folding-Bed Co* 157 US 659, 666 (1895); *Meyer v Estes* 41 NE 683 (Mass 1895); *Beley v Naphtaly* (n341) 363; *Dr Miles Medical Co v John D Park & Sons Co* 220 US 373, 404 (1911) ('[t]he right of alienation is one of the essential incidents of a right of general property in movables'); *Meade v Dennistone* 196 A 330, 335 (Md App 1938) 335 ('restraints take property out of commerce').

4.4.4 Variation (and Termination) Rights of the Operator

And the operator's influence does not stop with the allocation of property rights, because typically Contracts reserve the right for the operator to introduce new and modify existing content and make all other necessary changes to balance the VW.[364]

A VW of 'infinitely-durable goods' can only mirror (the market system and) the scarcity of the actual world to create incentives in the VW,[365] enable development and achievement and hence attract more (paying) users if it continuously introduces new objects and items.[366]

Every additional object and item or change to the properties,[367] however, may have some unbalancing unintentional side-effects, often to the detriment of the possessing users (eg, new, or more powerful armour could make existing weaponry useless). Hence, the operators will have to constantly re-balance the VW to keep it attractive to the majority of users.

To complete the operator's power to make changes, the operator may unilaterally vary the Contract,[368] whilst an unhappy user may only terminate the Contract or concede and accept the changes and amendments through continued participation.[369]

The operator may also decide to terminate an individual account, which may result in a user losing *his/her* VAs.[370] While most Contracts allow to terminate user accounts in the event of a breach of the Contract,[371] some do not even require a reason.[372] In any event, the reason for that termination will often be left to the sole discretion of the operator,[373] which may apply unwritten rules or no rules at all to decide whether or not a breach has occurred.[374]

4.4.5 Remedies of the Users

In the event of a detrimental change or breach of the Contract, the user does have a right to

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[364] *WoW* provides a list of all the changes made in each patch, or update, of the game. See Blizzard, 'Game Guide: WoW Patch Notes' (*US.Battle.net,* nd) <http://us.battle.net/wow/en/game/patch-notes/8-0> accessed 17 November 2018. Eg, *SLToS*, c1.2; *EUEULA*, c2(Para1); 3(para13); *BlzdEULA(US)*, c9(B).

[365] Salomon and Soudoplatoff, 'Virtual Economies, Virtual Goods and Service Delivery in Virtual Worlds: Why Virtual-World Economies Matter' (n33) 5f (scarcity).

[366] Castronova, 'Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier' (n39) 27-28; n1017.

[367] nn110ff (properties); Appendix A; WoWWiki, 'Attribute' (nd) <http://wowwiki.wikia.com/wiki/Attribute> accessed 17 November 2018; Diane Piron-Gelman and others, *Classic Battletech RPG (Rule Book)* (FanPro 2007).

[368] *SLToS*, c4.3(para2); *EUAToU*, c18.2; *BlzdEULA(US)*, c9(A) (using click-wrap consent); *BlzdEULA(EU)*, c8 ('Blizzard will notify you of any such changes or modifications by providing special notice. If you do not object to the amended Agreement within six [6] weeks following the special notice, your continued use the Platform will mean that you accept the amended Agreement.') See generally Elizabeth Macdonald, 'When Is a Contract Formed by the Browse-Wrap Process?' (2011) 19 IntlJL & InfTech 285). Subch9.2.5 (retroactivity).

[369] ibid.

[370] *SLToS*, cc1.2; 5.4.

[371] *SLToS*, c5.2.

[372] *BlzdEULA(US)*, c10(B)(ii) ('Blizzard reserves the right to terminate this Agreement [and your access to the Game] at any time for any reason, or for no reason, with or without notice to you.'); *EUAToU*, c13.2. cf *BlzdEULA(EU)*, c9(B)(i).

[373] n370.

[374] Sheldon, 'Claiming Ownership, but Getting Owned: Contractual Limitations on Asserting Property Interests in Virtual Goods' (n268) 769-79 (describing *WoW's* '[p]articularly aggressive [...]' practice of terminating user accounts).

terminate the agreement, but he/she will lose access to *his/her* VAs, the potential ability to capitalise on his/her past investments of time, effort, and money, and the chance to maintain his/her social connections within the VW.[375] The user may not even be entitled to a refund of the lost value or of any unused subscription fees.[376] And a mere threat of the user to exit the VW in order to change the behaviour of the operator is unlikely to be successful unless that user is particularly popular or influential among the rest of the users in the VW.[377] Switching VWs is costly and always requires even more time to settle in the new VW.[378] The only remaining option for the user to remedy may often be civil litigation with all its legal uncertainties.

4.5 Summary: Virtual World Creation

The operator is the creator of the VW and holder of (1) a complex bundle of discrete copyrights in original Software, VA displays, VA programming code and character database compilations in memory as well as (2) physical property rights in the Software copy, the VA copy—fragmented into a server version and a release/client version[379]—and the reference copies in the server version.[380]

But this does not mean that the operator can use these (intellectual and physical) property rights to protect its interests in the VW, Software and character database against claims of property rights in accumulated operator, third party and user-generated content by its users or to restrict RMT.

Not only because rights, title and interest may transfer in operator-generated content,[381] or may be newly established in user-generated content,[382] but also because client/server system architecture does not support an infringement of the exclusive reproduction and distribution right or trespass to chattel.[383] Therefore, the operator would want to use (enforceable) restrictions-of-rights clauses in the Contract to protect its creation.

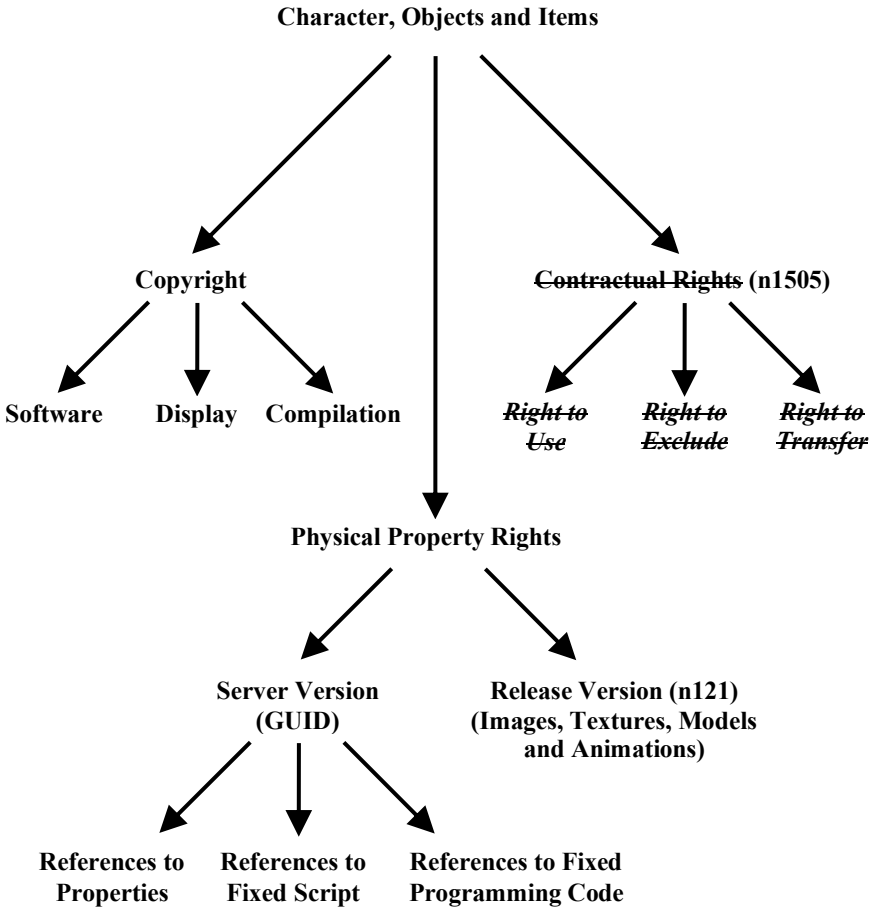
Whilst the Contract cannot be the Holy Grail for the operator, it is typically used to support their (property rights) interests, control their creation and limit their liability.[384] And with all the emerging future property rights being transferred to the operator or waived by the user and

[375] Jack M Balkin, 'Law and Liberty in Virtual Worlds' (2004) 49 NYLSchLRev 63, 66.
[376] *SLToS*, c4.4; *EUAToU*, c5.4(para3); *BlzdEULA(US)*, c10(B)(iii).
[377] Grimmelmann, 'Virtual Worlds as Comparative Law' (n346) 173 (fn112) (on the influential 'shadow government' of the users in *The Sims Online*).
[378] Castronova, 'Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier' (n39) 9.
[379] n121.
[380] Subchs4.3.2.1; 4.3.2.3 4.3.2.4: 5.2.1 (sales contract). See also Reed and Angel (eds), *Computer Law: The Law and Regulation of Information Technology* (n220) §7.2.1.1.
[381] cf subchs5.2.1; 5.3; 5.4.
[382] cf subchs7.2; 7.3.
[383] Subchs4.3.1.4; 4.3.2.5; 2.2; 3.5 (VW technology and P2P worlds).
[384] nn329ff.

RMT being prohibited, this Contract—as long as it is enforceable[385]—would be the sharpest weapon of the operator in any property rights dispute.[386]

Considering the Contract itself, the next question will be how and when it is incorporated in the relationship between the operator and the users and what consequences this might have on property rights (ie, the *right to exclude*, *to use* and *to transfer*) in VAs.[387]

Figure 4-3 Property Rights in Operator-Generated Content



[385] Subch6.4
[386] Subch6.2 (applicable law).
[387] Subch4.3.2.1.

Chapter 5 Software Transaction, Online Services and Beyond

5.1 Contractual Governance

Most things people own as property will have been acquired through mutual agreement, such as a purchase, gift or inheritance.[388] Although copies are transferred to the user when he/she installs the Client Software, uses the Services or *purchases* new characters, objects and items,[389] the scholarly debate of the Contract is limited to its enforceability. But there is more to say to the Contract and its allocation of property rights, or should it say contracts?[390]

Until recently, for example, software was *sold* on DVD-ROM. Distributors may still purchase copies of the Client Software on DVD-ROM for resale,[391] but today's Client Software is typically available for download *free of charge*.[392] In both cases the Client Software is licensed to the user, but does this mean that there is a sales contract (and transfer of title), a contractual licence agreement (here called Software Contract), or both?

In contrast to classic video games, VWs are persistent, interactive and impossible to *play* offline.[393] Beyond the making available of the Software, operators host, maintain and update the VW, Software and character database (**Services**).[394] If not already included in the Client Software, copies of the VA client version are transferred from the CDN or server to the user during online access.[395] Moreover, reference copies of objects and items (server version) are transferred to or removed from the user's character inventory. This may happen if a user *purchases* or *sells* objects and items but also during regular game play.[396]

Next to the Software sale, the Software use and the use of the Services, the Contract is supposed to regulate every user's *purchase* or *sale* of characters, objects and items (to accumulate operator and third user generated content) in web-shops, market places and auction houses or on the grey market (investing money).[397]

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[388] Merrill, 'Accession and Original Ownership' (n315).
[389] Subch2.2.
[390] See Barbara Völzmann-Stickelbrock, 'Schöne neue (zweite) Welt? Zum Handel mit virtuellen Gegenständen im Cyberspace' in Ulrich Wackerbarth, Thomas Vormbaum and Hans-Peter Marutschke (eds), *Festschrift für Ulrich Eisenhardt zum 70 Geburtstag* (CH Beck 2007) 331; Olaf Weber, 'Ausgewählte Rechtsprobleme bei Multiplayer Games' in Anselm Brandi-Dohrn and Mathias Lejeune (eds), *Recht 20 - Informationsrecht zwischen virtueller und realer Welt* (Otto Schmidt 2008) 207; Jürgen Taeger, 'Vertragsbeziehungen zwischen Betreibern und Nutzern von virtuellen Welten' in Jürgen Taeger and others (eds), *Rechtsfragen virtueller Welten* (OlWIR 2010) 19.
[391] Title to the Client Software copy will pass to and from the distributor. Subch5.2.3.3 (downloads).
[392] Eg, *SL* (n19); *EU* (n20). Free of charge does not necessarily mean that the promise to deliver the Client Software is purely gratuitous or that it lacks consideration (Farnsworth, *Contracts* [n341] §2.5). See also n598 and subch5.2.1.2.4 (consideration and transfer of title).
[393] Subch2.2.
[394] **Softwar**e shall include the Client Software, the server program and any other software necessary to generate the VW and all its content, to run the Services and make available the VW to its users.
[395] The client/server system architecture may use fat clients, thin clients or web clients. See also n101.
[396] Subch2.2. New objects and items may be crafted and created but also looted from MOBs, rewarded from quests, or even found in the VW.
[397] (Property) rights in UGC created by the user investing time and effort (to create, perform tasks and develop) rather

Remembering that users often build strong emotional connections to *their* characters, place a high value on accumulated content, and may experience VAs as tradable, usable wealth, such a transfer of copies of the VA client version (online access) and of reference copies (VA server version)[398] raises the question whether physical property rights (ie, a *right to use*, *to transfer* and *to exclude* a large and indefinite class of other people[399]) convey.

But whilst a sales contract transfers title, a licence agreement or services contract do not. An acknowledgement of 'physical properties of mass and volume' in the copy[400] therefore calls for a classification of the Contract(s). And if two or more different contractual regimes with different default legal rules, rights and remedies are combined in the Contract,[401] the existing rules on mixed contracts have to be examined and applied in order to avoid using the wrong law for at least parts of the transaction.[402]

5.2 Software Transaction

5.2.1 Software Transaction: A Sales Contract?

Considering the imperceptible nature of software and the scope of the here applicable[403] UCC stating in pertinent parts that, '[u]nless the context otherwise requires, (...) Article [2] applies to transactions in goods',[404] a transfer of title from the operator to the user[405] may only be imaginable if the Client Software itself qualifies as goods.[406]

5.2.1.1 History of Article 2 of the Uniform Commercial Code

Long before software, the Internet, and other digital information systems were introduced, the American sales law of earlier agrarian ages with its 'sales of haystacks and horses'[407] was

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than money is examined in Chapter 7.

[398] nn268.

[399] Subch4.3.2.1 (n276).

[400] n176.

[401] n54.

[402] Subch5.3.2.2.

[403] In the absence of a choice of law, a Software sale in the US would be governed by the local law of the US state that has the 'most significant relationship' to the sales contract and the parties (UCC, s1-301[d]; R2CoL, s188[1]). Similarly, a Software sale in the UK or Germany would be governed, without prejudice to Art 6 of Regulation (EC) 593/2008 of the European Parliament and of the Council of 17 June 2008 on the Law Applicable to Contractual Obligations [2008] OJ L177/6 [in subsequent footnotes use: **Rome I**], by the law of the country where the distributor has its habitual residence (Rome I, Art 4[1][a]). The transfer of Software title would then be governed by the *lex situs* (*In Re Berchtold* [1923] 1 Ch 192, 199 [Ch]; Sir Lawrence Collins and others [eds], *Dicey, Morris and Collins on the Conflict of Laws* [14 edn, Sweet & Maxwell 2006] 1116 [r120, para22R-023]; Pippa Rogerson, *Collier's Conflict of Laws* [4 edn, CUP 2013] 264ff [on classification], 377ff; CMV Clarkson and Jonathan Hill, *The Conflict of Laws* [4 edn, OUP 2011] 472ff.

[404] UCC, s2-102.

[405] UCC, s2-401.

[406] Most states have adopted UCC, Arts2; 9 and they became thereupon applicable law. Eg, California adopted the definitions of 'goods' suggested by UCC, ss2-105(1), 9-102(a)(44) in ss2105(1), 9102(44) respectively of the California Commercial Code. See n153.

[407] Karl N Llewellyn, 'Why a Commercial Code?' (1953) 22 TennLRev 779; Lorin Brennan, 'Why Article 2 Cannot Apply to Software Transactions' (2000) 38 DuqLRev 459, 460.

'unhorsed'[408] and codified in the UCC[409] to 'simplify, clarify and modernize' the law[410] whilst gaining some flexibility and uniformity between the states.[411] Considering the renewed transition from a mere industrial age to today's information age, it soon became apparent that the new software transactions of the information age may not be properly addressed by UCC, Art 2 ('Sales').[412] Early attempts to include 'licenses of information and software contracts' in a new UCC, Art 2B ('Licensing of Information'[413]), enact a new Uniform Computer Information Transactions Act (**UCITA**),[414] amend UCC, Art 2 (expressly clarifying that the term '[g]oods […] does not include information'[415]), or to establish 'Principles of the Law of Software Contracts'[416] failed or did not gain universal acceptance.

5.2.1.2 Scope of Article 2 of the Uniform Commercial Code

Goods are defined in UCC, s 2-105(1), as, 'all things (...) which are movable at the time of identification to a contract for sale other than (...) things in action'.

5.2.1.2.1 Goods or Services

Some software transactions fall outside the scope of UCC, Art 2 because the distribution of the Software is not a transaction in goods but in services.[417] When a single transaction involves both

[408] Karl N Llewellyn, 'The First Struggle to Unhorse Sales' (1939) 52 HarvLRev 873.
[409] Grant Gilmore, *The Ages of American Law* (YaleUP 1977) 140 (fn38); Ingrid Michelsen Hillinger, 'The Article 2 Merchant Rules: Karl Llewellyn's Attempt to Achieve the Good, the True, the Beautiful in Commercial Law' (1985) 73 GeoLJ 1141, 1142 (fn7); Gregory E Maggs, 'The Waning Importance of Revisions to UCC Article 2' (2003) 78 NotreDameLRev 595, 600; Brennan, 'Why Article 2 Cannot Apply to Software Transactions' (n407) 459ff.
[410] UCC, s1-103(a)(1). See Llewellyn, 'Why a Commercial Code?' (n407) 779; Karl N Llewellyn, 'Why We Need the Uniform Commercial Code' (1957) 10 UFlaLRev 367, 369.
[411] UCC, ss1-103(a)(2), 1-103(a)(3).
[412] Maureen A O'Rourke, 'An Essay on the Challenges of Drafting a Uniform Law of Software Contracting' (2006) 10 LewisClarkLRev 925; John Anecki, 'Selling in Cyberspace: Electronic Commerce and the Uniform Commercial Code' (1998) 33 GonzLRev 395.
[413] The drafting of UCC, Art2B ended in 1999, after ALI and NCCUSL agreed that the subject was not sufficiently developed for codification within the UCC.
[414] Uniform Computer Information Transactions Act 1999 [in subsequent footnotes use: **UCITA**]. UCITA has become law in Virginia (Va Code Annotated §59.1-501.3 [2011]) and Maryland (Md Code Annotated [Commercial Law] s 22-103), other states have adopted 'bomb shelter' legislation providing that their courts may not enforce a contractual choice-of-law clause that selects a state which has adopted UCITA.
[415] A new draft of UCC, Art2 included in s2-103(1)(k) (2005) the following exclusion in the definition of goods, 'The term does not include information (...).' However, this draft has not been adopted in any state, and was finally withdrawn in 2011 (<www.law.cornell.edu/ucc/2/article2.htm>). See Braucher, 'Contracting out of Article 2 Using a License Label: A Strategy That Should Not Work for Software Products' (n331) 269 ('The uncertainty of what [the exclusion of information] means, if anything, is one of the key reasons the proposed amendments package [to Art2] has not been enacted by any jurisdiction. If information means intangible data, the exclusion adds nothing [...]. The software customer coalition as well as software producers have all opposed the proposed exclusion of information because of its failure to clarify the law.')
[416] Juliet M Moringiello and William L Reynolds, 'What's Software Got to Do with It? The ALI Principles of the Law of Software Contracts' (2010) 84 TulLRev 1541.
[417] *Computer Servicenters Inc v Beacon Manufacturing Co* 328 FSupp 653, 655 (DSC 1970); *Data Processing Services Inc v LH Smith Oil Corp* 492 NE2d 314 (Ind App 1986); Ronald W Weikers, 'Computer Malpractice and Other Legal problems Posed by Computer Vaporware' (1988) 33 VillLRev 835, 855 ('Courts usually apply Article 2 of the U.C.C. to computer transactions which involve hardware.'); contra *Newcourt Financial USA Inc v FT Mortgage Companies Inc* 161 FSupp2d 894, 897 (ND Ill 2001) *Youngtech Inc v Beijing Book Co Inc* 2006 WL 3903976 (NJ Super App Div 2006). See Nancy Schneider, 'Taking the "Byte" out of Warranty Disclaimers' (1985) 5

goods and *services*, a distinction between them is often difficult to make.[418]

But whilst bespoke, custom-made software specially written by the software supplier is more likely to be regarded as a service, standard, mass marketed, off the shelf software, such as the (VW) Software, is more likely to be considered as goods.[419]

Whether the (VW) Software eventually qualifies as goods shall be discussed below.

5.2.1.2.2 Tangibility of Software: A Case Law Review

Although not apparent from its wording, UCC, Art 2 has been regarded as applying to tangible things only,[420] which are defined as having a physical form or being perceptible to the human senses.[421] But ignoring the 'physical properties of mass and volume' of computer software, most US courts still rely on a 'technologically inaccurate portrayal of software'.[422]

In tax and commercial law courts, for example, the discussion of tangibility often starts with an analysis of the 'tangible property' definition drawn from the applicable state tax codes[423] or the definition of 'goods' in the Uniform Commercial Code.[424] Noting that one and the same *thing* may be classified differently for different purposes, one might ask whether both strings of cases may be considered equally for the purpose of this research but soon accept it because some tax

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CompLJ 531, 534ff; James T Peys, 'Commercial Law: The Enforceability of Computer Box-Top License Agreements under the UCC' (1985) 7 WhittierLRev 881, 885ff.

[418] ibid. See subchs5.2.4; 5.3.2.2 (different tests used for mixed transactions).

[419] Nancy Blodgett, 'Suit Alleges Software Error' (1986) AmBAJ 22 (with further references); Reed and Angel (eds), *Computer Law: The Law and Regulation of Information Technology* (n220) § 1.2.1.14 (discussing four cases that 'illustrate the development of judicial thinking [in the UK] on the classification of software as goods or services').

[420] John D Calamari and Joseph M Perillo, *Calamari and Perillo on Contracts* (Hornbook Series, Thomson West 2009) §1-7; Louise Longdin, 'Liability for Defects in Bespoke Software: Are Lawyers and Information Scientists Speaking the Same Language?' (2000) 8 IntlJL & InfTech 1, 15 (considering tangibility as the 'stumbling block' to the classification of goods). Others question the importance of tangibility because 'the important characteristics of a good [may be rather] movability, transferability, and identification at the time of sale' (Horovitz, 'Computer Software as a Good under the Uniform Commercial Code: Taking a Byte Out of the Intangibility Myth' [n292] 151 [fns 46, 55; 61]).

[421] Black's Law Dictionary Online, 'What Is Tangible?' (*TheLawDictionary.org,* nd) <http://thelawdictionary.org /tangible/> accessed 17 November 2018.

[422] n176.

[423] Eg, *First National Bank of Fort Worth v Bob Bullock* 584 SW2d 548, 550 (Tex App 1979) ('Tangible personal property is defined as "personal property which may be seen, weighed, felt or touched, or which is in any other manner perceptible to the senses."' [citing Texas Annotated Code, Tax-General Art20.01(P) (1969)]); *Pennsylvania & West Virginia Supply Corp v Herrschel H Rose* 368 SE2d 101, 104 (W Va 1988) (citing Bryan A Garner BA and others [eds], *Black's Law Dictionary* [5 edn, Thomson Reuters 1979] 1305).

[424] UCC, s2-105(1) (subch5.2.1.2); Andrew Rodau, 'Computer Software Contracts: A Review of the Case Law' (1987) 11 SoftwLJ 77. Noteworthy, Holly K Towle, 'Enough Already: It is Time to Acknowledge That UCC Article 2 Does Not Apply to Software and other Information' (2011) 52 TexLRev 531, 561 (who argues that UCC, s9-102[a][42]; [44]; [75] [2010] 'being promulgated after the digital revolution had taken hold, expressly makes clear that software and computer programs are general intangibles and are not to be considered goods.') But UCC, Art9 shall only apply to 'secured transactions', and applying a statute by analogy (the UCC itself may not be a statute, but it has been adopted in some form by every state [n153]) may draw conclusions which the legislature did not intend (Katja Langenbucher, 'Argument by Analogy in European Law' [1998] 57 CLJ 481, 497-99; *Magor and St Mellons Rural District Council v Newport Corp* [1952] AC 189 [HL]; Jack Beatson, 'Has the Common Law a Future?' [1997] 56 CLJ 291, 291, 301 [the 'oil and water' approach]). Considering further that any attempt to amend UCC, Art2 by explicitly excluding software transactions 'failed' in its early stages or has been dismissed (subch5.2.1.1), an analogy is inappropriate (Trevor RS Allan, *Law, Liberty, and Justice: The Legal Foundations of British Constitutionalism* [Clarendon 1993] 81; Steven John Burton, *An Introduction to Law and Legal Reasoning* [Little 1985] 78-80; Frank H Easterbrook, 'Statutes' Domains' [1983] 50 UChiLRev 533, 539, 544-45).

courts have already cited UCC cases and *vice versa* to make their argument.[425]

Soon two theories have emerged, one stating that software is essentially intangible *knowledge and information* subject to the common law of contract (and perhaps copyright[426]) (**Intangible Theory**),[427] and the other declaring computer software tangible by equating software with its embodying medium (**Classic Tangible Theory**).[428]

Eventually questioning the confusion between the *knowledge and information* and the medium, however, a third theory which distinguishes the copy from the programming code—similar to this author[429]—is on the horizon (**Copy/Programming Code Theory**).[430]

5.2.1.2.2.1 Intangible Theory

An early decision, which has strongly influenced the later discussion, is *District of Columbia v Universal Computer*,[431] which addressed a personal property tax assessment against Universal Computer based upon the price of a bundled IBM data processing unit.[432] This bundle included computer hardware and 'two sets of punched cards (the software) used to program the computer'.[433] The Tax Court held that the software represented intangible values—allocating 50% of the bundle's value to the software—and was not subject to personal property tax.[434] The Court of Appeal affirmed, stating that 'What rests in the machine, (...) is an intangible—"knowledge"—which can hardly be thought to be subject to a personal property tax.'[435] Whilst highly criticised in legal literature,[436] the characterisation of software as intangible 'knowledge',

[425] Eg, *South Central Bell Telephone Co v Sidney J Barthelemy* 643 So2d 1240, 1245 (La 1994) (referring to UCC cases); *In re C Tek Software Inc v New York State Business Venture Partnership* 117 BR 762, 768 (DNH 1990) (referring to tax cases).

[426] Not every programming code is original and hence eligible for copyright protection. See Rice, 'Licensing the Use of Computer Program Copies and the Copyright Act First Sale Doctrine' (n330) 159 (fn8); *Williams Electronics Inc v Arctic International Inc* (n232) 875 ('the copyrightability of computer programs is firmly established after the 1980 amendment to the Copyright Act'). See subch4.3.1.2.

[427] *District of Columbia v Universal Computer Associates Inc* 465 F2d 615 (DC App 1972); *Commerce Union Bank v George M Tidwell* 538 SW2d 405 (Tenn 1976); *In re State of Alabama v Central Computer Services Inc* 349 So2d 1160 (Ala 1977); *Honeywell Information Systems Inc v Maricopa County* 118 Ariz 171 (Ariz App 1978); *First National Bank of Fort Worth v Bob Bullock* (n423) 548ff; *First National Bank of Springfield v Department of Revenue* 85 Ill2d 84 (1981); *In re Protest of Thomas D Strayer* 716 P2d 588 (Kan 1986); *Compuserve Inc v Lindley* 41 Ohio App3d 260 (1987); *Appeal of AT&T Technologies Inc* 242 Kan 554 (1988); *Northeast Datacom Inc v City of Wallingford* 563 A2d 688 (Conn 1989). See subch5.2.1.2.2.1.

[428] *Comptroller of the Treasury v Equitable Trust Co* (n305) 459ff; *Chittenden Trust Co v Harriet A King* 465 A2d 1100 (Vt 1983); *Citizens & Southern Systems Inc v South Carolina Tax Commission* 280 SC 138 (1984); *Measurex Systems Inc v State Tax Assessor* 490 A2d 1192 (Me 1985); *Hasbro Industries Inc v John H Norberg* 487 A2d 124 (RI 1985); *Disclosure Information Group v Comptroller of the Treasury* 72 MdApp 381 (Md Spec App 1987); *Pennsylvania & West Virginia Supply Corp v Herrschel H Rose* (n423) 101ff; *Touche Ross & Co v State Board of Equalization* 203 CalApp3d 1057 (1988); *In re C Tek Software Inc v New York State Business Venture Partnership* (n425) 762ff; *Advent Systems Ltd v Unisys Corp* 925 F2d 670 (3d Cir 1991). See subch5.2.1.2.2.2.

[429] Subch4.3.2.2.

[430] Subch5.2.1.2.2.3.

[431] *District of Columbia v Universal Computer Associates Inc* (n427) 615ff.

[432] ibid 616-17.

[433] ibid 616.

[434] ibid.

[435] ibid 618.

[436] Eg, Crockett, 'Software Taxation: A Critical Reevaluation of the Notion of Intangibility' (n176) 869-71; Robert L

separating the medium from the valuable intangible computer program, provided the reasoning for an entire line of judicial authorities.[437]

Another important case may be *In re Protest of Strayer*,[438] where Strayer claimed the refund of personal property taxes paid under protest for a software package consisting of operational and application programs.[439] Whilst '[t]he District Court (...) upheld [the] ruling of the State Board of Tax Appeals which determined that computer software was taxable as tangible personal property',[440] on appeal, the Kansas Supreme Court ruled that operational programs were subject to property tax as important part of the computer hardware, but that application programs were intangible personal property and therefore not taxable.[441] Moreover, Judge Locket noted that 'Almost all states which have considered the nature of computer software have found that the software is intangible personal property.'[442] Variously referring to the way software is created, transmitted, used or discarded,[443] software had been described in the cited decisions as the exclusive product of an intellectual effort,[444] transmitted on tangible things, or by intangible means,[445] or by the personal input of a programmer.[446]

If applied to Software, (1) this Intangible Theory would almost completely ignore the copy in favour of the programming code (*knowledge and information*), (2) the programming code would be protected by contract law/copyright, (3) the UCC would not be applicable, and (3) physical property rights in the copy could not be said to exist.

5.2.1.2.2.2 Classic Tangible Theory

Starting the classification of software—embodied in a medium—with a legal examination of the applicable state tax code or Uniform Commercial Code instead, the courts following the Classic Tangible Theory have often justified their rulings on the tangibility of software with a variety of

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Cowdrey, 'Software and Sales Taxes: The Illusory Intangible' (1983) 63 BULRev 181, 188-89; The Michigan Law Review Association, 'Computer Programs as Goods under the UCC' (1979) 77 MichLRev 1149 1150.

[437] *In re Protest of Thomas D Strayer* (n427) 591; *Northeast Datacom Inc v City of Wallingford* (n427) 692.

[438] *In re Protest of Thomas D Strayer* (n427) 588ff.

[439] ibid 590-91.

[440] ibid 588

[441] ibid 593-94.

[442] ibid 591-92 (citing *inter alia District of Columbia v Universal Computer Associates Inc* [n427] 615ff; *Commerce Union Bank v George M Tidwell* [n427] 405ff; *First National Bank of Springfield v Department of Revenue* [n427] 84ff; *Ray S James v Tres Computer Systems Inc* 642 SW2d 347 [Mo 1982]; *Maccabees Mutual Life Insurance Co v State of Michigan, Departement of Treasury* 122 MichApp 660 [1983]; California Revenue & Tax Code ss 995,*995.2 [1986 Supp] [California, by statute, identified operational software as taxable, and applications programs as not]).

[443] *Compuserve Inc v Lindley* 264-65; William A Raabe, 'Property, Sales, and Use Taxation of Custom and "Canned" Computer Software: Emerging Judicial Guidelines' (1984) The Tax Executive 227, 232 ('Most of the judicial decisions can be classified into one of four groups, based upon the courts' rationales for their decisions. The various lines of reasoning have focused upon [1] the "discardability" of the tangible product; [2] the "essence of the transaction" test; [3] the disk as a mere conduit; and [4] alternative methods of conveying the information.')

[444] *Comptroller of the Treasury v Equitable Trust Co* (n305) 469-70.

[445] *Maccabees Mutual Life Insurance Co v State of Michigan, Departement of Treasury* (n442) 664.

[446] *Compuserve Inc v Lindley* (n443) 264.

legal and policy arguments.[447] One such justification was, for example, that software is 'more tangible than intangible because [it] cannot exist independent from the actual hardware components to which it gives operational life'.[448]

In *Comptroller v Equitable Trust*,[449] for example, in which the court advanced the *more tangible than not* argument, the Comptroller calculated the sales tax payable by Equitable Trust based upon the purchase prices of computer programs.[450] Previously affirmed by the Sales Tax Division and the Maryland Tax Court,[451] on appeal, the Baltimore City Court abated that assessment concluding that 'as a matter of law the dominant purpose or essence of the transactions was the [computer] programs [and not the magnetic tapes] and that computer programs are intangible' property not subject to sales tax.[452] The Comptroller appealed to the Court of Special Appeals, which rejected Equitable Trust's explication of software's dual nature by declining to separate the computer program from the magnetic tape,[453] because it would require adopting the 'predominant purpose [test to] control[] the [definition] of [what is] tangible or intangible'.[454] While conceding that Equitable Trust's predominant purpose was to obtain the programs rather than the tapes,[455] the court stated that the legislative policy embodied in the applicable price definition of the Maryland Annotated Code as 'an aggregate value in money'[456] 'runs contrary to the conceptual severing of the insignificant blank tape from the valuable program copy superimposed thereon as magnetic impulses'.[457] As Judge Rodowsky remarked, 'A meaningful sequence of magnetic impulses cannot float in space.'[458]

In *Advent v Unisys*,[459] software producer Advent and the computer manufacturer Unisys later argued about the early termination of a software distribution agreement. In this agreement, Advent agreed to provide the required software, hardware and marketing material as well as technical personnel in building and installing the document system to be sold by Unisys. When Unisys decided to develop its own document system and terminated the agreement early, Advent filed a claim in the District Court for breach of contract and fraud (UCC, s 2-201). The District Court found that the 'Uniform Commercial Code did not apply (...) because although

[447] *Advent Systems Ltd v Unisys Corp* (3rd Cir 1991) (n428) 676.
[448] *In re C Tek Software Inc v New York State Business Venture Partnership* (n425) 768 (citing *In re Bedford Computer Corp* 62 BR 555, 567 [DNH 1986]).
[449] *Comptroller of the Treasury v Equitable Trust Co* (n305) 459ff.
[450] Maryland Annotated Code Tax-General imposes a sales tax on the transfer of tangible personal property which is defined in §11-101(i)(2)(k)(1)(i) (red volume) as 'corporeal personal property of any nature'.
[451] *Equitable Trust Co v Comptroller of the Treasury* 1981 WL 2002 (Md Tax 2002).
[452] *Comptroller of the Treasury v Equitable Trust Co* (n305) 462.
[453] ibid 468.
[454] ibid 468.
[455] ibid 470.
[456] Md Code Ann, Art81, s324(i).
[457] *Comptroller of the Treasury v Equitable Trust Co* (n305) 470.
[458] ibid.
[459] *Advent Systems Ltd v Unisys Corp* (3rd Cir 1991) (n428) 670ff.

goods were to be sold, services aspect of the contract predominated'.[460] On Appeal, the Third Circuit then discussed the (non)applicability of the Uniform Commercial Code in greater detail, '[b]ecause software was a major portion of the "products" described in the [distribution] agreement,'[461] concluding that computer software is a good and that the Uniform Commercial Code should apply. The Court of Appeal started its conclusion with a reference to the definition of goods in UCC, s 2-105)[462] noting that 'goods have a very extensive meaning' under the Uniform Commercial Code[463] and continued reasoning by analogy:

> Computer programs are the product of an intellectual process, but once implanted in a medium are widely distributed to computer owners. (...) That a computer program may be copyrightable as intellectual property does not alter the fact that once in the form of a floppy disc or other medium, the program is tangible, moveable and available in the marketplace.[464]

After deciding that software implanted in a medium is a 'good',[465] the Third Circuit argues that good public policy requires the application of UCC, Art 2 to software, which

> offers substantial benefits to litigants and the courts. The Code offers a uniform body of law on a wide range of questions likely to arise in computer software disputes: implied warranties, consequential damages, disclaimers of liability, the statute of limitations, to name a few. The importance of software to the commercial world and the advantages to be gained by the uniformity inherent in the U.C.C. are strong policy arguments favoring inclusion.[466]

Once 'fixed in a tangible medium of expression'[467] original computer programs become copyrightable works[468] but this does not mean—contrary to the findings of the Advent court—that the programming code itself is 'widely distributed' but only that the copies of that programming code are.[469] Whilst this author agrees that '[a] meaningful sequence of magnetic impulses cannot float in space[,]'[470] the focus of the Classic Tangible Theory on the material embodiment of the programming code (*more tangible than not*) regrettably ignores that the software itself does have 'physical properties of mass and volume'.[471] If applied to Software, the UCC would be applicable to the Software embodied in a physical medium and physical

[460] ibid 670, 674. See *Advent Systems Ltd v Unisys Corp* 1990 WL 1437 (ED Pa 1990).
[461] *Advent Systems Ltd v Unisys Corp* (3rd Cir 1991) (n428) 674.
[462] Subch5.2.1.2.
[463] ibid 675 (citing *Gerald F Duffee v Larue C Judson* 251 PaSuper 406 [1977]).
[464] *Advent Systems Ltd v Unisys Corp* (3rd Cir 1991) (n428) 675.
[465] ibid 675.
[466] ibid 675.
[467] 17 USC, s102(a)(1) ('literary works').
[468] Subch4.3.1. See also 17 USC, s 106(1); (3) (reproduction and distribution rights).
[469] Subch5.2.1.2.3 (movability of goods).
[470] *Comptroller of the Treasury v Equitable Trust Co* (n305) 470.
[471] n176.

property rights could be said to exist.[472]

5.2.1.2.2.3 Copy/Programming Code Theory

In contrast to the above, at least two US courts found that the copy itself is tangible and does not rely on the embodying medium, even if that copy is not discernible to the unaided eye.

In *United States v Rigg*,[473] for example, the defendants implemented a 'fraud scheme' to 'steal' '911' computer text files from Bell South Telephone Company to print them in a computer newsletter edited and published by one of the defendants.[474] Considering that several courts had already held that the definition of 'goods, wares, or merchandise' in 18 USC, s 2314[475] includes proprietary business information which is stored on a tangible medium,[476] Judge Boa stated that the only difference to *United States v Rigg* seems to be that here the information was stored on a computer.[477] According to the court, 'the accessibility of the information in readable form from a particular storage place[, however,] makes the information tangible, transferable, [and] salable' subject to the definition of 'goods, wares, or merchandise' under 18 USC, s 2314.[478] Noteworthy, Judge Boa assumed that 'gas (...) which is colorless, odorless, and tasteless—totally imperceptible to the human senses' and 'technically intangible' would also be protected.[479] Although tangible things may not always be perceived by the unaided senses, some courts may consider them as tangible. Please note however, that without any reference to the UCC definition of goods, the value of this decision for this research is limited. As mentioned earlier, one and the same *thing* may be classified differently for different purposes.[480]

More important may be therefore *South Central Bell Telephone v Barthelemy*,[481] where the claimant Bell brought action against the City of New Orleans (represented by Barthelemy) to recover taxes paid on switching system software. Bell acquired a limited licence to use switching system software for its telephone system. The licence limited Bell's *right to use* the software and 'reserved to the vendors ownership of, and proprietary rights in, the [software].' The software was delivered to Bell on magnetic tapes, which were used/discarded after loading the software onto the system.[482] The District Court entered judgment for Bell and Barthelemy

[472] n464 (and accompanying text).
[473] *US v Rigg* 739 FSupp 414 (ND Ill 1990).
[474] ibid 416-17.
[475] 18 USC, ptI, ch113 on Transportation of Stolen Goods, Securities, Moneys, Fraudulent State Tax Stamps, or Articles Used in Counterfeiting, s2314.
[476] Eg, *US v Lester* 282 F2d 750, 754-55 (3d Cir 1960), *US v Bottone* 365 F2d 389, 393 (2d Cir 1966); *US v Greenwald* 479 F2d 320, 322 (6th Cir 1973).
[477] *US v Rigg* (n473) 421.
[478] ibid.
[479] ibid.
[480] Subch5.2.1.2.2 (tax and commercial law cases).
[481] *South Central Bell Telephone Co v Sidney J Barthelemy* (La 1994) (n425) 1240ff (notably, on page 1245 the court refers to UCC cases).
[482] ibid 1242.

appealed, but the Court of Appeal affirmed, reasoning that computer programs do not fall within the definition of tangible personal property;[483] because the programs themselves were intellectual property and the magnetic tapes irrelevant,[484] *certiorari* was granted.

In contrast, the Louisiana Supreme Court ruled that software was 'tangible personal property'[485] and that 'software (...) is not merely knowledge, but (...) knowledge recorded in a physical form which has physical existence, takes up space on the tape, disc, or hard drive, makes physical things happen, and can be perceived by the senses'.[486] Noting that dissenting Judge Byrnes at the Court of Appeal had already pointed out, that '[i]n defining tangible, "seen" is not limited to the unaided eye, "weighed" is not limited to the butcher or bathroom scale, and "measured" is not limited to a yardstick';[487] Judge Hall asserted,

> [t]he software itself, i.e. the physical copy, is not merely a right or an idea to be comprehended by the understanding. The purchaser of computer software neither desires nor receives more knowledge, but rather receives a certain arrangement of matter that will make his or her computer perform a desired function. This arrangement of matter, physically recorded on some tangible medium, constitutes a corporeal body.[488]

According to the Louisiana Supreme Court, copies will always have some corporeal form, even though not always perceivable by the unaided senses.

5.2.1.2.2.4 Summary: Tangibility of Software

Most of the cases reviewed for this thesis do not properly distinguish between tangible and intangible property. Whereas the Intangible Theory almost completely ignores the copy in favour of the programming code, leaving unanswered the question whether (but making it unlikely that) physical property rights in the copy will ever be acknowledged,[489] the Classic Tangible Theory focuses on the material embodiment of the programming code, but ignores that the software itself has 'physical properties of mass and volume'.[490]

A distinction should be made between physical property rights in the tangible copy and copyright in the intangible programming code. Someone may be the owner of the copy (here the

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[483] *South Central Bell Telephone Co v Sidney J Barthelemy* 631 So2d 1340, 1345 (La App 1994). See also s56-18 of the (then applicable version of the) City Code, that stated '"tangible personal property" means and includes personal property which may be seen, weighed, measured, felt or touched, or is in any other manner perceptible to the senses. The term "tangible personal property" shall not include stocks, bonds, notes or other obligations or securities.'

[484] ibid 1343.

[485] *South Central Bell Telephone Co v Sidney J Barthelemy* (La 1994) (n425) 1240.

[486] ibid 1246.

[487] The dissenting opinion of Byrnes J in *South Central Bell Telephone Co v Sidney J Barthelemy* (La App 1994) (n483) 1348, cited by Hall J in the Supreme Court (*South Central Bell Telephone Co v Sidney J Barthelemy* [La 1994] [n425] 1246).

[488] *South Central Bell Telephone Co v Sidney J Barthelemy* (La 1994) (n425) 1246.

[489] Nimmer and Nimmer, *Nimmer on Copyright: A Treatise on the Law of Literary, Musical and Artistic Property, and the Protection of Ideas* (n227) §8.08(B)(1)(c)(i) (Rel 96-5/2015).

[490] n176.

fixed programming code) without having copyright ownership in the programming code and vice versa.[491] Both, the Intangible Theory and the Classic Tangible Theory raise the fear that the wrong law is applied to at least one part of the software transaction.[492]

Software must have 'physical properties of mass and volume'[493] to enable the computer to 'bring about a certain result'.[494] One may remember that a software copy is tangible once it is fixed optically on DVD-ROM, magnetically on computer hard disk, semiconductor in RAM, or otherwise.[495] But is that copy also tangible during transit/download?[496]

A download requires a series of electrical pulses down a wire[497] or encoded electromagnetic signals[498] (if transferred wirelessly). Whilst the tangibility of electricity or of electromagnetic signals is arguable—even more than the tangibility of the copy itself—one might have to agree that the form of its transportation should not affect the tangibility of the Client Software.[499]

It is often a matter of chance or convenience how software is supplied to the user (electronically or on a tangible medium). For instance, whilst Blizzard still sells the *World of Warcraft* Client Software on DVD-ROM next to a *free of charge* download from its website,[500] the Client Software of *Second Life* and *Entropia Universe* are only available for download.

Only the third Copy/Programming Code Theory—rather similar to the view of this author—acknowledges that every copy in itself does already have some physical form. One might say

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[491] **Example 4-1** Different Property Rights in Copy and Programming Code. See Determann and Fellmeth, 'Don't Judge a Sale by Its License: Software Transfers Under the First Sale Doctrine in the United States and the European Community', 7 (stating that the 'common judicial dichotomization of a "license" of software and a "sale" of software [is misleading because] the gravamen of a software transfer is the license itself and therefore such a transfer can involve either a sale or a lease of a software copy, but it must always involve a license in some form.')

[492] Subch5.3.2.2 (n757).

[493] Crockett, 'Software Taxation: A Critical Reevaluation of the Notion of Intangibility' (n176) 870-71.

[494] 17 USC, s101 ('computer program'); n176.

[495] Subch4.3.2.2.

[496] cf *Specht v Netscape Communications Corp* 306 F3d 17, 29 (fn13) (2d Cir 2002) ('Downloadable software [...] is scarcely a "tangible" good, [...] because software may be obtained, copied, or transferred effortlessly at the stroke of a computer key').

[497] Eg, telephone wire, coaxial cable, power line or fibre optic (Tanenbaum and Wetherall, *Computer Networks* [n310] 109). See Koby Bailey, 'Energy "Goods": Should Article 2 of the Uniform Commercial Code Apply to Energy Sales in a Deregulated Environment?' (2004) 37 JMarshLRev 281; Steven Ferrey, 'Inverting Choice of Law in the Wired Universe: Thermodynamics, Mass, and Energy' (2004) 45 WmMLRev 1842, 1863-64 ('[E]lectricity is an invisible wave or force. It is created by the movement [not the consumption] of electrons, [...] [a] permanent transference of the electrons themselves [does not occur]. Electricity is not matter, but the energy by-product of the movement of matter.')

[498] Dolly Y Wu and Steven M Geiszler, 'Patentable Subject Matter: What Is the Matter with Matter?' (2010) 15 VaJL & Tech 101 ('Unfortunately, there seems to be a misconception that [encoded electromagnetic signals] are "unusual," transient, intangible non-entities [non particles]. [But] [t]o the contrary, such signals can in fact be identified by humans and one skilled in the art can determine their longevity and tangibility precisely–ie, to a scientist, the object is intransient enough to be tangible. Also, to a modern physicist, these signals are particles that exert pressure and constitute matter.') (discussing *In re Petrus ACM Nuijten* 500 F3d 1346 [Fed Cir 2007], where the US Court of Appeals for the Federal Circuit held that encoded electromagnetic signals do not constitute patent-eligible subject matter under 35 USC ['Patents'], s101).

[499] See Ferrey, 'Inverting Choice of Law in the Wired Universe: Thermodynamics, Mass, and Energy' (n497) 1842ff (with further references to case law).

[500] The DVD-ROM box bought by this author included, *WoW* on DVD-ROM, Brady Games Official Beginner's Guide, and one month of game time. See also n598 (*free of charge* downloads).

that—although the Client Software may not be touched or felt—the Client Software copy but not the Client Software programming code[501] is as tangible as the typical tangible thing.

5.2.1.2.3 Movability of Goods (but not of Things in Action)

Considering the goods definition in UCC, s 2-105(1),[502] excluding 'things in action',[503] the Software copy must further be movable for the Uniform Commercial Code to apply. While copies have physical form (as discussed earlier),[504] any copyright in programming code is only recognisable through legal action.[505] Copyright cannot physically be identified or moved.[506]

Copyright may be legally transferable by assignment, novation, or otherwise,[507] but this does not mean that copyright is also physically movable (removed from one location and moved to another).[508] And whilst copyright can be licensed and hence copies of the programming code distributed or moved,[509] copyright in the programming code cannot be licensed without losing its exclusivity.[510] A Software buyer may obtain exclusive possession in his/her copy of the Client Software but never in the embodied (licensed[511]) programming code.[512]

Similarly, if the copyright of the copyright holder is infringed, it does not mean that the copyright in the programming code had been previously moved or transferred—which would rather support a claim of trespass to chattel[513]—but that the copyright holder is allowed to claim infringement based on *copying*.[514] Only the tangible copy is a movable good under UCC, Art 2, but not the copyright in the intangible programming code.[515]

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[501] cf Davidson, 'Protecting Computer Software: A Comprehensive Analysis' (n235) 616; 627 ('With strong tangible and intangible elements, it can be difficult to decide whether "software" is the intangible set of instructions or a tangible embodiment of the instructions.')

[502] Towle, 'Enough Already: It is Time to Acknowledge That UCC Article 2 Does Not Apply to Software and other Information' (n424) 545.

[503] UCC, s2-105(1). See Samuel Williston, Alphonse M Squillante and John R Fonseca, *Williston on Sales* (Lawyers Co-operative 1995) §67.

[504] Subchs4.3.2.2; 5.2.1.2.1.

[505] Roger J Smith, *Property Law* (7 edn, Pearson 2011) 8.

[506] The word movable is used in its literal sense, not synonymous with the Roman Law classification used in the German legal system.

[507] nn341; 1001 (future copyrights). A transfer of copyright may also be possible by testamentary disposition; rules on intestacy; legal mortgage; rules on insolvency/bankruptcy etc.

[508] An author does not suddenly unlearn the know-how to create the programming code (it is not removed from his/her memory), when the copyright is legally transferred—not physically moved—to the transferee, indeed the original know-how to create the programming code remains with the author. Information travels and remains with 'those who have ever shared in them' (Sarah Green and Djakhongir Saidov, 'Software as Goods' [2007] JBusL 161, 166).

[509] Subch5.2.1.2.2.2 (discussing *Advent Systems Ltd v Unisys Corp* [3rd Cir 1991] [n428] 675).

[510] *Kaiser Aetna v US* (n276) 176.

[511] Subchs5.2.3; 5.2.4.

[512] Eg, Michael G Bridge, *Personal Property Law* (Clarendon Law Series, 3rd edn, OUP 2002) 6 (comparing a diamond ring with information; whilst 'a diamond ring cannot support two wearers at the same time', the transferor of information 'retains the information that was transmitted which denies one of the features of a property right, namely exclusivity'); Green and Saidov, 'Software as Goods' (n508) 166.

[513] R2T, ss217(a), 218(a) (trespass to chattel by intentional dispossession); subch4.3.2.5.

[514] Green and Saidov, 'Software as Goods' (n508) 166.

[515] ibid 167; Williston, Squillante and Fonseca, *Williston on Sales* (n503) §5-12.

5.2.1.2.4 Sale of Goods: Transfer of Title

5.2.1.2.4.1 Transfer of Title to the Software Copy

Noting that the default legal rules, rights and remedies set out in UCC, Art 2 shall only apply to a sale of goods[516] basically 'consist[ing] in the passing of title from the seller to the buyer for a price',[517] one might further ask whether title to the tangible Software copy, as goods, passes to the user when he/she obtains the Software?

According to the definition of goods,[518] a transfer of title would require identification.[519] 'Identification is that process by which goods are linked, set aside, or otherwise designated as those to which a contract refers.'[520] Existing goods are hereby identified 'when the contract is made' and future goods, which 'are not both existing and identified',[521] when they are 'shipped, marked, or otherwise designated by the seller as goods to which the contract refers'.[522] Whilst DVD-ROMs on the retailers' store shelves are both existing and identified, a Software copy linked to the operator's website for download but not yet copied, transferred and stored onto the user's computer is still a non-existing future good. Only because the operator has chosen to make available for download a specific release version,[523] one might say that every future copy of that release version has been marked or otherwise designated by the operator as goods to which the contract refers.[524]

Once the goods are identified, UCC, s 2-401 applies to the transfer of title.[525]

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[516] UCC, Art 2 is titled 'Uniform Commercial Code—Sales' (UCC, s2-101 [emphasis added]) and various sections refer to a 'transaction[] in goods' (UCC, s2-102), 'sale of goods' (eg, UCC, ss2-201[1], 2-204[1]-[2], 2-205, 2-206[b], 2-312[1], 2-313[2], 2-314[1]), 'sellers' (UCC, s2-103[1][d]), and 'buyers' (UCC, s2-103[1][a]). Even the UCC definitions of contract and agreement are 'limited to those relating to (...) present or future sale of goods' (UCC, s2-106[1]).

[517] UCC, ss2-106(1), 2-401.

[518] UCC, s 2-105(1) ('all things [...] which are movable at the time of identification to a contract for sale other than [...] things in action').

[519] UCC, ss2-401(1); 2-501.

[520] *Servbest Foods Inc v Emessee Industries Inc* 403 NE2d 1, 7 (Ill App 1980) (citation omitted); *In re Ashby Enterprises Ltd* 262 BR 905, 912 (Bankr D Md 2001) ('"Identification" is the process that transforms unascertained goods into specific goods so that they become the goods to which the contract refers.') See generally Royston Miles Goode and Ewan McKendrick, *Goode on Commercial Law* (4 edn, Penguin 2010) 227

[521] UCC, s2-105(2) (emphasis added) ('Goods must be both existing and identified before any interest in them can pass. Goods which are not both existing and identified are "future" goods.')

[522] UCC, s2-501(1); s2-501(1)(b) (the goods have to be 'shipped, marked or otherwise designated by the seller as goods to which the contract refers' [referring to the sale of future goods]).

[523] n121 (release version).

[524] Shivbir S Grewal, 'Risk of Loss in Goods Sold during Transit: A Comparative Study of the U.N. Convention on Contracts for the International Sale of Goods, the UCC, and the British Sale of Goods Act' (1991) 14 LoyLAIntl & CompLJ 93, 109; Chunlin Leonhard and John M Wunderlich, 'Identifying Fungible Goods under the UCC through a Contextual Lens' (2009) 55 WayneLRev 901, 905. See also The Michigan Law Review Association, 'Computer Programs as Goods under the UCC' (n436) 1153ff (specifically regarding the identification of data transmissions).

[525] Noteworthy for all software transactions, sub-section (1) states in pertinent parts that 'Any retention or reservation by the seller of the title property in goods shipped or delivered to the buyer is limited in effect to a reservation of a security interest.' (UCC, ss2-401[1]; 1-201[35]). A reservation of title after sale and delivery of the Software copy is not possible. But separating the copy from the programming code and physical property rights from copyright, a retention or reservation of title in the Software Contract (the licence agreement) should only apply to the copyright in the programming code (subchs4.4; 5.2.2). Title to or ownership of the Software copy itself might still pass to the user

5.2.1.2.4.2 Transfer of Separate Title to Virtual Assets

Once it has been agreed that title to the Client Software copy is transferred to the user at the time of transfer,[526] one might also ask whether the user can claim separate physical property rights in any pre-loaded VAs already included in the Client Software.[527]

Whilst the Contract grants the user a *right to use*, *to exclude* others from and sometimes *to transfer* VAs,[528] individual physical property rights in the copy of a VA client version—separate to any physical property rights in the Client Software copy itself—can only be said to exist if that copy of a VA client version is identifiable and separable from the Client Software.[529]

But bearing in mind the physical properties of software,[530] the moulding of pits, (re)directing of magnets and (dis)charging of memory cells to write, overwrite and erase software,[531] and most importantly, that software cannot be perceived by the naked eye,[532] it is indeed questionable how that pre-loaded copy of a VA client version (not to confuse with the display) should be identifiable and separable from the Client Software.

Whilst the Client Software *purchased* on DVD-ROM or received by download will be easily separable from any other data before installation, it will be impossible without technical help (ie, a computer file management system) to identify the exact location of the Client Software data already copied onto the computer hard disc. And looking for an individual copy of a VA client version in that Client Software may be even more difficult.

A typical VA client version is not stored in one single file and/or kept always at the same location.[533] For instance, a copy of the client version of this author's human paladin JonasJustus

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(subch5.2.3.2.3 [discussion of *Vernor v Autodesk*]). cf Brennan, 'Why Article 2 Cannot Apply to Software Transactions' (n407) 459, 513; Towle, 'Enough Already: It is Time to Acknowledge That UCC Article 2 Does Not Apply to Software and other Information' (n424) 531, 542 ('A licence does not pass title to the informational subject matter, including software, but merely conveys either contractual permission to use that subject matter or a promise not to sue the licensee for conduct that would otherwise constitute infringement under intellectual property law'). THIS SOFTWARE IS LICENSED, NOT SOLD. (*WoWEULA[EU]*, para 1). *Vernor v Autodesk Inc* 621 F3d 1102 (9th Cir 2010) 1110-11 ('First, we consider whether the copyright owner specifies that a user is granted a license. Second, we consider whether the copyright owner significantly restricts the user's ability to transfer the software. Finally, we consider whether the copyright owner imposes notable use restrictions.')

[526] Subch5.2.3.2.3 (discussion of *Vernor v Autodesk*).

[527] The VA client version will only be part of the Client Software if the VW uses a fat client. Otherwise the client version is stored in the CDN (or on the server, in the case of a web-client) and temporarily loaded into RAM or sometimes cached on the user's computer hard disk. Subch5.3.1 (leases); n133 (describing how to unlock pre-loaded but locked content).

[528] Subch4.4.3.

[529] Franks, 'Analyzing the Urge to Merge: Conversion of Intangible Property and the Merger Doctrine in the Wake of Kremen v Cohen' (n268) 508; Allen Chein, 'Note, A Practical Look at Virtual Property' (2006) 80 StJohnLRev 1059, 1075; *Kremen v Cohen* (n270) 1030 (on property rights in intangibles, decision discussed in subch 5.4.1.2 below).

[530] 'Software, defined as the machine-readable end-product of program design, must possess physical properties to enable the host hardware unit to act in a predetermined manner.' (Crockett, 'Software Taxation: A Critical Reevaluation of the Notion of Intangibility' [n176] 871).

[531] Subch4.3.2.2.

[532] Subch5.2.1.2.1.

[533] Per Christensson, 'Fragmentation' (*TechTerms.com,* nd) <http://techterms.com/definition/fragmentation> accessed 17 November 2018 (data is moved regularly to avoid memory fragmentation).

in *World of Warcraft* will almost certainly refer to different images, textures, models and animations that build up the character's appearance, clothes, armour and weapons. These copies may or may not be used for different characters and objects (eg, different characters may share the same clothes, armour and weapons) and are therefore stored separately when referenced in the client program (or the character properties).[534]

If the copy of the VA client version is not identifiable and separable from the copy of the Client Software, however, separate physical property rights cannot be said to exist. And even if one disagrees, the server version accounts for all of the value of the VA and that server version will never be transferred to the user in client server/system architecture.[535]

5.2.1.3 Different Results According to European Law?

Similar to the legal discussion in the United States,[536] courts and legal scholars in the United Kingdom and Germany have struggled to classify the nature of software.[537]

Many years after (1) the *obiter dictum* in *St Albans City v International Computers* that goods include a computer disk on which a program is recorded but that a contract for the sale of the program itself is not a contract for the sale of goods,[538] and (2) the decision of the German Federal Court of Justice that goods include any medium on which a program is recorded;[539] digital content has finally been acknowledged in the Consumer Rights Directive *inter alia* to overcome the inconsistency between a consumer's protection for software sold on a tangible medium and as a download[540] and been defined as 'data which are produced and supplied in digital form'.[541]

But whilst the *new* law provides a consumer who is buying digital content with the same or at least similar rights and remedies as if he/she was buying goods, it does not affect the actual

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[534] Appendix A (client/server communication/keeping control); Mike Sellers (references can be used to refer to an object in the client program or on the server). cf Meehan, 'Virtual Property: Protecting Bits in Context' (n54) 28ff (discussed in subch8.1.1.1 below).

[535] Subchs2.2; 5.4.1.3 (discussing a separate *right to use*). cf P2P worlds (subch3.5).

[536] Subch5.2.1.2.1.

[537] *St Albans City and District Council v International Computers Ltd* [1997] FSR 251 (CA); *Beta Computers (Europe) Ltd v Adobe Systems (Europe) Ltd* 1996 SLT 604 (OH); Green and Saidov, 'Software as Goods' (n508) 161ff; Reed and Angel (eds), *Computer Law: The Law and Regulation of Information Technology* (n220) §1.2.1.14; *Softwareüberlassungsvertrag als Sachkauf* Decision from 4 November 1987 - VII ZR 314/86, NJW 1988, 406, 408 (BGH); *Vertrag eigener Art: Softwareüberlassung im Rahmen eines ASP-Vertrages* Decision from 15 November 2006 - X II ZR 120/04, NJW 2007, 2394 (BGH); Claus D Müller-Hengstenberg, 'Computersoftware ist keine Sache' (1994) NJW 3128, 3131ff; Völzmann-Stickelbrock, 'Schöne neue (zweite) Welt? Zum Handel mit virtuellen Gegenständen im Cyberspace' (n390) 327, 330.

[538] *St Albans City and District Council v International Computers Ltd* (n537) 254.

[539] *Softwareüberlassungsvertrag als Sachkauf* (n537) 408; confirmed in *Vertrag eigener Art: Softwareüberlassung im Rahmen eines ASP-Vertrages* (n537) 2394ff.

[540] Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on Consumer Rights [2011] OJ L304/64 [in subsequent footnotes use: **CRD**]. The CRD was implemented in the by UK adopting the Consumer Rights Act 2015 [in subsequent footnotes use: **CRA**] and in Germany by amending the German Civil Law Code [in subsequent footnotes use: **BGB**].

[541] CRD, Art2(11); CRA, s2(9); BGB, s312f(3) (defining digital content as something 'that is not contained in a tangible medium and that is produced and made available in digital form').

transfer of physical ownership.[542] Similar to the earlier court decisions, still only digital content supplied 'on a tangible storage medium' but not the digital content itself is regarded as 'goods'.[543]

5.2.1.4 Summary: Sales Contract

In contrast to those users' of browser worlds, every other user of VWs must obtain the Client Software first before he/she may use the Services.[544]

The transfer of the Client Software copy to the user has been analysed pursuant to the definition of goods (UCC, s 2-105[1]) to establish whether this software transaction may qualify as a sale of goods 'consist[ing] in the passing of title from the seller to the buyer for a price'.[545]

If the US courts agreed to separate the copy from the programming code, every transfer of the Client Software copy would be subject to the sale of goods rules.[546] And the restrictive licence agreement would not have any effect on the transfer of title to the copy (UCC, s 2-401[1]).[547]

But separate title to the copies of VA client versions already included in the Client Software copy (at the time of transfer) would not transfer because the copy of the VA client version is not identifiable and separable from the copy of the Client Software.

5.2.2 Software Transaction: A Licence Agreement?

5.2.2.1 Licence Agreement: Client Software

The Software Contract is often used in an attempt to not only license the programming code but also to license the use of the copy (that can be copied easily), to avoid the application of UCC, Art 2 and the impact of the first sale doctrine (**FSD**).[548]

Whilst the typical Software Contract does not intend to transfer property rights to the user[549] (though it may still do[550]), it typically grants the users often in varying form some limited, revocable, non-transferable, non-sublicensable and non-exclusive licence and right to install the

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[542] CRA, ss16 ('goods not conforming to contract if digital content does not conform', referring to CRA, s19 [on goods]), 34 ('satisfactory quality'), 35 ('fit for particular purpose'), 36 ('as described'), 42ff (remedies); BGB, s312ff, 433 (sale of goods), 453 (sale of rights), 434, 435, 437ff (remedies). See Hans Putzo (ed), *Palandt Bürgerliches Gesetzbuch* (65 edn, CH Beck 2006) s433, para9; Michael M König, 'Software (Computerprogramme) als Sache und deren Erwerb als Sachkauf' (1993) NJW 3121 (discussing whether the software sale is a sale of goods or a sale of rights, with further references); Claudius Dechamps, 'Digitale Wirtschaft - Das Instrumentarium des Bürgerlichen Gesetzbuch genügt: Das BGB bedarf grundsätzlich keiner Anpassung an die heute zunehmend "digitale Welt"' (2016) 66 AnwBl 628.

[543] CRD, Rec(19).

[544] Services are defined in subch5.1; 5.3.

[545] UCC, ss2-106(1), 2-401.

[546] Subch5.2.3 (examining the existing case law on restrictive licences); n496ff (tangibility of downloads).

[547] Title passes from the operator to the distributor, and from the distributor to the user.

[548] The Copyright Act does not only grant copyright owners exclusive rights in and protection of their works (17 USC, s106) but it also limits these rights granted in order to foster the distribution of knowledge by introducing certain defences to copyright infringement (17 USC, ss107ff [including fair use, FSD and ESD]).

[549] Subch4.4.

[550] Subchs8.1.2; 9.1.

[Client Software] for personal use'.[551]

5.2.2.2 Licence Agreement: Virtual Assets

Every Software Contract must necessarily grant to the user a *right to use his/her* VAs.[552]

Whilst a *right to use* VAs that have been allocated to the user's user account and transferred to *his/her* character inventory is identifiable and separable from the overall *right to use* the VW, Software and character database granted in the Software Contract,[553] a distinction does not become relevant, and shall not be examined, until they become valuable to the user.[554]

But first level characters and common objects and items that are freely available upon transfer of the Client Software that have not been developed any further by the user,[555] still have little or no value to him/her.[556]

5.2.3 Software Transaction: A Sales Contract and a Licence Agreement?

5.2.3.1 A Binary Opposition?

Separating the copy from the programming code and physical property rights in the copy from copyright in the programming code as proposed in this thesis,[557] one might only assume that a user who has been *sold* a copy of the Client Software becomes the owner of that copy regardless of the question of copyright ownership in the programming code. But does this mean that the US courts would agree?

Next to tax and sales law questions,[558] a possible first sale defence (**FSD**), essential step defence (**ESD**) and fair use defence[559] has been the main reason for any distinction between software sales and licences in courts. Introduced to foster the distribution of knowledge, these affirmative defences limit the statutory monopoly granted to copyright owners (17 USC, ss 106 [exclusive rights], 501 [copyright/exclusive rights infringement]).

Developed by the US Supreme Court in *Bobbs-Merrill v Strauss*,[560] the rule that ownership of

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[551] *WoWEULA(EU)*, c1; *BlzdEULA(US)/(EU)*, c1(B); *EUEULA*, c2(para4); *SLToS*, c2.2.
[552] nn344; 346 (typically limited by the Software, the Contract and its *rules of conduct*).
[553] Subch5.4.1.3.
[554] n33.
[555] Eg, n21 (untrained characters and experience points); n1180 (prims).
[556] Subchs5.4 (discussing a separate *right to use*); 7.1; 8.1.2; 8.1.2.2.3; 8.2.3.
[557] Subch4.3.2.
[558] Subch5.2.1.2.1.
[559] 17 USC, ss 107; 109(a), 117(a); *Quality King Distributors Inc v L'Anza Reserach International Inc* 523 US 135, 146-147 (1998) ('[T]he first sale doctrine would not provide a defense [...] to [...] any nonowner such as a bailee, a licensee, a consignee, or one whose possession of the copy was unlawful.') (citation omitted).
[560] *Bobbs-Merrill Co v Isidor Straus* 210 US 339, 351 (1908) (concerned with a publisher's attempt to control the post-sale distribution of a book by a notice attached to that book; the Supreme Court held that such restrictive terms should not give the copyright holder 'a right not included in the terms of the statute, and [...] extend its operation, by construction, beyond its meaning'). See also *John D Park & Sons Co v Hartman* 153 F 24, 39 (6th Cir 1907); DePaul College of Law, 'Equity - Restrictive Covenant on Chattel Binding on Third Party with Notice - Nadell & Co v Grasso, 346 P2d 505 (CalAPP 1959)' (1960) 9 DePaulLRev 288 (restrictive covenants).

an authorised copy of a copyrighted work transfers when that copy is first publicly distributed by the copyright owner was codified in 1909 by the US Congress.[561] The FSD currently allows the 'owner of a particular copy [of a copyrighted work] to sell or otherwise dispose [of his/her] copy' without the copyright owner's consent.[562]

The ESD on the other hand limits the exclusive reproduction right of the copyright owner[563] and provides that the owner of a software copy is allowed to make another copy if that copy is 'essential' to operate the computer.[564]

Without the ESD, each computer user would potentially be liable for copyright infringement because every time a computer program is run, parts of the program are copied into RAM or sometimes cached on the user's computer hard disk.[565]

5.2.3.2 Client Software on Media

Numerous courts have discussed the FSD/ESD defence leading to a plethora of cases.

Most of those court decisions, even some of those discussed and/or drawn attention to below, may not seem particularly important for the classification of (VW) Software at first glance, but all of them will have to respond to the preliminary question of ownership.

Remembering that physical property rights can only exist in tangible things, the importance of that question is twofold because it does not only support this author's argument of tangibility[566] but also the proposed transfer of physical property rights.[567]

The FSD/ESD defence would only be applicable if the potential infringer of copyright was the owner of the software copy (the most extensive [physical] property right),[568] but the Circuit and Federal Courts have come to a split regarding the classification of software transactions:

5.2.3.2.1 Software Licensees Do Not Have Ownership in the Software Copy

Albeit involving different licensing situations (from films to operating, service and application software), a brief discussion of Wise (MAI, Triad and Wall Data) best describes the reasoning of the Ninth Circuit leading to the court's overall conclusion that customers who use software under restrictive licences do not have physical ownership in the software copy.

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[561] 17 USC, s41 (1909).
[562] 17 USC, s109(a).
[563] 17 USC, s106.
[564] 17 USC, s117(a).
[565] Terence Leong, 'When Software we Buy Is Not Actually Ours: An Analysis of Vernor v Autodesk on the First Sale Doctrine and Essential Step Defense' (2012) 10 NwJTech & IP 239, 241; Nimmer and Nimmer, *Nimmer on Copyright: A Treatise on the Law of Literary, Musical and Artistic Property, and the Protection of Ideas* (n227) §8.08(B)(1)(b) (Rel 93-5/2014); subch2.2.
[566] Subch4.3.2.3.
[567] Subch5.2.1.2.2.
[568] n559.

In *United States v Wise*,[569] for example, the defendant sold copies of 'copyrighted feature-length motion pictures' to film collectors.[570] Convicted of criminal copyright infringement, Wise's appeal raised the question whether the FSD had allowed the resale of the films obtained. According to the Court of Appeal's findings, '[n]one of the films [that Wise sold] had been subject to an outright sale'; but the film studios 'license[d] their use for a limited purpose and for a limited period of time[,] (...) reserved title to the films in the studios and required [the films'] return at the expiration of the license period'.[571] Interpreting the FSD, the court emphasised that the 'statute requires a transfer of title before a "first sale" can occur'.[572] The court held that most of the agreements between the film producers and Wise's sources of supply were 'on their face and by their terms (...) restricted licenses and not [first] sales';[573] but distinguished the Camelot film agreement as a first sale because the collector Redgrave paid the copyright owner Warner Brothers for the film copy later obtained by Wise and was given control of the film copy for an unlimited amount of time.[574]

Similar to Wise, the Ninth Circuit failed to recognise in *MAI v Peak*,[575] *Triad v Southeastern*[576] and *Wall Data v Los Angeles County*,[577] 'the distinction between ownership of a copyright, which can be licensed, and ownership of copies of the copyrighted software'[578] but implied a right of the copyright owner to 'license' software copies.

Conflating copyright with the right in the copy, the typical Software Contract would impede physical ownership in the Software copy because it restricts the use of the Software copy in scope, purpose and time (termination rights are omnipresent).[579]

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[569] *US v Wise* 550 F2d 1180 (9th Cir 1977).
[570] ibid 1183-84.
[571] ibid 1184.
[572] ibid 1187.
[573] ibid 1190.
[574] ibid 1192 ('While the provision for payment for the cost of the film, standing alone, does not establish a sale, when taken with the rest of the language of the agreement, it reveals a transaction strongly resembling a sale with restrictions on the use of the print. No evidence was presented with respect to the whereabouts of the print furnished to Vanessa Redgrave. In the absence of such proof we conclude that the Government has failed to carry its burden of showing that there was no first sale.')
[575] *MAI Systems Corp v Peak Computer Computer Inc* (n226) 511ff; 517 (holding that a client's software licence did 'not allow for the use or copying of [the] software by third parties [for computer maintenance and repair and that] any [such] "copying" done by [that third party was] "beyond the scope" of [that licence]'). While the decision in MAI remains good law—in particular in regard to the fixation of software in RAM—it should be noted that in the meantime the US Congress revised 17 USC, s 117 to include in sub-section (c) an exception for computer maintenance and repair.
[576] *Triad Systems Corp v Southeastern Express Co* 64 F3d 1330, 1333 (9th Cir 1995) (holding—similar to MAI [n575]—that customers under a licensing regime 'may not duplicate the software or allow it to be used by third parties'); ibid 1337 ('This arrangement is also appropriate because it appears that the majority of Triad computer owners are subject to license agreements and do not own their software outright [...].')
[577] *Wall Data Inc v Los Angeles County Sheriff's Department* 447 F3d 769, 785 (9th Cir 2006) (holding that 'if the copyright owner makes it clear that she or he is granting only a licence to the copy of software and imposes significant restrictions on the purchaser's ability to redistribute or transfer that copy, the purchaser is considered a licensee, not an owner, of the software').
[578] *DSC Communications Corp v Pulse Communications Inc* 170 F3d 1354, 1359 (Fed Cir 1999).
[579] Subchs4.4.

5.2.3.2.2 Software Licensees Do Have Ownership in the Software Copy

In contrast to the Ninth Circuit, the Federal and Second Circuits have taken a different view in regard to the ownership question.

In *DSC v Pulse*,[580] for example, DSC was the manufacturer of the components—including the necessary interface cards—of the digital loop carrier system Litespan.[581] Both Litespan and the interface cards had a microprocessor and some interface circuitry that was operated with DSC's copyrighted software.[582] In competition to DSC, Pulse produced compatible interface cards to use with Litespan but that still required the use of DSC's software to operate.[583] When a third party licensed DSC's software and installed it on Pulse's interface card, DSC claimed that such use was a contributory infringement of copyright in violation of the software licence agreement as well as a direct infringement of copyright.[584] On appeal, the Federal Circuit criticised MAI for 'failing to recognize the distinction between ownership of a copyright, which can be licensed, and ownership of copies of the copyrighted software'.[585] Whilst the court did not 'adopt the Ninth Circuit's characterization of all licensees as non-owners', the court acknowledged that 'the agreement at issue (...) imposed more severe restrictions on Peak's rights with respect to the software than would be imposed on a party who owned copies of software subject only to the rights of the copyright holder under the Copyright Act'.[586] Despite all criticism, the court ultimately held that the third party was not an owner of the software copy because the licence stipulated that '[a]ll rights, title, and interest in the Software are and shall remain with [the] seller, subject (...) to a license to [the] Buyer to use the Software solely in conjunction with' DSC's components,[587] and therefore not protected by the ESD, the direct infringement claim was remanded to the District Court.[588]

In *Krause v Titleserv*,[589] the claimant was a consultant who developed software for Titleserv,[590] and agreed orally with the Titleserv CEO that 'any programs which [Krause] developed would belong to [Krause]'.[591] Krause granted Titleserv a licence to use 'the executable code as it existed on the day Krause left, but asserted that Titleserv had no right to modify the source

[580] *DSC Communications Corp v Pulse Communications Inc* (n578).
[581] ibid 1357 ('electronic devices that allow telephone companies to serve large numbers of subscribers efficiently').
[582] ibid 1358.
[583] ibid.
[584] ibid 1359 ('DSC's theory of contributory infringement is that each time [the third party] powers up [Pulse's interface] card in one of its Litespan systems, it directly infringes DSC's [...] software copyright by copying the [...] software from the Litespan into the resident memory of [Pulse's interface card].')
[585] ibid 1360; Nimmer and Nimmer, *Nimmer on Copyright: A Treatise on the Law of Literary, Musical and Artistic Property, and the Protection of Ideas* (n227) §8.08(B)(1)(c)(i) (Rel 96-5/2015).
[586] *DSC Communications Corp v Pulse Communications Inc* (n578) 1360.
[587] ibid 1361 (citation omitted).
[588] ibid 1363.
[589] *Krause v Titleserv Inc* 402 F3d 119 (2d Cir 2005).
[590] ibid 120.
[591] ibid 124 (fn3).

code'.[592] On appeal, the Second Circuit considered whether 'less importance [should be attached] to formal title [of ownership], looking rather at the various incidents of ownership' (sufficient-incidents-of-ownership test),[593] when discussing the ESD. The Second Circuit ultimately followed the standard for determining ownership in DSC. 'First, whether a party possesses formal title [is generally] a matter of state law', and '[if the ESD] required formal title, two software users, engaged in substantively identical transactions might find that one is liable for copyright infringement while the other is protected by [the ESD] depending solely on the state [and the applicable state law] in which the conduct occurred'.[594] 'Second, [the court found it] anomalous for a user whose degree of ownership of a copy [was] so complete that he may lawfully use it and keep it forever (...) to be nonetheless unauthorized to fix it (...) or to make an archival copy' of the software.[595] Considering various different but non-exclusive circumstances (eg, substantial consideration, customisation of the software, storage location of the copy), the Second Circuit held that Titleserv was the owner of the disputed software copies that Krause had authorised Titleserv to use.[596]

Separating the copy from the programming code and hence physical property rights in the copy from copyright in the programming code, one might argue according to Krause that 'formal title in [the Software copy] is not an absolute prerequisite'[597] and that a user who pays consideration,[598] stores the Software copy on his/her personal computer, is free to possess,

[592] ibid 121.
[593] ibid 123 (citing *DSC Communications Corp v Pulse Communications Inc* [n578] 1354ff).
[594] ibid 123, 124 ('Instead, courts [may] inquire into whether the party exercises sufficient incidents of ownership over a copy of the program to be sensibly considered the owner of the copy [...]. The presence or absence of formal title may of course be a factor in this inquiry, but the absence of formal title may be outweighed by evidence that the possessor of the copy enjoys sufficiently broad rights over it to be sensibly considered its owner.')
[595] ibid 123.
[596] ibid 124.
[597] *Krause v Titleserv Inc* (n589) 124. Some users may buy the Software copy on DVD-ROM from a retailer but most of them will download the Software copy from the operator's website. UCC, s2-106 ('"sale" consists in the passing of title from the seller to the buyer for a price [Section 2-401].'); s2-304 ('The price can be made payable in money or otherwise.'); s2-401 (transfer of title).
[598] The sale price can be payable in money or otherwise (UCC, s2-304). 'Since this section does not expand on the meaning of the word "otherwise," [however,] it is unclear whether acts or services may constitute "price" under the Code.' (Gary S Fentin, 'The Doctrine of Part Performance under UCC Sections 2-201 and 8-319' [1968] 9 BCLRev 355, 356). In common law '[v]irtually anything that anyone would bargain for in exchange for a promise can be consideration for that promise,' including but not limited to another promise in exchange (Farnsworth, *Contracts* [n341] §§2.3-2.5; 2.9; *Kirksey v Kirksey* 8 Ala 131 [1845]; *Hamer v Sidway* 79 Sickels 538 [NY 1891]; *In re Owen* 302 SE2d 351, 353 [NC App 1983] ['consideration exists when the promisee, in exchange for the promise, does anything he is not legally bound to do, or refrains from doing anything he has a right to do']). Even a gratuitous download of the Client Software (eg, SL [n19]; EU [n 20]) may therefore qualify as a sale because the user promises to comply with the terms of the Contract. And if the courts disagree, the voluntary transfer of the copy will have to be regarded as a gift. A gift is defined as '[a] voluntary transfer of property or of a property interest from one individual to another, made gratuitously to the recipient. The individual who makes the gift is known as the donor, and the individual to whom the gift is made is called the donee.' (West's Encyclopedia of American Law, 'Gift' [*Encyclopedia.com,* nd] <www.encyclopedia.com> accessed 27 July 2016). 'It is said that a gift is a contract, but it differs from the ordinary contract in that it is made without consideration moving from the transferee. The gift, to be valid, must be completely performed.' (John Edson Brady and Frank P Woglom, 'The Law of Bank Checks: Consideration' [1926] BankLJ 182, 185). '[O]nce the gift has been completed by the [operator's] delivery of the [Client Software copy], the transfer is irrevocable and the [operator] cannot recover it.' (Farnsworth, *Contracts*

transfer,[599] destroy or discard the Software copy but typically not required to return the Software copy[600] becomes the owner of that Software copy.[601] The Software Contract may be restrictive regarding the use of the programming code, but the user is granted the *right to use* the Software copy and to exclude others from exercising control over it.[602]

5.2.3.2.3 Discussion of Vernor v Autodesk

The debate on licensees' physical property rights in the software copy provisionally culminated in *Vernor v Autodesk*,[603] where the claimant Vernor sold on eBay used copies of Autodesk's software program AutoCAD in packages.[604]

Consisting of an 'Autodesk-commissioned box', an AutoCAD CD-ROM and a copy of the Autodesk Software Licence Agreement (**SLA**), the jewel case was 'sealed with a sticker [claiming that the] software [was] subject to the license agreement that appears during the installation process or is included in the package'.[605]

Vernor obtained the authentic AutoCAD packages with a broken seal from an architecture firm at a sale.[606] According to the SLA, Autodesk (1) 'retains title to all copies'; (2) grants the customer a 'nonexclusive and nontransferable license to use' the software; (3) prohibits customers from 'renting, leasing, or transferring the software without Autodesk's prior consent', (4) 'imposes significant use restrictions'; (5) provides for a 'license termination if the user copies the software without authorization'; and (6) provides that if the 'software is an upgrade of a previous version', the licensee 'must destroy the software [copies] previously licensed' to him/her.[607] After discovering Vernor's eBay sales of AutoCAD copies, Autodesk filed a Digital Millennium Copyright Act (**DMCA**) 'take-down' notice,[608] but nonetheless Vernor's sales continued until eBay ultimately suspended his account.[609]

Vernor filed suit for a declaratory judgment to prevent any other DMCA take-down notice, claiming that the agreement between Autodesk and the architecture firm entered into in respect of the AutoCAD copies—which were later sold by the architecture firm to Vernor when it

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[n341] §2.5). 'The same would be true even if the [operator] had promised to make a gift of the [client Software copy] before actually delivering it.' (ibid [n341] §2.5 [fn4]).

[599] Eg, *BlzdEULA(US)*, c1(B)(iv).

[600] Users may be required to delete the Software copy from their computer's memory but to best knowledge of this author users have never been asked to return the Software copy. *WoWEULA(EU)*, c7.

[601] n596.

[602] Subch4.3.2.1 (bundle of rights).

[603] *Vernor v Autodesk Inc* (9th Cir 2010) (n525).

[604] *Vernor v Autodesk Inc* 2009 WL 3187613, *1 (WD Wash 2009) (revisiting its prior ruling in *Vernor v Autodesk Inc* 555 FSupp2d 1164 [WD Wash 2008]).

[605] *Vernor v Autodesk Inc* (WD Wash 2009) (n604) 1.

[606] ibid.

[607] *Vernor v Autodesk Inc* (9th Cir 2010) (n525) 1104.

[608] ibid 1105-06 (citing 17 USC, s512[c][1][C]).

[609] ibid 1106.

upgraded to a newer version—was a first sale.[610] Considering Wise, MAI, Triad and Wall Data the District Court held the FSD applicable,[611] because the AutoCAD licence was—similar to the Camelot film agreement in Wise[612]—subject to terms that vested 'title in the copy to the copyright holder, but made no provision for the copyright holder to regain possession of the copy'.[613] Noting that under MAI, Triad and Wall Data, Autodesk might have prevailed because of the restrictive licence,[614] the District Court stated that it chose to apply Wise in regard to the conflicting rules because it 'must follow the oldest precedent among conflicting opinions from three-judge Ninth Circuit panels'.[615]

Insofar different to the District Court, on appeal, the Ninth Circuit did not focus on the noted irreconcilability, but reviewed Wise, MAI, Triad and Wall Data as precedents for the ownership question to develop the following three-consideration test:

> First, we consider whether the copyright owner specifies that a user is granted a license. Second, we consider whether the copyright owner significantly restricts the user's ability to transfer the software. Finally, we consider whether the copyright owner imposes notable use restrictions.[616]

The Ninth Circuit stated that it developed the three-consideration test, *inter alia*, to 'reconcile (...) the MAI trio [including MAI, Triad and Wall Data] and Wise, even though the MAI trio did not cite Wise'.[617] And the Ninth Circuit found that, (1) 'Autodesk retained title to the software';[618] (2) Autodesk 'imposed significant transfer restrictions' as 'the software could not be transferred or leased without Autodesk's written consent';[619] and (3) the 'SLA imposed [many] usage restrictions.[620] Because Autodesk sold AutoCAD pursuant to the SLA that bound the architecture firm,[621] the court held that the architecture firm 'was a licensee rather than an owner of a particular copy' of AutoCAD.[622]

Noting that in today's information age an increasing number of digital products is nominally licensed rather than sold, one might be forgiven for immediately asking whether the FSD still

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[610] ibid 1107.
[611] *Vernor v Autodesk Inc* (WD Wash 2009) (n604) 7 (The District Court's decision was based primarily on the Wise court's discussion of the licence attached to the Redgrave sale of Camelot, subch5.2.3.2.1).
[612] Subch5.2.3.2.1.
[613] ibid 8.
[614] ibid 10-11 ('With two sets of conflicting precedent before the court, the question becomes which to follow.')
[615] ibid 11 (citing *US v Rodriguez-Lara* 421 F3d 932, 943 [9th Cir 2005]).
[616] *Vernor v Autodesk Inc* (9th Cir 2010) (n525) 1110-11.
[617] ibid 1111.
[618] ibid.
[619] ibid.
[620] ibid 1111-12 ('The SLA also imposed use restrictions against the use of the software outside the Western Hemisphere and against modifying, translating, or reverse-engineering the software, removing any proprietary marks from the software or documentation, or defeating any copy protection device.')
[621] Subch6.3.1 (shrink-wrap licences).
[622] ibid 1112 (internal quotation marks omitted).

remains viable? Developed by the US Supreme Court in Bobbs-Merrill and codified in 1909,[623] the FSD has served to reconcile the limited statutory monopoly granted to copyright owners[624] with the physical property rights of the individual.[625] Conflating copyright with the right in the copy, the Ninth Circuit in Vernor fails to recognise that a copyright owner has the statutory right to 'distribute copies (...) of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending'[626] but not the right to 'license' a copy.[627] Used by the copyright owner not in the context of copyright, this 'licensing' of the copy is a 'new notion of permanently transferring a good while purporting to retain title to the transferred good'.[628] In any other context, if a tangible good (such as the copy[629]) is transferred to someone else who is then free to possess, (transfer,[630]) destroy or discard it, that someone would rightly assume that it was the lawful owner of that good (eg, UCC, ss 2-401[1]-[3]; 1-201[35]).[631]

Moreover, the decision in Vernor conflicts with the US Supreme Court's findings in Bobbs-Merrill.[632] While the US Supreme Court in Bobbs-Merrill held that restrictive licensing terms should not give the copyright holder 'a right not included in the terms of the statute, and (...) extend its operation, by construction, beyond its meaning',[633] the Ninth Circuit stated that Autodesk may exactly do so, 'as long as it calls the text a "license" and restricts usage and transfer'.[634] If Bobbs-Merrill were decided after Vernor, the FSD might not have existed.[635] Arguing that the US Supreme Court 'did not and could not address the question of whether the right to use software is distinct from the ownership of copies of software',[636] the Ninth Circuit rejected Bobbs-Merrill as basis for the FSD. In an attempt to distinguish Bobbs-Merrill even

[623] *Bobbs-Merrill Co v Isidor Straus* (n560); 17 USC, s41 (1909).
[624] Subch6.5.2 (limited statutory monopolies).
[625] *Bobbs-Merrill Co v Isidor Straus* (n560) 349-50; *Brilliance Audio Inc v Haights Cross Communications Inc* 474 F3d 365, 374 (6th Cir 2007) ('The first sale doctrine ensures that the copyright monopoly does not intrude on the personal property rights of the individual owner, given that the law generally disfavors restraints of trade and restraints on alienation.'); Joseph P Liu, 'Owning Digital Copies: Copyright Law and the Incidents of Copy Ownership' (2001) 42 WmMLRev 1245 ('Historically, the source of the first sale doctrine appears to have been the common law reluctance to enforce restraints on the alienation of physical property.') (with further references).
[626] 17 USC, s106(3).
[627] *Vernor v Autodesk Inc* (9th Cir 2010) (n525) 1111.
[628] Electronic Frontier Foundation and and others, *Brief of Amici Curiae in Support of Petition for Writ of Certiorari - Vernor v Autodesk* (2011) 10.
[629] Subch5.2.1.2.2.4 (tangibility of downloads).
[630] n599 (on the transfer of title to *WoW* Software copies on DVD-ROM).
[631] ibid 13. Subch5.2.1.2.4 (reservation of title after sale and delivery is not possible).
[632] *Bobbs-Merrill Co v Isidor Straus* (n560).
[633] ibid 351.
[634] Electronic Frontier Foundation and others, *Brief of Amici Curiae in Support of Petition for Writ of Certiorari - Vernor v Autodesk* (n628) 19; *Vernor v Autodesk Inc* (9th Cir 2010) (n525) 1111; in contrast to *Vernor v Autodesk Bobbs-Merrill Co v Isidor Straus* (n560) 349f ('Was [the Copyright Act] intended to create a right which would permit the holder of the copyright to fasten, by notice in a book or upon one of the articles mentioned within the statute, a restriction upon the subsequent alienation of the subject-matter of copyright after the owner had parted with the title to one who had acquired full dominion over it and had given a satisfactory price for it? [...] [O]ne who has sold a copyrighted article, without restriction, has parted with all right to control the sale of it.')
[635] Electronic Frontier Foundation, 2011 #2275} (n628) 19.
[636] *Vernor v Autodesk Inc* (9th Cir 2010) (n525) 1114

further, the Ninth Circuit then noted that the US Supreme Court itself 'made explicit that its decision did not address the use of restrictions to create a licence'.[637] Not addressing the use of restrictions to create a licence, however, does not mean that the US Supreme Court 'intended to turn its decision upon a publisher's failure to recite that the notice in the book was a license'.[638] Considering the context, there is rather some reason to believe that the US Supreme Court 'was stating that its holding depended upon statutory construction, and not the interpretation of either a contract or license agreement'.[639]

Finally, the decision in Vernor conflicts with and rejects the Second Circuit's ruling in Krause,[640] that 'formal title in a program copy is not an absolute prerequisite' but that courts should rather inquire into whether the user exercises 'sufficient incidents of ownership over a copy of the program to be sensibly considered the owner of the copy'.[641] This conflict becomes apparent, when applying the Second Circuit sufficient-incidents-of-ownership test to the facts of Vernor and vice versa,[642] resulting each in an opposite outcome. Similar to Titleserv in Krause, the architecture firm purchasing the AutoCAD copies paid substantial (one-time) consideration, stored the software on its own personal computers, was free to possess, destroy or discard the copies but not required to ever return them.[643] If the architecture firm becomes the owner of the software copies, however, the two decisions are in conflict, notwithstanding the Ninth Circuit's attempt to distinguish Krause on its facts.[644]

While the three-consideration test places all of its elements under the control of the copyright owner (using supposedly 'magic words'[645]), the Second Circuit's sufficient-incidents-of-ownership test is much more broad and malleable, allowing courts some room for discretion. A discretion that protects the software industry from piracy and consumers from abusive practices by allowing the courts the freedom to dismiss potentially abusive licence terms.[646] Both

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[637] ibid (referring to *Bobbs-Merrill Co v Isidor Straus* [n560] 350 ['There is no claim in this case of contract limitation, nor license agreement controlling the subsequent sales of the book.'])

[638] Electronic Frontier Foundation and others, *Brief of Amici Curiae in Support of Petition for Writ of Certiorari - Vernor v Autodesk* (n628) 20.

[639] ibid (with further references).

[640] *Krause v Titleserv Inc* (n589).

[641] ibid 124; *Vernor v Autodesk Inc* (9th Cir 2010) (n525) 1114 (citing *In re DAK Industries Inc* 66 F3d 1091, 1093-95 [9th Cir 1995]; holding that the 'economic realities' of the transaction were irrelevant to the ownership issue). The Second Circuit's rule of 'sufficient incidents of ownership' is another way to state the "economic realities" test the Ninth Circuit rejected.

[642] See Zbigniew J Bednarz, 'Unreal Property: Vernor v Autodesk Inc and the Rapid Expansion of Copyright Owners' Rights by Granting Broad Deference to Software License Agreements' (2012) 61 DePaulLRev 939, 953f (applying the three-consideration test to the facts of Krause).

[643] Compare *Krause v Titleserv Inc* (n589) 120f with *Vernor v Autodesk Inc* (9th Cir 2010) (n525) 1105f, 1111. See also Charles Lopresto, 'Note: Gamestopped: Vernor v Autodesk and the Future of Resale' (2011) 21 CornellJL & PubPo 227, 240; Leong, 'When Software we Buy Is Not Actually Ours: An Analysis of Vernor v Autodesk on the First Sale Doctrine and Essential Step Defense' (n565).

[644] *Vernor v Autodesk Inc* (9th Cir 2010) (n525) 1114.

[645] Electronic Frontier Foundation and others, *Brief of Amici Curiae in Support of Petition for Writ of Certiorari - Vernor v Autodesk* (n628) 4 (meaning the term licence instead of sale).

[646] Bednarz, 'Unreal Property: Vernor v Autodesk Inc and the Rapid Expansion of Copyright Owners' Rights by

decisions are good law, but the tests are different and leave the lower courts with conflicting guidance on how to resolve copy ownership issues.[647]

Whilst the US Supreme Court denied Timothy Vernor's petition for *certiorari* on 3 October 2011,[648] it will have to address the copy ownership issue eventually due to the inconsistent rules that are present among the federal circuits. And once it does, the US Supreme Court should adopt a more balanced approach that distinguishes between copyright in the programming code and physical property rights in the copy (insofar consistent with 17 USC, s 202[649]) and finally reconciles the limited statutory monopoly granted to copyright owners with the physical property rights of the individual[650] similar to the Second and Federal Circuit's approaches to the question of ownership.[651]

5.2.3.3 Client Software as a Download

Today's operators typically offer the Client Software as a download (a series of electrical pulses down a wire[652]/wireless through encoded electromagnetic signals[653]) but does this affect the court's classification of the software transaction?

Irregardless of the wired/wireless transfer, a downloaded Software copy will not be delivered to the user on a physical medium. Any subsequent transfer of the Software copy would thus require either copying the Software copy (subject to the terms of the Software Contract) or selling the entire hard disk or other storage medium to which it was downloaded.[654]

A further analysis of the most recent US and EU case law shall illustrate the effect of the missing physical medium on the relationship between the sales contract and the licence and whether it is possible for the user to own the copy, to the exclusion of a large and indefinite class of other people—the world, including the operator—from that copy, without owning the copyright in the programming code.[655]

Granting Broad Deference to Software License Agreements' (n642) 959.

[647] See Leong, 'When Software we Buy Is Not Actually Ours: An Analysis of Vernor v Autodesk on the First Sale Doctrine and Essential Step Defense' (n565) 251f (suggesting to reconcile Vernor and Krause by limiting the three-consideration test in Vernor to the FSD and the sufficient-incidents-of-ownership test in Krause to the ESD because according to Leong they serve different purposes and are each an exception to a different exclusive right of the copyright holder).

[648] *Vernor v Autodesk Inc* 132 SCt 105 (2011).

[649] Section 202 creates a statutory division between copyright in the programming code and physical property/ ownership rights in the copy. Ownership in the copy may be transferred separately from the copyright, regardless of whether rights in the copyright are licensed. See also Jennifer Lahm, 'Buying a Digital Download? You May Not Own the Copy You Purchase' (2012) 28 TouroLRev 211 214ff.

[650] n625.

[651] Nimmer and Nimmer, *Nimmer on Copyright: A Treatise on the Law of Literary, Musical and Artistic Property, and the Protection of Ideas* (n227) §8.12(B)(1)(d)(i) (Rel 97-8/2015) ('[T]he first sale inquiry examines ownership of the tangible property in which the copyrighted work has been embodied, not ownership of the copyright itself.')

[652] n497.

[653] n498.

[654] Lahm, 'Buying a Digital Download? You May Not Own the Copy You Purchase' (n649) 216f.

[655] Subch4.3.2; n176.

5.2.3.3.1 Capitol Records v ReDIGI

In *Capitol Records v ReDIGI*,[656] for example, the defendant ReDIGI was the provider of an online marketplace for its users to resell digital music files previously downloaded from iTunes. When Capitol Records claimed *inter alia* direct and contributory infringement of copyright, ReDIGI raised the FSD.

Analysing the transfer of digital music files from the transferor through ReDIGI's Cloud Locker to the transferee,[657] the District Court rightfully noted that this transfer requires the copying of the digital music files previously downloaded from iTunes but that the FSD is only applicable to the distribution right not to the reproduction right.[658]

Copy ownership in those digital music files purchased from iTunes was not an issue. In contrast to Vernor, the iTunes terms and conditions did not describe the transaction as a license, but provided that 'title for all electronically delivered transactions pass[es] to the purchaser (...) upon electronic transmission to the recipient'.[659]

5.2.3.3.2 European Approach: UsedSoft v Oracle and Nintendo v PC Box

In *UsedSoft v Oracle*,[660] the claimant Oracle is a software developer that markets and distributes its software mainly through the Internet by download. Similar to VW operators, Oracle relies on client/server system architecture and software licences.[661] UsedSoft offers used software licences—including software licences for Oracle software—for sale.

When Oracle claimed copyright infringement, the Regional Court Munich entered judgment for Oracle and UsedSoft appealed.[662] When this appeal was dismissed,[663] UsedSoft appealed on a point of law to the German Federal Court of Justice which referred the questions on the exhaustion of rights (equivalent to the FSD) to the EU Court of Justice.[664]

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[656] *Capitol Records LLC v ReDIGI Inc* 934 FSupp2d 640 (SDNY 2013).

[657] ibid 645.

[658] ibid 655 (citing *Design Options Inc v Bellepointe Inc* [n682] 91); USC, ss109(a), s106(3). See generally Damien Riehl and Jumi Kassim, 'Is "Buying" Digital Content Just "Renting" for Life? Contemplating a Digital First-Sale Doctrine' (2014) 40 WmMitchellLRev 783; Matthias Glatthaar, 'Resale of Digital Music: Capitol Records v Redigi' (2012) SSRN eLibrary <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2172403> accessed 17 November 2018; Sven Schonhofen, 'Usedsoft and Its Aftermath: The Resale of Digital Content in the European Union' (2016) 16 WakeForestJBus & IPL 262.

[659] Apple, 'iTunes Store Terms and Conditions' (*Internet Archive WayBackMachine,* 18 September 2013) <https://web.archive.org/web/20131023235953/https://www.apple.com/legal/internet-services/itunes/us/terms.html> accessed 17 November 2018.

[660] C-128/11 *UsedSoft GmbH v Oracle International Corp* [2012] ECR I-0000.

[661] ibid para23 ('With the payment for services you receive, exclusively for your internal business purposes, for an unlimited period a non-exclusive non-transferable user right free of charge for everything that Oracle develops and makes available to you on the basis of this agreement.'

[662] *Oracle International Corp v UsedSoft GmbH* Decision from 15 March 2007 - 7 O 7061/06, MMR 2007, 328 (LG Munich I).

[663] *UsedSoft GmbH v Oracle International Corp* Decision from 3 July 2008 - 6 U 2759/07, MMR 2008, 601 (OLG Munich).

[664] *UsedSoft GmbH v Oracle International Corp* Ruling from 3 February 2011 - I ZR 129/08, MMR 2011, 305 (BGH). See generally JAL Sterling, *World Copyright Law: Protections of Author's Works, Performances,*

Whilst UsedSoft was different to ReDIGI on facts,[665] more interestingly for this research, the EU Court of Justice held—similar to the Second Circuit in Krause[666]—that a digital 'sale' falls under the exhaustion principle if the licence agreement looks sufficiently like a sale,[667] the copyright holder receives a fee as 'remuneration corresponding to the economic value of [the] copy',[668] and the licence is granted 'for an unlimited period [of time]'.[669]

Interestingly, the EU Court of Justice continued that 'Since the copyright holder cannot object to the resale of a copy of a computer program for which that rightholder's distribution right is exhausted under Article 4(2) of [the Software Directive[670]], it must be concluded that a second acquirer of that copy and any subsequent acquirer are "lawful acquirers" of it within the meaning of Article 5(1) of [the Software Directive].'[671]

But VW Software and *other* video games are more than a 'computer program',[672] they are a rich combination of sights and sounds. Soon after UsedSoft the EU Court of Justice in *Nintendo v PC Box*[673] therefore discussed whether copyright protection for video games should rather be subject to the regulations of the InfoSoc Directive.[674]

Considering that video games[675] 'constitute complex matter comprising not only a computer

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Phonograms, Films, Video, Broadcasts and Published Editions in National, International and Regional Law (2 edn, Sweet & Maxwell 2003) §32.2 (on national and EU exhaustion of rights) [in subsequent footnotes use: Sterling, *World Copyright Law*]; Louise Longdin and Lim Pheh Hoon, 'Inexhaustible Distribution Rights for Copyright Owners and the Foreclosure of Secondary Markets for Used Software' (2013) 44 IIC 541, 543 ('owners' rights to control the distribution of tangible items embodying their intellectual property is exhausted once a sale has been made to an original purchaser').

[665] The software was not copied for the transfer, purchasers of the used software licences downloaded the software copies directly from the Oracle website (*UsedSoft GmbH v Oracle International Corp* [n660] para26).

[666] *Krause v Titleserv Inc* (n589); subch5.2.3.2.3 (discussion of *Vernor v Autodesk*).

[667] ibid para42 ('According to a commonly accepted definition, a "sale" is an agreement by which a person, in return for payment, transfers to another person his rights of ownership in an item of tangible or intangible property belonging to him.')

[668] ibid para88.

[669] ibid paras88, 45 (ownership). See Thomas Hartmann, 'Weiterverkauf und "Verleih" Online Vertriebener Inhalte' (2012) GRURIntlT 980, 981 (ownership). Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the Legal Protection of Computer Programs [2009] OJ L111/16 [in subsequent footnotes use: **Software Directive**], Art 4(2) (stating that the exhaustion principle applies only to the copyright holder's exclusive distribution right). The Software Directive replaced but did not make any substantial legislative changes to Council Directive (EEC) 91/250/EEC of 14 May 1991 on the Legal Protection of Computer Programs [2009] OJ L22/42 which was implemented in the UK by amending the Copyright, Designs and Patents Act 1988 [in subsequent footnotes use: **CDPA**] and in Germany by amending the German Act on Author's Right and Related Rights [in subsequent footnotes use: **UrhG**]. See n160 (on the interpretation of national law in accordance with the [Software] Directive).

[670] ibid.

[671] *UsedSoft GmbH v Oracle International Corp* (n660) para80.

[672] Software Directive, Rec(7) ('programs in any form, including those which are incorporated into hardware'). Subch4.3.1.2.

[673] C-355/12 *Nintendo Co Ltd and others v PC Box Srl and 9Net Srl* [2014] ECR 00000.

[674] ibid para23. Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society [2001] OJ L167/10 [in subsequent footnotes use: **InfoSoc Directive**]. The InfoSoc Directive was implemented in the UK by amending the CDPA and in Germany by amending the UrhG. See n160 (on the interpretation of national law in accordance with the [InfoSoc] Directive).

[675] Chris Kohler, 'On "Videogame" versus "Video Game"' (*Wired.com,* 11 December 2007) <www.wired.com/2007/11/on-videogame-ve/> accessed 17 November 2018.

program but also graphic and sound elements, which, although encrypted in computer language, have a unique creative value which cannot be reduced to that encryption' the EU court of Justice held that copyright protection for video games is subject to the InfoSoc Directive.

According to the InfoSoc Directive, the exhaustion principle is only applicable to 'tangible articles',[676] 'where the intellectual property is incorporated in a material medium, namely an item of goods', but not to 'services and online services [, or where] a material copy of a work (...) [is] made by a user of such a service with the consent of the rightholder'.[677]

A decision of the EU Court of Justice might certainly affect the international video games industry and their business in the European Union but only if the courts continued to ignore the 'physical properties of mass and volume' of the fixed programming code,[678] would it be possible for Nintendo to put video games back in their box.[679]

5.2.3.4 Client Software on Media or as a Download: Any Differences?

The classification of software transactions, as a sales contract, licence agreement or both has been widely discussed ever since, and with the form of transfer changing from the offering of software on media to downloads this is not likely to change any time soon.

Whilst the three-consideration test in Vernor would grant much more power to the copyright holder, quickly turning a software sale by the use of supposedly 'magic words' into a licence,[680] there are various reasons for the courts to recognise the proposed distinction between copyright in the intangible programming code and physical property rights in the tangible copy, and to apply the sufficient-incidents-of-ownership test in Krause, or similar.

The sufficient-incidents-of-ownership test is not only much more broad and malleable, it allows the courts some room for discretion. A discretion needed to protect the software industry from piracy but also consumers from abusive practices of that software industry by allowing the courts the freedom to dismiss potentially abusive licence terms.[681]

Considering physical property rights in digital downloads, one might question the usefulness of

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[676] InfoSoc Directive, Rec(28).

[677] InfoSoc Directive, Rec(29); Art4(2). cf *UsedSoft GmbH v Oracle International Corp* (n660) paras58, 59 (stating that Software Directive, Rec[7] [n672] clarifies that 'for the purposes of the protection laid down by [the Software Directive], tangible and intangible copies of computer programs' are assimilated), 56 (emphasising that the Software Directive constitutes a *lex specialis* in relation to the InfoSoc Directive).

[678] Crockett, 'Software Taxation: A Critical Reevaluation of the Notion of Intangibility' (n176) 870-71. Subch4.3.2.3 (tangibility).

[679] See also C-263/18 *Nederlands Uitgeversverbond and Groep Algemene Uitgevers v Tom Kabinet Internet BV and others* (Request for a Preliminary Ruling) (discussing a possible exhaustion of the distribution right according to Art4(2) of the InfoSoc Directive in regard to e-books).

[680] Leong, 'When Software we Buy Is Not Actually Ours: An Analysis of Vernor v Autodesk on the First Sale Doctrine and Essential Step Defense' (n565) 251; Thomas A Hackett, 'Where Vernor v Autodesk Fits into First Sale Decisions' (2009) 5 ShidlerJLC & Tech 1; Electronic Frontier Foundation and others, *Brief of Amici Curiae in Support of Petition for Writ of Certiorari - Vernor v Autodesk* (n628) 4 (magic by using the term licence instead of sale).

[681] Bednarz, 'Unreal Property: Vernor v Autodesk Inc and the Rapid Expansion of Copyright Owners' Rights by Granting Broad Deference to Software License Agreements' (n642) 959.

the statutory defences in the Copyright Act because to resell the downloaded Software copy under the FSD, the user is required to sell his/her hard disk or other storage medium to which the Software copy was first downloaded to.[682] But whilst the nature of digital downloads seemingly requires a licence to use the copyright, it does not affect the proposed distinction between the copy and the programming code.

Notwithstanding the restrictions in the Software Contract physical property rights in the Software copy exist, whether the Software copy is fixed optically on DVD-ROM,[683] or downloaded and fixed magnetically, semiconductor, or otherwise.[684]

Separating the physical property rights in the copy from copyright in the code, the restrictions in the Software Contract (through the restriction-of-rights clauses) apply only to the copyright in the intangible programming code.[685] In theory, it is possible for a person—consistent with the freedom of contract principle—to contract away his/her right to ownership,[686] but a reservation of title to the Software copy in the sale is impossible.[687]

5.2.4 Software Transaction: A Mixed Transaction?

5.2.4.1 Not A Binary Opposition

Once the distinction between (1) the tangible Software copy, the sales contract and physical ownership and (2) the intangible programming code, the Software Contract and copyright ownership has been acknowledged, one might remember that monetary consideration for the Client Software is only paid once, if at all,[688] and that therefore the typical Software transaction is likely to be regarded as one contract.[689]

Although VWs cannot be played offline, or without a licence,[690] a distinction between the sales contract and the Software Contract seems necessary because the Uniform Commercial Code and

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[682] To sell a copy different to the first copy, the first copy has to be copied. But the FSD is only applicable to the distribution right not to the reproduction right. *Capitol Records LLC v ReDIGI Inc* (n655) (citing *Design Options Inc v Bellepointe Inc* 940 FSupp 86, 91 [SD NY 1996]); USC, ss109(a), s106(3). See generally n658.

[683] Noteworthy, n599 (on the transfer of title to *WoW* Software copies on DVD-ROM). See Nimmer and Nimmer, *Nimmer on Copyright: A Treatise on the Law of Literary, Musical and Artistic Property, and the Protection of Ideas* (n227) §2.03(C) (Rel 69-5/06), §8.08(B)(1)(c)(i) (Rel 96-5/2015).

[684] Subchs2.2; 4.3.2.2 (on tangibility, explaining the different forms of storage); 5.2.1.2.2.4 (n496ff) (downloads).

[685] Subchs4.4; 5.2.2. Similar Nimmer and Nimmer, *Nimmer on Copyright: A Treatise on the Law of Literary, Musical and Artistic Property, and the Protection of Ideas* (n227) §8.12(B)(1)(d)(i)(I) (Rel 97-8/2015) (criticising *Microsoft Corporation v Harmony Computers & Electronics Incorporation* 846 FSupp 208 [ED NY 1998]).

[686] *Vernor v Autodesk Inc* (9th Cir 2010) (n525) 1107 (fn6) (stating that a person could be contractually liable if there was a violation of an agreement following a first sale; however, the person would not have infringed upon the copyright [quoting *US v Wise* (n569) 1187 ('[T]he exclusive right to vend the transferred copy rests with the vendee, who is not restricted by statute from further transfers of that copy, even though in breach of an agreement restricting its sale.')]. See subch6.4 (enforceability of restriction-of-rights clauses).

[687] UCC, ss2-401(1); 1-201(35).

[688] n598; Brennan, 'Why Article 2 Cannot Apply to Software Transactions' (n407) 479.

[689] Subch5.1 (on Software copies on DVD-ROM purchased from a retailer [chain of title] and Software copies downloaded directly from the operator's website); n54.

[690] Subchs2.2; 5.3.2.1.

the common law of contract provide for different default legal rules, rights and remedies.[691] Existing rules on single but mixed transactions shall be examined in order to avoid using the wrong law for (parts of) the transaction.[692] During the years the courts have applied several different tests for mixed transactions,[693] but not one uniform test has been established yet.

5.2.4.2 Predominant Purpose Test

The most commonly used test used for mixed contracts, that often involves a mixture of goods and services but may also be applied to software transactions[694], is the predominant purpose (of the transaction) test.[695] In *Bonebrake v Cox,*[696] for example, the Eighth Circuit described the predominant purpose test as follows:

> The test for inclusion [in the provisions of the Uniform Commercial Code] or exclusion [from these provisions] is not whether [the contract is] mixed, but, granting that [it is] mixed, whether [its] predominant factor, [its] thrust, [its] purpose, reasonably stated, is the rendition of service, with goods incidentally involved (eg, contract with artist for painting) or is a transaction of sale, with labor incidentally involved (eg, installation of a water heater in a bathroom).[697]

Depending on whether the purpose of the software transaction in question is considered to be predominately concerned with the copy or the programming code, the Uniform Commercial Code or the common law of contract would be applicable to the entire transaction.

To determine the predominant purpose, courts have started examining different factors including, for example, the contract terminology,[698] the intrinsic value of the goods without the

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[691] In the event that the UCC is not deemed applicable to the software transaction most states will apply the common law of contract (only Virginia and Maryland have adopted UCITA [n414]). Subch6.2 (Software Contract); Susan Nycum, 'Liability for Malfunction of a Computer Program' (1980) 7 RutgersJCompTechL 1, 2 (Services Contract).

[692] Subch5.3.2.2.

[693] Eg, Yvonne W Rosmarin and Jonathan Sheldon, *Sales of Goods and Services* (2 edn, National Consumer Law Center 1989) § 8.7, 158ff; Diane J Ault, 'Notes, Contracts for Goods and Services and Article 2 of the Uniform Commercial Code' (1978) 9 RutgersCamLJ 303; Jesse M Brush, 'Mixed Contracts and the UCC: A Proposal for a Uniform Penalty Default to Protect Consumers' (2007) YaleLSch LegalSRepoPa No47 <http://digitalcommons.law.yale.edu/student_papers/47/> accessed 17 November 2018.

[694] Raymond T Nimmer, 'Through the Looking Glass: What Courts and UCITA Say about the Scope of Contract Law in the Information Age' (2000) 38 DuqLRev 255, 281-84 (illustrating some of the difficulties courts have experienced recognising information and informational rights and classifying them within the traditional goods and services economy often 'reach[ing] wrong results and other times us[ing] inept language').

[695] *Care Display Inc v Didde-Glaser Inc* 589 P2d 559 (Kan 1979); *Dravo Corp v White Consolidated Industries Inc* 602 FSupp 1136, 1140 (WD Pa 1985); *Fink v DeClassis* 745 FSupp 509, 516 (ND Ill 1990). See generally William D Hawkland, *Hawkland's Uniform Commercial Code Series*, vol 1 (Article 1: General Provisions) (Thomson West 1997) § 2-102:4, Arts 2-17ff; 2-20 (fn 4); Peter A Alces and Harold F See, *The Commercial Law of Intellectual Property* (Little 1994), § 8.3; Rosmarin and Sheldon, *Sales of Goods and Services* (n693) § 8.7.2.1, 159. In particular those courts following the Intangible Theory often used the predominant purpose test, balancing the value of the medium embodying the software against the value of the intangible knowledge and information to argue for the intangibility of software (subch5.2.1.2.2.1).

[696] *Bonebrake v Cox* 499 F2d 951, 960 (8th Cir 1974) (holding that a contract for the purchase and installation of bowling equipment and for resurfacing and refinishing some bowling lanes was – despite the substantial labour involved – a sale of goods and that therefore the dispute was subject to the provisions of the UCC).

[697] ibid 960 (citation omitted).

[698] *Bonebrake v Cox* (n696) 958; cf *Van Sistine v Tollard* 95 Wis2d 678 (Wis App 1980). See James J White and

service,[699] the ratio of the price of the goods to the whole price of the contract,[700] the objective of the parties,[701] the invoice,[702] and the nature of the business of the supplier.[703]

Considering the acquisition of the Software copy one might ask for example: Did the parties to the software transaction intend for the transaction to be a sale or a licence? At first blush, the question seems superfluous because at least the Operator intended to license not only the Software but also the tangible Software copy.[704] However, intent should be understood as a reference to the nature of the transaction and not as a label to that transaction.[705]

A distinction between the label to and the nature of the software transaction is important because the Contract is drafted by the operator and typically neither read nor understood not to mention negotiated by the user.[706] The nature of the transaction entered into probably reflects more accurately intent than the terms of the Contract could ever do. Whilst the Contract typically uses the supposedly 'magic word' licence,[707] in particular when the Software copy is acquired from a retailer, the parties will consider it as a sale.

But while the predominant purpose test provides for some well-needed framework when dealing with mixed transactions, it inevitably results in the application of the wrong law to some aspects of the transaction.[708] If a court were to consider the acquisition of the Software copy as the predominant purpose, for example, it could apply an implied warranty of merchantability to the Software programming code (UCC, s2-314).[709]

Robert S Summers, *Uniform Commercial Code* (Hornbook, 3 edn, West 1988) § 9-2, 389ff.

[699] *Coakley & Williams v Shatterproof Glass Corp v Washington Plate Class Co Inc* 706 F2d 456, 461 (4th Cir 1983).

[700] *Micro-Managers Inc v Gregory* 434 NW2d 97 (Wis App 1988); cf *J Lee Gregory Inc v Scandinavian House LP* 433 SE2d 687 (Ga App 1993). See White and Summers, *Uniform Commercial Code* (n698) § 9-2, 391.

[701] *Colorado Carpet Installation Inc v Palermo* 668 P2d 1384, 1388-89 (Colo 1983); *Fleet Business Credit LLC v Grindstaff Inc* 2008 WL 2579231 (Tenn App 2008).

[702] *Westech Engineering Inc v Clearwater Constructors Inc* 835 SW2d 190, 197 (Tex App 1992). See Rosmarin and Sheldon, *Sales of Goods and Services* (n693) § 8.7.2.2, 161.

[703] *Ranger Construction Co v Dixie Floor Co Inc* 433 FSupp 442, 445 (DSC 1977).

[704] Subchs4.4; 5.2.3.2.3 (discussion of *Vernor v Autodesk*).

[705] Rice, 'Licensing the Use of Computer Program Copies and the Copyright Act First Sale Doctrine' (n330) 172 (stating that it is necessary to 'look behind labels to the realities of how program copies are distributed'); *In re DAK Industries Inc* (n641); *US v Wise* (n569) (examining the 'economic realities' to determine whether a transaction is a licence or a sale); *Softman Products Co LLC v Adobe Systems Inc* (n235) (examining circumstances of transaction to find a 'sale' rather than a licence). The UCC adopts a similar approach determining whether a contract is a lease or a disguised sale. See UCC, s 1-203(a) (2001) (noting that 'whether a transaction in the form of a lease creates a lease or a security interest is determined by the facts of the case').

[706] nn897; 54.

[707] n680. Subch5.2.3.2.3 (discussion of *Vernor v Autodesk*).

[708] Nimmer, 'Through the Looking Glass: What Courts and UCITA Say about the Scope of Contract Law in the Information Age' (n694) 278.

[709] In regard to the Client Software two different defects are conceivable, a defect of the copy (eg, the copy may be corrupt or inoperable) and a defect of the programming code (eg, the program may contain a virus). See Techopedia, 'Data Corruption' (nd) <www.techopedia.com/definition/14680/data-corruption> accessed 17 November 2018; Robert W Gomulkiewicz, 'The Implied Warranty of Merchantability in Software Contracts: A Warranty No One Dares to Give and How to Change That' (1998) 15 MarshJComp & InfL 393. See also *Cardozo v True* 342 So2d 1053, 1057 (Fla Dist App 1977) ('[W]e hold that absent allegations that a book seller knew that there was reason to warn the public as to the contents of a book, the implied warranty in respect to sale of books by a merchant who regularly sells them is limited to a warranty of the physical properties of such books and does not extend to the material communicated by the book's author or publisher.'); Nimmer, 'Through the Looking Glass: What Courts and

Moreover, the predominant purpose of a transaction is rather vague and sometimes difficult to establish. More than once courts have reached—because they have considered different factors for similar transactions[710]—conflicting results in determining the predominant purpose of mixed (goods and services) contracts.[711] In *Aluminium Company of America v Electro Flo,* for example, the Tenth Circuit held that a contract to design, produce, and supply aluminium floor material for a collapsible electrified floor was a contract for the sale of goods because of the ratio of the price of the goods to the whole price of the contract,[712] while in *Ranger Construction v Dixie Floor*, the District Court of South Carolina ruled that a contract for labour and materials for the installation of some resilient flooring was primarily a transaction for services because of the nature of the business of the supplier.[713]

When applying the predominant purpose test, the outcome cannot be predicted in advance, different factors to consider leave the transacting parties without any guidance on the default legal rules, rights and remedies and may only be suitable for litigation.

5.2.4.3 Applicability by Analogy

In belief that the Uniform Commercial Code contains a 'beneficial reservoir of principles',[714] some courts have already applied a number of the code's provisions by analogy to contracts not explicitly included within the scope.[715]

In *Black v Burroughs,*[716] for example, the District Court applied UCC, Art 2 by analogy to a sale of computer software and in the earlier discussed *Advent v Unisys*[717] the Third Circuit reasoned by analogy stating that '"goods" have a very extensive meaning' under the Uniform Commercial Code[718] and that computer programs meet this requirement.[719]

UCITA Say about the Scope of Contract Law in the Information Age' (n694) 279-80; Patrick S Atiyah, John N Adams and Hector Macqueen, *The Sale of Goods* (11 edn, Pearson Longman 2005) 80.

[710] Rosmarin and Sheldon, *Sales of Goods and Services* (n693) § 8.7.2.3, 161.

[711] White and Summers, *Uniform Commercial Code* (n698) § 9-2, 391; Rosmarin and Sheldon, *Sales of Goods and Services* (n693) § 8.7.2.3, 161 (listing various conflicting cases).

[712] *Aluminium Company of America v Electro Flo Corp* 451 F2d 1115, 1118 (10th Cir 1971).

[713] *Ranger Construction Co v Dixie Floor Co Inc* (n703) 445.

[714] Williston, Squillante and Fonseca, *Williston on Sales* (n503) § 6-6.

[715] *Stern & Co v State Loan and Finance Corp* 238 FSupp 901, 916 (D Del 1965); *Vitex Manufacturing Corp v Caribtex Corp* 377 F2d 795 (3d Cir 1967); *Glenn Dick Equipment Co v Galey Construction Inc* 541 P2d 1184, 1190 (Idaho 1975); *Brown v Coastal Truckways Inc* 261 SE2d 266 (NC App 1980); *Samuel Black Co v Burroughs Corp* 33 UCCRepServ 954 (D Mass 1981). See also White and Summers, *Uniform Commercial Code* (n698) § 1-1, 25 (advocating that courts should apply UCC, Art 2 by analogy in light of policy considerations); H De Vries, 'Note, Disengaging Sales Law from the Sale Construct: A Proposal to Extend the Scope of Article 2 of the UCC' (1983) 96 HarvLRev 470, 477 ('[C]ourts apply Article 2 to transactions held not to be paradigmatic "sales of goods," but they do so only when the transactions closely resemble paradigmatic sales.'); generally Rosmarin and Sheldon, *Sales of Goods and Services* (n693) § 8.7.5, 163.

[716] *Samuel Black Co v Burroughs Corp* (n715).

[717] *Advent Systems Ltd v Unisys Corp* (3rd Cir 1991) (n428) 675 (regarding UCC fraud provisions [UCC, s 2-201]); subch5.2.1.2.2.1.

[718] Quoting *Gerald F Duffee v Larue C Judson* (n463).

[719] *Xerox Corp v Hawkes* 475 A2d 7 (NH 1984); *Colonial Life Insurance Co of America v Electronic Data Systems Corp* 817 FSupp 235 (DNH 1993); *Micro Data Base Systems Inc v Dharma Systems Inc* 148 F3d 649 (7th Cir 1998);

One might agree with these courts that UCC, Art 2 may be used 'as "a premise for reasoning [...] when the case involves the same considerations that gave rise to the [UCC] provisions and an analogy is not rebutted by additional antithetical considerations"',[720] but the more important question will be how to justify such an application by analogy. Generally, an analogy may be justified by the official comments to the Uniform Commercial Code:

> [The Uniform Commercial Code] is intended to make it possible for the law embodied in [it] to be developed by the courts in the light of unforeseen and new circumstances and practices (...). The courts have often recognized that the policies embodied in an act are applicable in reason to subject-matter that was not expressly included in the language of the act (...), and did the same where reason and policy so required, even where the subject-matter had been intentionally excluded from the act in general. (...) Nothing in the Uniform Commercial Code stands in the way of the continuance of such action by the courts.[721]

But if the Uniform Commercial Code were applicable by analogy, parties to a mixed transaction could not be certain of which legal rules apply until they litigate. Apart from the possible confusion, lack of predictability and certainty, an extension of UCC, Art 2 would also be difficult because many of its provisions are designed for transactions in goods only but may open its entire panoply.[722] To make matters worse, courts may find different policy arguments convincing, or decide to adapt the UCC provisions differently, leading even to greater conflicts and confusion. After all, an application by analogy does not seem appropriate.

5.2.4.4 Gravamen (of the Action) Test

Knowing about the difficulties with the predominant purpose test,[723] an 'each body of law applies to its own subject matter' principle has been developed and used by a minority of courts, asking whether the gravamen of the dispute relates to goods or services.[724]

In *JO Hooker & Sons v Roberts Cabinet*,[725] for example, the Mississippi Supreme Court applied

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Zamore v Whitten 395 A2d 435, 441-443 (Me 1978).

[720] *Glenn Dick Equipment Co v Galey Construction Inc* (n715) 222.

[721] UCC, s 1-103 cmt 1.

[722] Brennan, 'Why Article 2 Cannot Apply to Software Transactions' (n407) 474 ('Because Article 2 is a true code, a preemptive, systematic, and comprehensive enactment of an entire field of law, whose individual sections must be interpreted together as part of an entire statutory scheme, it follows that once within Article 2, all of its provisions apply.')

[723] *Elkins Manor Associates v Eleanor Concrete Works* 396 SE2d 463, 469-70 (W Va 1990) (declining to apply the predominant purpose test).

[724] Nimmer, 'Through the Looking Glass: What Courts and UCITA Say about the Scope of Contract Law in the Information Age' (n694) 279; Hawkland, *Hawkland's Uniform Commercial Code Series* (n695) § 2-102:4, Art 2-28. See *Anthony Pools v Sheehan* 455 A2d 434, 441 (Md App 1983); *MC Skelton v Druid City Hospital Board* 459 So2d 818, 821-22 (Ala 1984); *JO Hooker & Sons Inc v Roberts Cabinet Co Inc* 683 So2d 396 (Miss 1996); *Allapattah Services Inc v Exxon Corp* 61 FSupp2d 1308, 1311 (SD Fla 1999). Noteworthy, Virginia and Maryland, which have adopted UCITA, use an 'each to its own' rule and treat any tangible good under UCC, Art 2 and any software and other computer information under UCITA's rules for licensing of information (n414). See Va Code Ann § 59.1-501.3(b) (2011); Md Code Ann Com Law § 22-103(b) (LexisNexis 2011).

[725] *JO Hooker & Sons Inc v Roberts Cabinet Co Inc* (n724).

the gravamen test stating that in a mixed transaction, 'whether or not the contract should be interpreted under the UCC or our general contract law should depend upon the nature of the contract and also upon whether the dispute in question primarily concerns the goods furnished or the services rendered'.[726]

Moreover, in *Anthony Pools v Sheehan*,[727] the Maryland Court of Appeal applied some form of gravamen test to a transaction for the sale and installation of a pool and diving board (which was slippery) but noted that it was only using the test because goods were not predominant and the commercial transaction was ultimately for consumer goods.[728]

Whilst gravamen does not entirely correspond with the language of UCC, Art 2,[729] because the dispute always arises after the transaction, it should be regarded as the exclusive test for mixed transactions. Only under gravamen, the correct law will be applied to both parts of the mixed transaction,[730] and the parties will already know the default legal rules, rights and remedies to the mixed transaction before they litigate.

Therefore, common law of contract should apply to any dispute over the programming code (eg, containing a virus), UCC, Art 2 should apply to any dispute over the Software copy (eg, corruption and inoperability), and if the dispute is related to both each aspect of the dispute should be governed by its own legal rules, rights and remedies.[731]

5.2.5 Summary: Software Transaction

A lengthy discussion has shown that the Software acquisition can be broken down to a sales contract and transfer of title to the Client Software copy[732] and a licence agreement (here the Software Contract) and *right to use* the Client Software programming code. Separate title to copies of VA client versions included in the Client Software copy does not transfer.[733]

5.3 Supply of Services and Online Access

But there is more to the VW than its Software. In contrast to classic video games, VWs are persistent, interactive and impossible to *play* offline.[734] In addition to the supply of the Software, operators host, maintain and update the VW, Software and character database (and typically provide customer support) to enable online access (**Services**).

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[726] ibid 400.
[727] *Anthony Pools v Sheehan* (n724) 437-40.
[728] ibid 439 ('The predominant factor, the thrust, the purpose of the contract was the furnishing of labor and service [...], while the sale of the diving board was incidental to the construction of the pool itself.'); ibid 441.
[729] UCC, s2-102 ('transactions in goods').
[730] Even the gravamen of the action test may presumably be applied wrongly by the courts.
[731] n709.
[732] A transfer of title does take place whether the Client Software copy is stored on DVD-ROM and purchased from a retailer or downloaded *free of charge* from the operator's website. See nn597; 598 (monetary and other forms of consideration).
[733] Subchs5.2.2.2; 5.4.1.3; 8.1.2.2.3.
[734] Subch2.2.

Whilst any Client Software update that includes new copies of the VA client versions may be regarded as part of the original sale (fat-client),[735] it is questionable how a temporary transfer of the VA client version from the CDN or server (thin-client or web-client[736]) should be classified in contractual terms and regarding a possible transfer of title.[737]

5.3.1 Supply of Services?

Despite a transfer of VA client versions and the typical obligation on the user to pay a monthly subscription fee,[738] UCC, Art 2A (Lease) might not be applicable if the distribution of the copies is to be considered not a transaction in goods but in services.[739]

Remembering that the temporary transfer of goods is one part of the Services,[740] one might start this examination with a few cases illustrating the judicial thinking on the classification of software as goods or services.[741] But a distinction would not be necessary, if neither a lease of goods, nor a supply of services were to transfer physical property rights.

Analysing leases and services contracts, one might find that services are not capable of being stored.[742] In contrast to a lease of tangible goods, services are 'intangible commodit[ies] in the form of human effort, such as labor, skill, or advice'.[743] Leases and services contracts may have different objectives,[744] but similar to a lease that does not transfer title in the goods,[745] intangible services cannot be owned or possessed.[746]

The temporary transfer of the tangible copy of the VA client versions for some consideration in case of a thin-client or web-client (often used for metaverses) may be classified as a lease, but it

[735] n598; subchs5.2.1 (sales contract); 2.2.
[736] Subch2.2.
[737] William H Lawrence, 'The Uniform Commercial Code' in William H Lawrence and William H Henning (eds), *Understanding Sales and Leases of Goods* (Matthew Bender 1996) §1.05[A][2].
[738] nn597; 598 (monetary and other forms of consideration).
[739] Weikers, 'Computer Malpractice and Other Legal problems Posed by Computer Vaporware' (n417) 855 ('Courts usually apply Article 2 of the U.C.C. to computer transactions which involve hardware.' [with further references]); *Data Processing Services Inc v LH Smith Oil Corp* (holding that the sale of the software involved in the suit was a contract for services, not goods, because of both the custom nature of the software and the fact that there was no simultaneous sale of hardware); contra *Youngtech Inc v Beijing Book Co Inc* (unpublished opinion treating customised software as covered by Art2 even though services were involved); *Newcourt Financial USA Inc v FT Mortgage Companies Inc* (noting that custom software is goods under the UCC, in a case involving licensed custom software and support for that software).
[740] Subch5.2.1.2 (classification of software as goods); n101 (thin clients and web-clients).
[741] Eg, Henry D Gabriel and Linda J Rusch, 'B. Scope of Article 2' in Henry D Gabriel and Linda J Rusch (eds), *The ABCs of the UCC (Revised) Article 2: Sales* (AmBA 2004) ('Until Article 2A was promulgated, for example, a lease of goods could have been a transaction in goods covered under Art2 even though the transaction was not a sale of goods. Courts relied upon the expansive wording of s 2-102 to justify applying Art2 lease transactions.')
[742] Jagdish N Bhagwati, 'Economic Perspectives on Trade in Professional Services' (1986) UChiLegalF 45 46; TP Hill, 'On Goods and Services' (1977) 23 RevInc & Wealth 315; Adam Smith and John Stuart Mill, *The Wealth of Nations*, vol 1 (Electronic Classic Series 1776); John Stuart Mill, *Essays on Some Unsettled Questions of Political Economy* (1844).
[743] Garner and others (eds), *Black's Law Dictionary* (n328) 1372.
[744] Green and Saidov, 'Software as Goods' (n508) 168.
[745] In a lease title to the goods does not pass; rather, the lessor retains title to and a residual interest in the leased goods which revert back to the lessor at the end of the lease term (subch5.3.1 [n737]).
[746] ibid 168.

is still only one component of the larger mixed Services Contract.[747]

A transfer of title does not occur.

5.3.2 Online Access: Software Use

5.3.2.1 Online Access: A Licence Agreement?

Every user must 'agree to' the Contract before entering the VW.[748]

Considering the use of the Software (and the Services) to enable online access, one might find that not only fat and thin-clients but also web-clients—that relate to the provision of Services rather than to the supply of Software—will require a software licence.[749]

The *client program* may reside in the web browser, and the copy of the client version is only retrieved at run-time from the server or CDN, but the VA client version will still be loaded into RAM or sometimes cached on the user's computer hard disk.

Without a *right to use* the programming code, every online access would infringe copyright.[750]

5.3.2.2 Online Access: Separate Licence Agreement for Virtual Assets?

Every (Services) Contract must necessarily grant to the user a *right to use his/her* VAs.[751]

Whilst a *right to use* VAs that have been allocated to the user's user account and transferred to *his/her* character inventory is identifiable and separable from the overall *right to use* the VW, Software and character database granted in the Contract,[752] a distinction does not become relevant, and shall not be examined, until they become valuable to the user.[753]

But first level characters and common objects and items that are freely available upon transfer of the Client Software and during online access that have not been developed any further by the user,[754] still have little or no value to him/her.[755]

5.3.3 Supply of Services and Online Access: One Mixed Contract?

Sometimes the sales contract, the Software Contract and the Services Contract may fall together and become one single but mixed transaction between the operator and the user (eg, *Second Life* ToS [before the introduction of the *Second Life* Terms and Conditions]).

The courts have developed different tests to classify mixed contracts (eg, the predominant

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[747] nn597; 598 (monetary and other forms of consideration).
[748] n54.
[749] Roger Bickerstaff and Barry Jennings, 'Cloud Computing' (*Thomson Reuters: Practical Law,* 2018) <https://uk.practicallaw.thomsonreuters.com> accessed 17 November 2018.
[750] Subchs5.2.2; 4.3.1 (nn226; 227).
[751] nn344; 346 (typically limited by the Software, the Contract and its *rules of conduct*).
[752] Subch5.4.1.3.
[753] n33.
[754] Eg, n21 (untrained characters and experience points); n1180 (prims).
[755] Subchs5.4 (discussing a separate *right to use*); 7.1; 8.1.2; 8.1.2.2.3; 8.2.3.

purpose test, the application by analogy approach and the gravamen of the action test),[756] which have to answer one important question, how can it be ensured that not the wrong law (default legal rules, rights and remedies) is applied to at least one part of the transaction?[757]

According to the discussion in sub-chapter 5.2.4, the courts should consider the gravamen of the action test as the exclusive test for mixed transactions. Only under gravamen, it is likely that the correct law will be applied to all of the three parts of the mixed transaction, and the parties will know the applicable default legal rules, rights and remedies before they litigate.[758]

Therefore, common law of contract should apply to any dispute over the programming code (eg, containing a virus) and any dispute over the Services (eg, interruption) and UCC, Art 2 should apply to any dispute over the Software copy (eg, corruption and inoperability), and if the dispute is related to either aspect, every dispute should be governed by its own legal rules, rights and remedies. Otherwise, the wrong law (default legal rules, rights and remedies) may indeed be applied to at least one part of the transaction?[759]

5.3.4 Short Summary: Supply of Services and Online Access

A temporary transfer of the VA client version from the CDN or server to the user's computer does not trigger a transfer of title, but the Software Contract still grants to the user a *right to use his/her* VAs[760] limited by the Software, the Contract and its *rules of conduct*.[761]

5.4 Investing Money: Sale of Characters, Objects and Items

A lengthy discussion of the sales contract, Software Contract and Services Contract has shown their effect on the allocation of (property) rights in the Client Software,[762] but would it also be possible for a user to obtain and to claim (property) rights in objects, items and characters *purchased* within or outside the VW?

Some operators offer objects and items for sale in web-shops,[763] allow users to *buy* and *sell* them for virtual currency in in-world market places and auction houses[764] or to *buy* them from

[756] nn695ff; nn714ff; nn723ff (respectively).
[757] See Rosmarin and Sheldon, *Sales of Goods and Services* (n693) §8.7; Ault, 'Notes, Contracts for Goods and Services and Article 2 of the Uniform Commercial Code'; Brush, 'Mixed Contracts and the UCC: A Proposal for a Uniform Penalty Default to Protect Consumers' (n693).
[758] Sub-chapter 5.2.4.4.
[759] n757.
[760] n344. Whilst the VA licence is identifiable and separable from the Software Contract (subch5.4.1.3) a distinction does not become relevant, and shall not be examined until that VA licence becomes valuable to the users (n33). Subchs5.4; 7.1; 8.1.2; 8.2.3.
[761] n346.
[762] Subch5.2.1.2.4.2 (because the VA copy is not identifiable and separable, the software transaction does not convey separate physical property rights in the VA copy to the user).
[763] Eg, Linden Lab, 'Second Life: Marketplace' (n32); Blizzard, 'Blizzard Shop' (*US.Battle.net,* nd) <https://us.shop.battle.net/en-us/family/world-of-warcraft> accessed 17 November 2018; Blizzard, 'Blizzard Shop: WoW Token' (n32); MindArk, 'Entropia Universe: Webshop' (*EntropiaUniverse.com,* nd) <https://account.entropiauniverse.com/account/shop/> accessed 17 November 2018; Appendix D.
[764] Eg, Linden Lab, 'Second Life: Marketplace' (n32); WoWWiki, 'Auction House' (n32); Entropia-Directory.com,

NPC vendors[765] (sub-chapter 5.4.1), and it should not be forgotten that users may always *purchase* VAs for actual money on grey markets (RMT) in breach of the Contract (sub-chapter 5.4.2).[766]

In this sub-chapter it will be examined whether a separate physical property right in the copy of a VA client version and a reference in the VA server version, or a separate contractual *right to use* these VAs limited by the Software, the Contract and its *rules of conduct* may exist. [767]

5.4.1 Web-Shops, Market Places and Auction Houses

5.4.1.1 Sale of Goods: A Separate Copy of the Client Version?

Considering the imperceptible nature of those object and item copies *purchased*,[768] and the scope of UCC, Art 2 stating in pertinent parts that, '[u]nless the context otherwise requires, (...) Article [2] applies to transactions in goods',[769] a transfer of title from the operator to the user[770] may only be possible if the tangible, movable copy of the client version transferred to the user is identifiable and separable from the Client Software.[771]

One might quickly remember the discussion of separability and identifiability in sub-chapter 5.2.1.2.4.2 and agree with this author that when separating the copy from the programming code the object or item copy of the client version (not to confuse with its display) is not separable from the client program or identifiable without technical help.[772]

Hence, a transfer of title does not occur.[773] But even if the courts were to assume that the copy of the client version is separable from the Client Software, the value of that client version—once separated from the server version—would be questionable.[774] A client version cannot be used offline or without the server version that references its properties, fixed script and programming code and ultimately confers value on it.

Without control of the server version or the operator's will to grant the user exclusive rights,[775] the user cannot use, transfer or exclude others from those objects and items he/she *purchased*.

'Auction' (n32); Appendix D.

[765] EntropiaDirectory.com, 'Trade Terminal' (n32); WoWWiki, 'Vendor' (nd) <http://wowwiki.wikia.com/wiki/Vendor> accessed 17 November 2018.

[766] Subchs4.4.3; 6.4; Appendix D2.2.

[767] n346.

[768] *BlzdEULA(US)*, c3; *WoWEULA(EU)*, cc2; 4 (pre-loaded and locked software).

[769] UCC, s2-102.

[770] UCC, s2-401.

[771] UCC, s 2-105(1) ('all things [...] which are movable at the time of identification to a contract for sale other than [...] things in action'). UCC, ss2-401(1); 2-501.

[772] Subch5.2.1.2.4.2.

[773] UCC, ss2-501(1), 2-401(1).

[774] Subch2.2.

[775] Subch5.4.1.3.

5.4.1.2 Sale of Goods: A Separate Copy of the Reference?

Considering the importance of the server version to establish physical property rights in the object, one might also think of any property rights in the copy of the new item GUID transferred to the user's character inventory in the character database.[776]

Stored on the server, in possession and under control of the operator, *prima facie* this tangible copy does not justify a transfer of physical property rights to the user.[777] Once allocated to *his/her* user account and transferred into the character inventory,[778] however, one might ask whether the contractual *right to use* and *to exclude* others from using that user account and any items allocated to it[779] may still allow for a transfer of title.[780]

For instance, a *particular* glass sword may only be used by a player in battle, if *his/her* character inventory includes this glass sword's item GUID and all the internal references to its properties, fixed script and programming code. The *right to use* and *to exclude* others from exercising control are two 'of the most essential sticks in the bundle of rights that are commonly characterized as property',[781] but so far there is no legal guidance on whether physical property rights in that copy of the reference could be said to exist.

Looking beyond client/server system architecture, one might possibly draw on the discussion of property rights in domain names to examine physical property rights in the tangible copy of the item GUID.[782] Item GUIDs are similar to domain names and both registrars in the domain name system[783] and operators act in a monopoly governed by contract law.[784]

Numerous US courts and scholars have been discussing property rights in domain names, *inter alia* analogising them to addresses,[785] telephone number mnemonics,[786] patents,[787] trademarks[788] and even cattle,[789] and may be summarised as follows:

The majority view on domain names holds that domain names are intangible property, separate from the contractual services that allow them to function. In *Kremen v Cohen*, for example, the

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[776] n110ff (GUIDs).
[777] *Network Solutions Inc v Umbro International Inc* 259 Va 759, 763 (2000). cf UCC, s401(2)
[778] According to the typical Contract users shall not have any rights in their user account (eg, *BlzdEULA[US]*, c2). See also subch4.3.2.3 (n314) (tangibility of the reference copy).
[779] n346.
[780] UCC, s2-401(2) ('Unless otherwise explicitly agreed title passes to the buyer at the time and place at which the seller completes his performance with reference to the physical delivery of the goods [...]').
[781] *Kaiser Aetna v US* (n276) 176.
[782] The domain name system or domain name server (DNS) keeps information relating to domain names in a distributed database on electronic networks including the Internet.
[783] Strictly speaking, the domain name system is not a monopoly of the registry but of the registrar, because the registry does not distribute the domain names and shares the control of the domain names with the registrar.
[784] Subch6.5.1.2 on monopolisation.
[785] *Panavision International LP v Toeppen* 141 F3d 1316, 1318 (9th Cir 1997).
[786] *MTV Networks v Curry* 867 FSupp 202, 203 (fn2) (SDNY 1994).
[787] *Network Solutions Inc v Umbro International Inc* 759ff.
[788] *Dorer v Arel* 60 FSupp2d 558 (ED Va 1999).
[789] Carl Oppedahl, 'Remedies in Domain Name Lawsuits: How Is a Domain Name like a Cow?' (1997) 15 MarshJComp & InfL 437.

Ninth Circuit applied a three-part test to decide whether property rights exist in domain names that would support a claim of conversion under California law.[790] 'First, there must be an interest capable of precise definition; second, it must be capable of exclusive possession or control; and third, the putative owner must have established a legitimate claim to exclusivity.'[791] The court concluded that Kremen had an intangible property right in his domain name because,

> [l]ike a share of corporate stock or a plot of land, a domain name is a well-defined interest. Someone who registers a domain name decides where on the Internet those who invoke that particular name—whether by typing it into their web browsers, by following a hyperlink, or by other means—are sent. Ownership is exclusive in that the registrant alone makes that decision. Moreover, like other forms of property, domain names are valued, bought and sold, often for millions of dollars[.][792]

Similar to the earlier discussed decision of the Louisiana Supreme Court in *South Central Bell Telephone v Barthelemy*[793] a bankruptcy court in *In re Paige*,[794] even drew an analogy between websites, software and domain names, holding that 'domain names [which] can be perceived by the senses [and] have a physical presence' are indeed tangible property.

Whilst bankruptcy rulings are not binding on other courts, similar to *Kremen v Cohen*, *In re Paige* may illustrate the difficulty to establish property rights in domain names. One might understand why more and more US courts seem to implicitly approve a mere contractual right that only grants 'exclusive possession [and] control' to the registrant subject to the terms of the contract between the registrar and the registrant.[795]

In *Network Solutions v Umbro International*, for example, the Virginia Supreme Court adopted the theory that a domain name is 'simply a reference point in a computer database (...) [or a] vernacular shorthand for the registration services that enable the Internet addressing system to recognize a particular domain name as a valid address',[796] but the court purposely did not decide whether or not a domain name should be regarded as some form of property.[797] According to the court, the registrant 'acquires the contractual *right to use* a unique domain name for a specified

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[790] *Kremen v Cohen* (n270) 1030 (citing *James R Downing v Municipal Court* 88 CalApp2d 345, 350 [1948]) (California courts follow a broad concept of property that includes 'every intangible benefit and prerogative susceptible of possession or disposition law').

[791] *Kremen v Cohen* (n270) 1030; *GS Rasmussen & Associates Inc v Kalitta Flying Service Inc* 958 F2d 896, 903 (9th Cir 1992).

[792] *Kremen v Cohen* (n270) 130 (citations omitted).

[793] *South Central Bell Telephone Co v Sidney J Barthelemy* (La 1994) (n425) 1240. See subch5.2.1.2.2.3 (tangibility of software).

[794] *In re Paige* 413 BR 882, 917 (Bankr D Utah 2009) (citing *Margae Inc v Clear Link Technologies LLC* 620 FSupp2d 1284 [D Utah 2009]).

[795] *Oppedahl & Larson v Network Solutions Inc* 3 FSupp2d (D Colo 1998); *Dorer v Arel* (n788) 558ff.

[796] *Network Solutions Inc v Umbro International Inc* (n787) 85.

[797] ibid 86; Juliet M Moringiello, 'Seizing Domain Names to Enforce Judgments: Looking Back to Look to the Future' (2004) 72 UCinLRev 95, 108.

period of time' irrespective of its classification.[798]

Considering the copy of the new item GUID, one might find that it is not that copy but the object or item itself that is a well-defined interest often sold for thousands of US Dollars.[799] A reference is rather similar to the technical process necessary on the registrar's side to provide the domain name to the registrant but not the domain name itself.

Moreover, the tangible copy will always be stored on the server, even though in the specific user account, but still on the server. With the *right to use* and *to exclude* others from exercising control over the user account and those items allocated to it being limited by the Software, the Contract and its *rules of conduct*, one might agree that—even when applying the three-part test in Kremen to the facts—property rights in the reference copy do not transfer to the user.[800]

5.4.1.3 Licence Agreement: *Purchased* Objects and Items

Notwithstanding any transfer of (physical) property rights, the Software Contract grants the user (expressly, or impliedly) a *right to use his/her* objects and items.[801] It is questionable, however, whether this *right to use* them is identifiable, separable and independent from the overall *right to use* the VW, Software and character database granted in the Software Contract.

Only if the *right to use purchased* objects and items is 'definable, identifiable' and separable from the rest of the Contract and 'capable in its nature of assumption by third parties' and has 'some degree of permanence or stability',[802] the user may have acquired a new independent (valuable) *right to use*.[803] Since US law provides little guidance on the separability of contractual obligations, qualitative, quantitative and arbitrary separability seem possible.

Qualitative separability is often used to describe a separate assignment or licensing of the different economic rights that have been bundled as copyright.[804] Once a copy is fragmented, the two versions of that copy are separable, but does this mean that—similar to the aforesaid economic rights—the client version and the server version may be licensed independently? Although the copy of the server version will never be transferred to the user, one might agree

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[798] *Network Solutions Inc v Umbro International Inc* (n787) 86 (emphasis added); *Dorer v Arel* (n788) 558ff.
[799] Chapter 1 (providing background information on virtual economies and RMT).
[800] Subch2.2.
[801] n344.
[802] *National Provincial Bank Ltd v Ainsworth* [1965] AC 1175, 1248 (HL) ('Before a right or interest can be admitted into the category of property, or of a right affecting property, it must be definable, identifiable by third parties, capable in its nature of assumption by third parties [ie, good against the world], and have some degree of permanence or stability.') The question whether the contractual obligation of the operator might turn into a new property or quasi-property right will be discussed in subchs8.1.2; 8.2; 9.2.
[803] Subch5.2.2. cf Manfred Wolf and Jörg Neuner, *Allgemeiner Teil des Bürgerlichen Rechts* (11 edn, Beck 2016) §19(fn23) ('Ein einzelnes subjektives Recht kann verschiedene Befugnisse in sich schließen.'); ibid §§ 20(fn19); 24(fn4); 26(fn11) (discussing a right to another right).
[804] 17 USC, ss106; 201(d); CDPA, s90(3); UrhG, s31(1); Sterling, *World Copyright Law* (n664) §12.02; William Cornish and David LLewelyn, *Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights* (6 edn, Sweet and Maxwell 2007) 13-11; Reto M Hilty, *Lizenzvertragsrecht: Systematisierung und Typisierung aus schutz- und schuldrechtlicher Sicht* (Stäpfli 2001) 86f; Louis Pahlow, *Lizenz und Lizenzvertrag im Recht des Geistigen Eigentums* (Mohr Siebeck 2005) 172f.

that licensing one without the other should be impossible. Without the server version the client version simply does not work.[805]

Insofar not much different to offline video games,[806] the scope of the Software licence is determined by the terms of the Software Contract rather than by any potential scope, features and functions of the installed Software.[807] Various different sizes and shapes can be agreed. But instead of amending the licence every time its scope changes (eg, an increase or shrink of gold pieces stock),[808] Software Contracts are typically drafted in general form.[809]

According to the Software Contract, users are granted a *right to use* the VW, Software and character database,[810] that necessarily includes a *right to use* those VAs that have been allocated to *their* user accounts and transferred into *their* character inventories. Both rights are limited by the Software, the Contract and its *rules of conduct*.[811] But because the *right to use* the *purchased* objects and items is strongly curtailed in favour of the operator,[812] one might argue that this *right to use* granted, which is different in scope to the right of the operator that still owns or is the licensee of 'all rights title and interest'[813] is qualitatively separable.[814]

Moreover, the licence (or rather the operator's contractual obligation[815]) may be quantitatively separable. Quantitative separability would be given if different rightholders had equal rights (or different shares) to the whole contractual obligation.[816] According to the Software Contract all the different users have an equal *right to use* the VW, Software and character database,[817] but the *right to use* individual VAs is not quantitatively separable. Different users have been allocated different characters, objects and items in the character inventory.

Objects and items may be transferred to or removed at will from the character inventory (arbitrary separability). Regardless of any qualitative or quantitative separability, one might thus agree that the *right to use* characters, objects and items is identifiable and (arbitrarily) separable

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[805] Subch2.2; n101 (web-clients).

[806] Both are licensed as a whole but in contrast to the client/server Software of the VW the software copy of the offline video game is not fragmented.

[807] Eg, shareware licence. Copyrighted software that is available free of charge on a trial basis, usually with the condition that users pay a fee for continued use and additional support, documentation or functionality (Free On-line Dictionary of Computing, 'shareware' <http://foldoc.org/shareware> accessed 17 November 2018).

[808] Subch4.4.4.

[809] Subch8.1.2.1.2.

[810] Subch5.2. A separate right to use

[811] n346; 982. See Chapter 6 (enforceability).

[812] Subchs 4.4.2; 4.4.3.

[813] Subch4.4.2.

[814] cf Hilty, *Lizenzvertragsrecht: Systematisierung und Typisierung aus schutz- und schuldrechtlicher Sicht* (n804) 86f.

[815] Subch8.1.2.1 (examining the contractual obligation of the operator set out in the licence agreement).

[816] Hilty, *Lizenzvertragsrecht: Systematisierung und Typisierung aus schutz- und schuldrechtlicher Sicht* (n804) 86f; Gianni Fröhlich-Bleuler, 'Zuordnung des Urheberrechts bei IT-Projekten' (2016) Aktuelle Juristische Praxis 946 949 (discussing quantitative separability in regard to copyright and the possibility of joint tenancy and tenancy in common).

[817] The right to use the VW, Software and character database is quantitatively separable between the users and qualitatively separable between the operator and the users.

from the VW, Software and character database (not every user does have the right to use every character, object and item) and separable from each other.[818]

As rightly said in the *Fortnite* EULA, 'When you earn or pay the fee to obtain [...] Game Currency or Content, you are obtaining or purchasing from Epic **the right to have your License include** such Game Currency or Content.'[819]

5.4.2 Grey Markets: Real Money Trade (Characters, Objects and Items)

Considering the technical circumstances of the transfer, that (1) no copy is made,[820] (2) an individual VA copy is not separable from the Software,[821] and (3) a copy of the VA GUID does not transfer to the *buyer* (but to *his/her* character inventory on the server),[822] physical property rights are not conveyed. But an assignment, novation or sub-licence might still be possible.[823]

In regard to RMT, the *seller's right to use* the VA roots in his/her *right to use* the VW, Software and character database. The buyer's *right to use* the VA will then result from the *seller's* promise to transfer his/her *right to use* the VA. Often Contracts prohibit the transfer of (property) rights,[824] and if not,[825] the object/item transfer agreement will have to comply with the terms of the Contract (eg, licences, sub-licences, etc) and any novation of the user account will have to be agreed upon by the operator (sub-chapter 4.3.1.4 [n255]).[826]

5.5 Summary: Software Transaction, Online Services and Beyond

Considering the lengthy discussion of the distinction between the copy and the programming code, one might be surprised that in the end the client/server system architecture of the VW will impede any meaningful/valuable claim of the user to physical property rights.

The user may (1) own the Client Software copy and (2) possess (temporary) copies of VA client versions, (a) obtained with the Client Software, (b) through Software use and online access, or (c) *purchased* in web-shops, market places, auction houses, from NPC vendors or on the grey market, but these copies of VA client versions are not separable from the Client Software copy, and without possession and control of the server version (or an exclusive *right to use* it[827]) even separate copies would have little or no value to the user.[828]

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[818] See also Jean Nicolas Druey, *Informationen als Gegenstand des Rechts: Entwurf einer Grundlegung* (Nomos 1996) 104 (discussing the separability of information under German law).
[819] *FNEULA*, c4(para1) (emphasis added).
[820] Subch4.3.1.4.
[821] Subchs5.2.1.2.4.2; 5.4.1.1.
[822] Subch5.4.1.2.
[823] Subch5.4.1.3.
[824] Subchs6.4; 6.5.
[825] Eg, *SL* (subch6.4.1 [nn976ff]); *EU* (subch6.4.2 [nn1013ff]); *WoW* (subch6.5.1).
[826] 'A novation is a substituted contract that includes as a party one who was neither the obligor nor the obligee of the original duty.' (R2K, s280). See generally Farnsworth, Contracts (n341) §4.24.
[827] Subchs5.2.2.2; 5.3.2.2; 5.4.1.3.
[828] Subchs2.2; 5.4.1.

The client version cannot be used offline or without the server version that references the properties, fixed script and programming code of the VA. Even more importantly, without physical ownership the user does not have (at least not without a separate licence) the *right to use*, *to transfer* and *to exclude* all others (including the operator) from *his/her* VA copy.[829]

Taking a step back from the transfer of physical property rights, it has been shown that the general licence granted to the user in the Software Contract does also include a *right to use his/her* VAs.[830] Separable and independent from the overall Software licence,[831] this VA licence is still limited by the Software, the Contract and its *rules of conduct*,[832] but it includes the client version and the server version. Licensing one without the other is impossible.[833]

In regard to the various (property) rights examined in this thesis and possibly claimed by the users, the sales contract, the Software Contract and the Services Contract are treated as one mixed Contract—that allocates the rights and obligations between the operator and the user to VAs and beyond—and is only distinguished if necessary (gravamen test).

Before examining intellectual and physical property rights in UGC (investing time and effort [to create, perform tasks and develop] rather than money[834]) in Chapter 7and the possibility of new virtual property and quasi-property rights in Chapter 8, Chapter 6 sets the scene by examining the enforceability of the restriction-of-rights clauses which may or may not prevent the court's acknowledgment of property rights.

[829] *Kaiser Aetna v US* (n276) 176.
[830] n344.
[831] n827.
[832] n346.
[833] Without the server version the client version does not work (subchs2.2; 5.4.1.3).
[834] Chapter 5 only discusses the investment of money rather than time and effort to accumulate operator and third users' user-generated content.

Chapter 6 Unconscionable, Unreasonable or Anti-Competitive?

6.1 Restraints of the Contract

Chapters 4 and 5 have demonstrated that most VWs are *primarily* governed by contract law, leaving little or no space for external law on property rights. Every user must 'agree to' the Contract before entering the VW affirming that he/she has read and accepted the terms and conditions outlined therein.[835]

According to the Contract (including the Software Contract and the Services Contract), initial property rights shall belong to the operator, subsequent rights are delineated,[836] and any emerging property rights are transferred to the operator or waived by the user.[837]

Any discussion of the user's property rights in accumulated operator, third party and user-generated content requires an examination of its contractual restraints. And if the courts were to acknowledge this author's proposed quasi-property right (sub-chapter 8.1.2) based on the contractual obligation of the operator to grant the user a *right to use*,[838] the importance of that examination would even become more apparent.

6.2 Applicable Law: Contract

Although the question of the applicable law may seem ancillary at first, the stark effect of the different choice-of-law rules on the discussion of property rights in VWs may justify a more detailed analysis. Different national laws may include different rules that may or may not invalidate some of the restriction-of-rights clauses in the Contract.

According to the contract choice-of-law rules, a contract will basically be governed by the law of the country chosen by the parties.[839] While some VWs apply local laws, others, such as *Second Life*, *Entropia Universe* and *Eve Online*, choose US law or any other law convenient to the operator.[840] In particular cross-border VWs, open and directed to *foreign* users, may have to answer to different contract choice-of-law rules.

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[835] Horowitz, 'Competing Lockean Claims to Virtual Property' (n63) 2; Grimes, 'Online Multiplayer Games: A Virtual Space for Intellectual Property Debates?' (n63) 981.
[836] Fairfield, 'Virtual Property' (n63) 1050.
[837] Subch4.3.1.
[838] The *lex situs* will be applicable to the transfer of title (n403) and the *lex loci protectionis* to the creation and infringement of copyright (n1144).
[839] Eg, R2CoL, s187 (US); Rome I (UK and Germany), Art3(1).
[840] *BlzdEULA (US)/(EU)*, c10; *EUAToU*, c16.2; *EUEULA*, c18 ('Forum and Governing Law'); *EOEULA*, c16 (Republic of Iceland) (Crowd Control Productions Hlutafelag, 'EVE Online EULA' [24 May 2018] <https ://community.eveonline.com/support/policies/eve-eula-en/> accessed 17 November 2018); *SLToS*, c11.5. According to an EULA study from 2006, 81.25% of the VW chose US law (thereof 37.5% California law) and only 18.75% non-US law (Andrew Jankowich, 'EULAw: The Complex Web of Corporate Rule-Making in Virtual Worlds' [2006] 8 TulJTech & IP 1, 50); Lucille M Ponte, 'Leveling Up to Immersive Dispute Resolution (IDR) in 3-D Virtual Worlds: Learning and Employing Key IDR Skills to Resolve In-World Developer-Participant Conflicts' (2012) 34 UArkLittleRockLRev 713.

Considering users from the United Kingdom or Germany, for example, the European choice-of-law rules may override any choice-of-law clause in the Contract,[841] and if a user from California enters *World of Warcraft* or *Entropia Universe*, the California choice-of-law rules may apply.[842]

6.2.1 The Law Governing the Choice-of-Law Clause

In the event of a choice-of-law clause, the first question to answer is the question of the applicable choice-of-law rules, the second question is whether the choice-of-law clause is binding on the parties,[843] and the third question is whether the forum court should recognise the choice-of-law clause,[844] because different countries may follow different rules.[845] Most courts in the United States and Europe will 'reflexively apply the *lex fori*',[846] *inter alia* to 'avoid the slight, and not insuperable, illogic of assuming an enforceable (...) choice-of-law clause in order to choose the law to determine enforceability'.[847]

6.2.2 A European User

According to Rome I, Art 3(1), a 'contract shall [generally] be governed by the law chosen by the parties',[848] but UK law applies to consumer users who reside in the United Kingdom, if the operator offers its Services from a branch, agency or establishment in or directs its activities to the United Kingdom (Rome I, Art 6[1]).[849]

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[841] This is a simplified account, restricted to EU law. Other local laws (or a detailed discussion of Regulation [EU] 1215/2012 of the European Parliament and of the Council of 12 December 2012 on Jurisdiction and the Recognition and Enforcement of Judgments in Civil and Commercial Matters [2012] OJ L 351/1 [Brussels I recast]), Art17) are not rejected but outside the scope of this thesis.

[842] n840; *BlzdEULA(US)*, c12(A) (Delaware state). The US choice-of-law rules apply in international and interstate conflict of laws (Eugene F Scoles and Peter Hay, *Conflict of Laws* [2 edn, West 1992] 2).

[843] R2CoL, s187 cmt b (subch6.2.3); Rome I, Arts 3(5); 10(1) (n847).

[844] R2CoL, 187(2); Rome I, Art6(2).

[845] Eg, R2CoL; Rome I. See William J Woodward, 'Finding the Contract in Contracts for Law, Forum and Arbitration' (2006) 2 HastingsBusLJ 1, 19ff; William J Woodward, 'Constraining Opt-Outs: Shielding Local Law and Those it Protects From Adhesive Choice of Law Clauses' (2007) 40 LoyLALRev 9, 16ff ('three-step analysis').

[846] Jason Webb Yackee, 'Choice of Law Considerations in the Validity & Enforcement of International Forum Selection Agreements: Whose Law Applies?' (2004) 9 UCLAJIntL & ForAff 43, 67 ('[US] courts tend [...] to reflexively apply lex fori, even when the contract contains an explicit choice of law clause selecting the laws of another jurisdiction to govern the contract as a whole.'); Kevin M Clermont, 'Governing Law and Forum-Selection Agreements' (2015) 66 HastingsLJ 632, 653. See R2Col, s187 cmt b ('Whether such consent was in fact obtained by improper means or by mistake will be determined by the forum in accordance with its own legal principles.'); Jillian R Camarote, 'A Little More Contract Law with My Contracts Please: The Need to Apply Unconscionability Directly to Choice-of-Law Clauses' (2009) 39 SetonHallLRev 605, 623-24; Ulrich Spellenberg, *Band 10, Internationales Privatrecht (Rom I - Verordnung)* (MüKo, 5 edn, CH Beck 2010) Art10, para166 (with further references).

[847] Clermont, 'Governing Law and Forum-Selection Agreements' (n846) 655; Woodward, 'Finding the Contract in Contracts for Law, Forum and Arbitration' (2006) (n845) 7ff, 19ff; Robert Freitag, 'Einheitliche Kollisionsnormen' in Thomas Rauscher (ed), *Europäisches Zivilprozess- und Kollisionsrecht EuZPR / EuIPR*, vol 3 (Sellier 2011) Art10, paras10-12¸ MüKo/Spellenberg, Art10, para166 (with further references). Although Rome I, Arts 3(5); 10(1) determine that the 'existence and validity of [the Contract]' will be subject to the *lex causae*, Rome I, Art6(2) is still applicable (*Richterrechtliche Regeln als zwingende Bestimmung bei Rechtswahl* Decision from 25 January 2005 - XI ZR 78/04, NJW-RR 2005, 1071, 1072 [BGH]; Jan Kropholler, *Internationales Privatrecht* [6 edn, Mohr Siebeck 2006] §40[IV][1], §52[II][2]); Ulrich Magnus, *Einführungsgesetz/Internationales Privatrecht: Artikel 27-37 EGBGB* (Staudinger, Sellier-de Gruyter 2002) Art29, para1.

[848] n840; (Jankowich, 'EULAw: The Complex Web of Corporate Rule-Making in Virtual Worlds' [n840] 59).

[849] Rome I, Art6 may be applicable to the Contract, but not to the transfer agreement between users. Neither one of them is likely to be a professional (Rome I, Arts6; 4[1][g]; 3[1]). Instead, Rome I, Art 4(2) may be applicable (Paul T

Whilst owning a shop in *Second Life* or earning a living online will disqualify the user from being a consumer, one might assume (or clarify subject to an individual case study) that most users will still be trading VAs on a personal level 'outside their trade or profession'.[850]

In regard to operators without a branch, agency or establishment in the United Kingdom,[851] one might ask, however, whether they may still be considered by the courts as directing commercial or professional activities (such as the Contract or the Services) to the United Kingdom.[852] The mere fact that a website is accessible in the United Kingdom, or that it uses the English language and currency is not sufficient.[853]

More important will be that the operator's website 'solicits the conclusion of distance contracts'.[854] *Second Life*, for example, is offered in different languages and made available under different top-level-domains.[855] Moreover, Linden Lab uses web marketing[856] and provides services such as phone support to technical or billing questions in the country.[857]

Assuming that the Contract will be concluded at a distance from the user's home in the United Kingdom there may be strong grounds for national law to apply.[858] Any unintended exposure to foreign law,[859] may then only be avoided (1) by the operator by pre-selecting the countries for Service, (2) by blocking any user who cannot confirm his/her address or his/her bank's address for payment arrangements in the country, and/or (3) by using zoning, geo-location and IP mapping technology.[860]

Schrader, 'Der Handel mit virtuellen Gütern' in Stefan Leible and Olaf Sosnitza [eds], *Online-Recht 20: Alte Fragen - Neue Antworten?* [Richard Boorberg 2011] 119). In RMT the 'characteristic performance' will be the *transfer* of the VA. But with the *transfer* sometimes being *paid* for in virtual currency (similar to an exchange or barter), the 'characteristic performance' might not be as easily qualified.

[850] Generally Gralf-Peter Calliess, *Rome Regulations: Commentary* (2 edn, Wolters Kluwer 2015) Rome I, Art6, paras29ff.

[851] Oren Joakim ST, 'International Jurisdiction over Consumer Contracts in e-Europe' (2003) 52 Intl & CompLQ 665, 677.

[852] Graham Smith, 'Here, There or Everywhere? Cross-Border Liability on the Internet' (2007) 13 CompTelecommLRev 41; generally Paul Cachia, 'Consumer Contracts in European Private International Law: The Sphere of Operation of the Consumer Contract Rules in the Brussels I and Rome I Regulations' (2009) ElRev 476.

[853] Rome I, Rec(24); Joined Cases C-585/08 and C-144/09 *Peter Pammer v Reederei Karl Schlüter GmbH & Co KG and Hotel Alpenhof GesmbH v Oliver Heller* [2010] ECR I-12527.

[854] ibid.

[855] The *SL* website (n19) is available in English, French, German, Italian, Japanese, Portuguese, Russian, Spanish, and Turkish language, and uses *inter alia* the German top-level domain '.de' (<http://secondlife.com/?lang=de-DE>).

[856] Google Adwords (<www.google.co.uk/adwords/>); Linden Lab places advertisements in Google (and other search engines) which appear when searchers type specific keywords (eg, 'Second Life & de') (Linden Lab, 'Secondlife.com - Second Life Virt. Welt' (*Google.de,* nd) <www.google.de/?gws_rd=ssl#q=second+life+de> accessed 17 November 2018). See generally Canary Beck, 'Pete Linden Shares Linden Lab's Sophisticated Approach to Marketing Second Life at SL12B "Meet the Lindens"' (26 June 2015) <www.canarybeck.com/2015/06/26/linden-labs-sophisticated-approach-to-marketing-second-life/> accessed 1 April 2017. Companies such as Supercell Oy even use broadcast advertisement on UK television to promote its browser world *Clash of Clans* (Supercell Oy, 'Clash of Clans: Hair' (*YouTube,* nd) <https://www.youtube.com/watch?v=1gKcOhMRn7s> accessed 17 November 2018).

[857] Eg, Linden Lab's support is available in German, English, French, Spanish and Portuguese language (Linden Lab, 'Hilfe zu Second Life' [*SecondLife.com,* nd] <https://support.secondlife.com/?lang=de> accessed 17 November 2018.

[858] See also C-191/15 *Verein für Konsumenteninformation v Amazon EU Sàrl* [2017] QB 252 (holding a standard term unfair that chooses the law of the supplier in a consumer contract).

[859] Kropholler, *Internationales Privatrecht* (n847) §52(V)(2)(a).

[860] Although IP addresses do not refer to a particular geographic place but to a logical place on the network, one

Nonetheless some might still argue that the law of the Member State is not applicable because 'the supply of the services will be supplied to the consumer exclusively in a country other than in which [the consumer] has [his/her] habitual residence' (Rome I, Art 6[4][a]). According to the *Giuliano-Lagarde* Report on the previously replaced Rome Convention,[861] for example, the consumer cannot reasonably expect 'the law of his State of origin to be applied' if the contract '[relates] to the supply of services (eg, accommodation in a hotel, or a language course) which are supplied exclusively outside the State in which the consumer is resident' because 'the contract is more closely connected with the State in which the other contracting party is resident, even if the latter has performed one of the acts described in [Rome I, Art 5,] paragraph 2 (advertising, for example) in the State in which the consumer is resident.'[862]

Noting that this exemption was drafted before the dawn of the information age and applied to consumers who were abroad ordering services to be supplied in a foreign country,[863] one might agree that online services are different. While the *Second Life* ToS may state that the 'Service is a United States-based service' controlled and operated from Linden Lab in the United States,[864] *Second Life* as any other VW is ubiquitous and may be accessed from the United States, the United Kingdom, Germany or, in fact, any other country in the actual world;[865] an 'exclusive' place of Service does not seem truly identifiable.[866]

Nonetheless, only if operators provide parts of the Services in the country in which the user has his/her habitual residence (such as technical support services or the distribution of the Software by Linden Lab), one might be safe to say that the Service will not be exclusively supplied outside the United Kingdom.[867]

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might 'gather the data necessary to map where someone is, given the IP address. To do this, one needs to construct a table of IP addresses and geographic locations, and then track both the ultimate IP address and the path along which a packet has traveled [sic] to where you are from where it was sent. Thus while the TCP/IP protocol can't reveal where someone is directly, it can be used indirectly to reveal at least the origin or destination of an IP packet.' (Lawrence Lessig, *Code Version 2.0* [2nd edn, Basic Books 2006] 58). Example IP mapping service: <www.hostip.info/>.

[861] Convention 80/934/EEC on the Law Applicable to Contractual Obligations of 19 June 1980 (the Rome Convention) was enacted by the UK Contracts (Applicable Law) Act 1990, implemented in Art29(4) No 2 of the German EGBGB and later replaced by Rome I. Mario Giuliano and Paul Lagarde, *Report on the Convention on the Law Applicable to Contractual Obligations* (OJ C 282, 31 October 1980) Art5, para5.

[862] ibid.

[863] Peter Bassenge, Helmut Heinrichs and Karsten Thorn (eds), *Palandt* (71 edn, CH Beck 2012) Art19, para3; Magnus, *Einführungsgesetz/Internationales Privatrecht: Artikel 27-37 EGBGB* (n847) Art29, para60; Völzmann-Stickelbrock, 'Schöne neue (zweite) Welt? Zum Handel mit virtuellen Gegenständen im Cyberspace' (n390) 333.

[864] *SLToS*, c11.1. The location of the server is not always clear and sometimes manipulable. Subch2.2 (n102); David G Post, 'Anarchy, State, and the Internet: An Essay on Law-Making in Cyberspace' (1995) JOnlineL para1.

[865] Some scholars argue that an e-commerce contract may not only be concluded from the country of the consumer's habitual residence but also while the consumer is abroad, provided that the website is also available in the country of the consumer's habitual residence (Norel Rosner, 'International Jurisdiction in European Union E-Commerce Contracts' [*LLRX.com Law and Technology Resources for Legal Professionals,* 1 May 2002] <www.llrx.com /2002/05/features-international-jurisdiction-in-european-union-e-commerce-contracts/> accessed 17 November 2018; Astrid Stadler, 'From the Brussels Convention to Regulation 44/2001: Cornerstones of a European Law of Civil Procedure' [2005] 42 CMLRev 1637).

[866] Magnus, *Einführungsgesetz/Internationales Privatrecht: Artikel 27-37 EGBGB* (n847) Art28, para658.

[867] Carl Friedrich Nordmeier and Matthias Weller, *Rom I, Artikel 6 (Verbraucherverträge)* (Recht der elektronischen

6.2.3 A California User

Considering those users in California instead that *agree to* Delaware state law (*World of Warcraft [US]*) or Swedish law (*Entropia Universe*),[868] one might find that US courts mainly apply the rules of the Restatement (2nd) of Conflict of Laws,[869] that states in section 187 that 'The law of the state chosen by the parties to govern their contractual rights and duties will be applied.'[870] But the parties' freedom to choose the applicable law is limited.[871]

For example, comment b to section 187 of the Restatement (2nd) Conflict of Laws states, that 'a choice-of-law provision (...) will not be given effect if the consent of one of the parties to its inclusion in the contract was obtained by improper means'. Next to 'misrepresentation, duress, or undue influence, or by mistake', the forum court may consider 'whether the choice-of-law provision is contained in an "adhesion" contract, namely one that is drafted unilaterally by the dominant party and then presented on a "take-it-or-leave-it" basis to the weaker party who has no real opportunity to bargain about its terms'.[872]

While comment b illustrates the intent to consider the agreement itself when determining the enforceability of the choice-of-law clause, the drafters 'curiously declined to specifically' include unconscionability.[873] Theoretically choice-of-law clauses in contracts of adhesion may be held unconscionable,[874] but 'no [US] court has [yet] stricken a choice-of-law clause by claiming that it is unconscionable pursuant to comment b.'[875] Any suggestion to apply California law to Contracts with users in California will almost certainly meet resistance because 'parties and courts usually fail to [examine the] contract law question (...) and,[876] almost invariably, assume that the choice-of-law clause is binding as a matter of contract law',[877] hereby subjecting the choice-of-law clause to the complex 'fundamental policy' analysis in the Restatement (2nd) Conflict of Laws.[878] But whilst the drafters of the Restatement

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Medien, CH Beck 2015) Art6, para22; Carl Friedrich Nordmeier, 'Cloud Computing und Internationales Privatrecht: Anwendbares Recht bei der Schädigung von in Datenwolken gespeicherten Daten' (2010) MMR 151, 152f (discussing the law applicable to cloud computing).

[868] n842.

[869] *Nedlloyd Lines BV v Superior Court* 3 Cal4th 459, 463-72 (1992); Symeon C Symeonides, 'The Judicial Acceptance of the Second Conflicts Restatement: A Mixed Blessing' (1997) 56 MdLRev 1248, 1266 (fn122).

[870] R2CoL, s187(1).

[871] R2CoL, s187(2). Woodward, 'Constraining Opt-Outs: Shielding Local Law and Those it Protects From Adhesive Choice of Law Clauses' (n845) 17; Albert A Ehrenzweig, 'Adhesion Contracts in the Conflict of Laws' (1953) 53 ColumLRev 1072, 1090 ('Whatever the status of the principle of party autonomy in the conflicts law of contracts in general, this principle has no place in the conflicts law of adhesion contracts.')

[872] R2Col, s187 cmt b.

[873] Camarote, 'A Little More Contract Law with My Contracts Please: The Need to Apply Unconscionability Directly to Choice-of-Law Clauses' (n846) 612.

[874] Subch6.4.1; UCC, s2-302; R2K, s80.

[875] ibid (citing Woodward, 'Constraining Opt-Outs: Shielding Local Law and Those it Protects From Adhesive Choice of Law Clauses' [n845] 54).

[876] Subchs6.2.1; 6.2.3.

[877] Woodward, 'Finding the Contract in Contracts for Law, Forum and Arbitration' (n845) 33.

[878] Woodward, 'Constraining Opt-Outs: Shielding Local Law and Those it Protects From Adhesive Choice of Law Clauses' (n845) 51 (possibly giving 'such adhesive choice of law clauses a presumption of greater validity than they

(2nd) Conflict of Laws may not have 'specifically asked whether the contract and all of its specific terms/clauses were enforceable', this does not necessarily mean that the question is only applicable to the contract as a whole and not to the individual choice-of-law clause.[879] Noting that procedural and substantive unconscionability 'operate on a sliding scale such that the more significant one is, the less significant the other need be',[880] usually both elements must be given for a choice-of-law clause to be considered unenforceable.[881] The two choice-of-law clauses in the examined Contracts of adhesion[882] may have been 'drafted unilaterally by the dominant party [here the operator] and then presented on a "take-it-or-leave-it" basis to the weaker party [here the user]'[883] but only a choice-of-law clause unreasonably favourable to the operator seeking enforcement is also likely to be substantively unconscionable.[884] Choosing the local law of the operator by itself (here Delaware state law or Swedish law), however, is unlikely to be ever considered unreasonable and unconscionable.[885]

Nonetheless, according to section 187(2) of the Restatement (2nd) Conflict of Laws, the users of *World of Warcraft (US)* or *Entropia Universe* in California still have two different claims remaining to possibly overthrow either choice-of-law clause in the courts. On the one hand, if the chosen law does have 'no substantial relationship to the parties or the transaction' and there is 'no other reasonable basis for the parties' choice',[886] and on the other hand, if the application of the chosen law is 'contrary to a fundamental policy of [the forum] state which has a materially greater interest than the chosen state',[887] and the forum state's law is the law that would be applicable 'in the absence of an effective [choice-of-law clause]'.[888]

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deserve').

[879] Camarote, 'A Little More Contract Law with My Contracts Please: The Need to Apply Unconscionability Directly to Choice-of-Law Clauses' (n846) 624. See R2CoL, s187 cmt b ('A choice-of-law provision, like any other contractual provision, will not be given effect if the consent of one of the parties to its inclusion in the contract was obtained by improper means, such as by misrepresentation, duress, or undue influence, or by mistake.')

[880] *Comb v PayPal Inc* 218 FSupp2d 1165, 1172-73 (ND Cal 2002); *Szetela v Discover Bank* 97 CalApp4th 1094, 1099-100 (2002); *Armendariz v Foundation Health Psychare Services Inc* 24 Cal4th 83, 114 (2000). Subch6.4.1.

[881] *Communications Maintenance Inc v Motorola Inc* 761 F2d 1202, 1210 (7th Cir 1985) (since there was 'no substantive unconscionability we do not reach the issue of whether there was procedural unconscionability'); Farnsworth, *Contracts* (n341) §4.28. Contra *Williams v America Online Inc* 2001 WL 135825 (Mass Super 2001) (refusing to enforce a forum selection clause without consideration of substantive unconscionability).

[882] n939.

[883] R2Col, s187 cmt b.

[884] *Comb v PayPal Inc* (n880) 1165ff.

[885] Nicola Lucchi, 'The Supremacy of Techno-Governance: Privatization of Digital Content and Consumer Protection in the Globalized Information Society' (2007) 15 IntlJL & InfTech 192, 221-22; Woodward, 'Constraining Opt-Outs: Shielding Local Law and Those it Protects From Adhesive Choice of Law Clauses' (n845) 50 ('Lack of assent to either a choice of law or a choice of forum clause could easily be framed in unconscionability rhetoric-promulgated terms buried in small print, incomprehensible to lay people, unfair in impact, etc. Such challenges could be made against virtually all choice of law and most choice of forum clauses in adhesion contracts. But the perceived economic value of these provisions, and the economic implications of creating a precedent that would invalidate all or most of them, virtually assures us that such a broad challenge will not succeed.')

[886] R2CoL, s187(2)(a).

[887] R2CoL, s187(2)(b).

[888] ibid (referring to the rule of R2Col, s188).

While the requirement of a 'substantial relationship' is interpreted widely and easily met,[889] it is questionable whether the choice of Delaware state law (*World of Warcraft [US]*) or Swedish law (*Entropia Universe*) may be 'contrary to a fundamental policy of [California] state'. Unfortunately, the interpretation of the fundamental public policy exception is not only often different from court to court, from 'extremely limited' to 'broad',[890] but the courts' chosen standards to determine what policy may or may not be fundamental are vague too (eg, 'contrary to the law, public policy, or the general interests of [its] citizens'[891]). A California user hoping for the protection of California law must therefore—first of all— hope to find a court who sympathises with his/her 'general interests'.[892]

In contrast to *World of Warcraft (US)* users,[893] *Entropia Universe* users from California are unlikely to be subject to California contract law.[894] Since the European consumer protection legislations adopted in Sweden provide similar or higher protection for consumers, Swedish law cannot be 'contrary to a fundamental policy of [California] state'.[895] Balancing the parties' freedom to contract with basic notions of fairness there is therefore some reason to believe that US courts will uphold the choice-of-law clause in the *Entropia Universe* Contract.[896]

6.3 General Enforceability of Click-Wrap/Shrink-Wrap Agreements

Most users may be ignorant of the Contract terms,[897] which may not always meet users'

[889] Woodward, 'Constraining Opt-Outs: Shielding Local Law and Those it Protects From Adhesive Choice of Law Clauses' (n845) 27; *Application Group Inc v Hunter Group Inc* 61 CalApp4th 881, 899 (1998) (stating that the place of incorporation is 'sufficient to support a finding of "substantial relationship"').

[890] *Fiser v Dell Computer Corp* 165 P3d 328, 332 (NM App 2007) (citing *Reagan v McGee Drilling Corp* 933 P2d 867, 869 [NM App 1997]); *Jackson v Pasadena Receivables Inc* 921 A2d 799, 805 (Md App 2007)

[891] *Resource Technology Corp v Fisher Scientific Co* 924 P2d 972, 975 (Wyo 1996).

[892] James L Healy, 'Consumer Protection Choice of Law: European Lessons for the United States' (2009) 19 DukeJCompL & IntL 535, 538.

[893] California courts may refuse to enforce Delaware state law because of the class action waiver in *BlzdEULA(US)*, c12(A) (in accordance with Delaware state law) and the fact that the Delaware Code Annotated (2006), ss 2107-08 does not provide for a private right of action in the event of antitrust violations are frowned upon by the laws and policies of California. See *America Online Inc v Superior Court* 90 CalApp4th 1 (2002); *Aral v Earthlink Inc* 134 CalApp4th 544 (2005); *Klussman v Cross Country Bank* 134 CalApp4th 1283 (2005); cf *Discover Bank v Superior Court* 36 Cal4th 148 (2005) (class action waivers); *Bragg v Linden Research Inc* [n56] 593ff (not all actions taken in VW are class actions); Harold Evans, 'The Supreme Court and the Sherman Anti-Trust Act' (1910) 59 UPaLRev 61 (discussing the 'public policy laid down in the Sherman Anti-Trust Act').

[894] The contract choice-of-law rules are separate and do not affect the tort choice-of-law rules (nn159; 318).

[895] Zheng Sophia Tang, *Electronic Consumer Contracts in the Conflict of Law* (Hart 2009) 238-39. See also the Swedish Group Proceedings Act (2002:599). An examination of the forum selection clause may have different results.

[896] Jay Moffitt, 'Click to Agree: Where and How Disputes with Virtual World and Game Providers Are Settled' (*Virtually Blind,* 30 September 2007) <http://virtuallyblind.com/2007/09/30/choice-of-forum-law/> accessed 17 November 2018; subch6.4.2.

[897] Eg, Larry Magid, 'It Pays to Read License Agreements' (*PC Pitstop,* <www.pcpitstop.com/spycheck/eula.asp> accessed 17 November 2018 (software developer offered 'consideration' in software EULA to anybody who sent an e-mail to the address within it, reward was claimed only after four months and 3,000 downloads of the software); Joe Martin, 'GameStation: "We Own Your Soul"' (*bitGamer,* 15 April 2010) <www.bit-tech.net/news/gaming/2010/04/15/gamestation-we-own-your-soul/1> accessed 17 November 2018 (fooling all 7,500 customers who made a purchase that day GameStar terms and conditions were changed to include that 'By placing an order via this web site on the first day of the fourth month of the year 2010 Anno Domini, you agree to grant Us a non transferable option to

expectations, but in order to enter the VW, they will have to 'agree to' the Contract affirming that they have read and accepted its terms and conditions.[898]

Separating the sales contract from the licence agreement, one might agree that the terms of the shrink-wrap/click-wrap Contract (ie, the Software Contract and the Services Contract) do not actually concern the sales contract.

But with software developers using the supposedly 'magic word' licence,[899] to exclude a sales contract and transfer of title,[900] it seems necessary to discuss the general enforceability of click-wrap/shrink-wrap licences.

6.3.1 Shrink-Wrap Licences (Software DVD-ROM)

Long before the availability of software downloads and the supply of online services (that requires consent to the Services Contract[901]), software packages have been sold on CD/DVD-ROMs using shrink-wrap licences.[902]

Sealed by clear plastic or cellophane wrapping, shrink-wrap licences will usually contain notices, such as, by tearing open the packaging or using the software, the software user is deemed to have consented to the terms enclosed within the wrapping.[903] But considering the burden of demonstrating reasonable notice,[904] conscionability and fairness of contractual terms, the enforceability of shrink-wrap licences has soon been doubted.[905]

The tide turned with *ProCD Inc v Zeidenberg*,[906] where the defendant Zeidenberg purchased a copy of ProCD's telephone directory on CD-ROM for personal use but published the data on the Internet for commercial gain.[907] Arguing that using the software instead of returning it 'after

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claim, for now and for ever more, your immortal soul.')

[898] *Specht v Netscape Communications Corp* 150 FSupp2d 585, 587 (SDNY 2001) ('Promises become binding when there is a meeting of the minds and consideration is exchanged. So it was at King's Bench in common law England; so it was under the common law in the American colonies; so it was through more than two centuries of jurisprudence in this country; and so it is today.'); Farnsworth, *Contracts* (n341) §3.1.

[899] n680. Subch5.2.3.2.3 (discussion of *Vernor v Autodesk*).

[900] UCC, s2-401(1) ('[a]ny retention or reservation by the seller of the title [property] in goods shipped or delivered to the buyer is limited in effect to a reservation of a security interest').

[901] Subch5.3.2.1; n54. Click-wrap consent typically includes consent to the Software Contract and consent to the Services Contract. See Linden Lab, 'Join Second Life' (*SecondLife.com,* nd) <https://join.secondlife.com/?lang=en-US> accessed 17 November 2018 (by ticking a box before clicking 'create my account' the user has to confirm: 'I have read and agree to the Second Life Terms and Conditions, Privacy Policy, and Terms of Service, including the use of arbitration and the waiver of any class or group claim to resolve disputes.')

[902] Mark A Lemley, 'Intellectual Property and Shrinkwrap Licenses' (1995) 68 SCalLRev 1239.

[903] While some shrink-wrapped software products will have a notice that the terms are included inside, others will not, but in any event the necessary terms to the agreement will not be available before the purchase.

[904] Along with other contracts, terms not brought to the attention of the licensee before the conclusion of the licence are generally not binding. Eg, UCC, s207(2)(a) ('The additional terms are to be construed as proposals for addition to the contract. Between merchants such terms become part of the contract unless: (a) the offer expressly limits acceptance to the terms of the offer;') but previous dealing, trade custom etc may of course produce different results.

[905] *Vault Corp v Quaid Software Ltd* 847 F2d 255, 260 (5th Cir 1988); *Step-Saver Data Systems Inc v Wyse Technology* 939 F2d 91 (3d Cir 1991); *Arizona Retail Systems Inc v Software Link Inc* 831 FSupp 759, 766 (D Ariz 1993); *cf Foresight Resources Corp v Pfortmiller* 719 FSupp 1006, 1010 (D Kan 1989).

[906] *ProCD Inc v Zeidenberg* 86 F3d 1447 (7th Cir 1996).

[907] ibid 1450.

having an opportunity to read the license at leisure' constituted acceptance,[908] ProCD claimed copyright infringement and breach of the shrink-wrap licence. The defendant challenged the copyrightability of the compilation and argued that because he could not know the terms of the shrink-wrap agreement before his purchase the restrictions on the use and distribution of the software did not apply.[909] The District Court denied ProCD's claim for copyright infringement,[910] stating that software users are not bound by 'shrink-wrap' licences if the terms are inside the box and not printed on the outside of the packaging.[911] On appeal, the decision of the District Court was reversed and remanded. Judge Easterbrook stated that a seller is entitled to 'invite acceptance by conduct, and may propose limitations on the kind of conduct that constitutes acceptance'; therefore it was possible for ProCD to 'propose[] a contract that a buyer would accept by *using* the software after having an opportunity to read the license at leisure'.[912] According to the Court of Appeal this finding was reinforced by UCC, s 2-606(1)(b), whereafter, '[a] buyer accepts goods (...) when, after an opportunity to inspect, he fails to make an effective rejection'.[913]

Accordingly, there is good reason to believe that US courts will consider shrink-wrap licences with '[n]otice on the outside, terms on the inside, and a right to return the software for a refund if the terms were unacceptable' enforceable.[914] Most US courts have enforced shrink-wrap licences ever since.[915] Separating the sales contract (copy) from the Software Contract (programming code),[916] there may be even less argument against shrink-wrap licences. The only remaining problem may be that a return of the copy for a full refund[917] is not only inconvenient and impractical[918] but may also be illusory because software distributors generally refuse to accept software returns under the shrink-wrap licence.[919]

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[908] ibid 1452.
[909] ibid 1450.
[910] cf *Feist Publications Inc v Rural Telephone Service Co Inc* (n221) 340ff.
[911] *ProCD Inc v Zeidenberg* 908 FSupp 640, 651 (WD Wis 1996).
[912] *ProCD Inc v Zeidenberg* (7th Cir 1996) (n906) 1452 ('the software splashed on the screen and would not let him proceed without indicating acceptance').
[913] ibid 1452.
[914] ibid 1451.
[915] *MA Mortensen Co Inc v Timberline Software Corp* 93 WashApp 819 (1999); *Adobe Systems Inc v One Stop Micro Inc* (n331) 1086ff; *Peerless Wall and Window Coverings Inc v Synchronics Inc* 85 FSupp2d 519 (WD Pa 2000); *Information Handling Services Inc v LRP Publications Inc* 2001 WL 1159745 (ED Pa 2001); *Bowers v Baystate Technologies Inc* 320 F3d 1317 (Fed Cir 2003); *Davidson & Associates Inc (Blizzard) v Jung* 422 F3d 630 (8th Cir 2005). Contra *Novell Inc v Network Trade Center Inc* 25 FSupp2d 1218, 1230 (D Utah 1997); *Klocek v Gateway Inc* 104 FSupp2d 1332, 1339-41 (D Kan 2000).
[916] Subchs5.2.3.2.3; 5.2.4.
[917] *BlzdEULA(US)*, para3; *WoWEULA(EU)*, para1.
[918] cf UCITA, s208, cmt6.
[919] Ed Foster, 'A Fatal Blow to Shrinkwrap Licensing?' (*fatwallet.com,* 2004) < www.fatwallet.com/forums/deal-discussion/414185> accessed 4 July 2014.

6.3.2 Click-Wrap Licences (Software Download/Service)

With the availability of software downloads and online services, shrink-wrap licences are more and more replaced by click-wrap licences. Instead of tearing open the packaging, using the software, or some other conduct that the licence specifies, users are deemed to have consented to the licensing terms of the Software Contract and the terms of the Services Contract[920] when 'signing' the contract(s) by clicking 'I agree', or similar.[921]

In *Hotmail v VAN$ Money Pie*,[922] for example, Hotmail argued that VAN$ used its e-mail services to send spam in breach of its terms of service. In regard to the question of actual consent to the terms of service that prohibited subscribers from using the services to send spam, the court stated that VAN$ 'obtained a number of Hotmail mailboxes and access to Hotmail's services; [and] that in so doing [VAN$] agreed to abide by Hotmail's Terms of Service'.[923] But not all forms of click-wrap agreements have been considered enforceable.

A slightly different decision was reached in *Specht v Netscape*,[924] where the defendant claimed a breach of its click-wrap agreement that only appeared 'if a visitor scrolls down through the page to the next screen',[925] and then clicks on the 'invitation to review the License Agreement'. Visitors were not required to consent to the licence agreement, 'or even to view the license agreement, before proceeding with a download'.[926] But according to the District Court, consolidated by the Court of Appeal, a mere reference to, or mention of, the licence terms on the Netscape website is not sufficient to indicate consent.

Considering *Specht v Netscape*, US courts are likely to enforce those click-wrap licences where the user has signed the contract by clicking 'I agree', or similar.[927]

6.3.3 Summary: General Enforceability

Notwithstanding the use of shrink-wrap or click-wrap licences, as long as the user 'had reasonable notice of [the licence terms] and manifested assent'[928] and had 'a right to return [any shrink-wrapped] software for a refund if the terms were unacceptable',[929] the Software Contract

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[920] n901.
[921] Uniform Electronic Transactions Act 1999, ss7, 7A; Electronic Signatures in Global and National Commerce Act 2000, s7001(a).
[922] *Hotmail Corp v VAN$ Money Pie Inc* 1998 WL 388389, *2(7), *6(35) (ND Cal 1998).
[923] ibid *6(35).
[924] *Specht v Netscape Communications Corp* (SDNY 2001) (n898) 585ff; *Specht v Netscape Communications Corp* (2d Cir 2002) (n496) 17ff.
[925] *Specht v Netscape Communications Corp* (SDNY 2001) (n898) 588.
[926] ibid ('Please review and agree to the terms of the Netscape SmartDownload software license agreement before downloading and using the software.')
[927] *Davidson & Associates Inc (Blizzard) v Jung* (n915) 630ff; *Hotmail Corp v VAN$ Money Pie Inc*; *iLan Systems Inc v Netscout Service Level Corp* 183 FSupp2d 328 (D Mass 2002); *Novak v Overture Services Inc* 309 FSupp2d 446, 451ff (EDNY 2004) (enforcing a forum selection clause not initially visible in a click-wrap agreement); *Recursion Software Inc v Interactive Intelligence Inc* 425 FSupp2d 756 (ND Tex 2006).
[928] *Feldman v Google Inc* 513 FSupp2d 229, 236 (ED Pa 2007) (click-wrap licences).
[929] *ProCD Inc v Zeidenberg* (7th Cir 1996) (n906) 1451.

and the Services Contract are likely to be held valid and enforceable—insofar similar to the same discussion in the courts of the United Kingdom and Germany.[930] A 'failure to read an enforceable [Contract] will not excuse compliance with its terms'.[931]

6.4 Unenforceability of Restriction-of-Rights Clauses

The next important question is therefore whether those restriction-of-rights clauses commonly used in the Contract are likely to be, or if not, should be considered unconscionable, unreasonable, unfair, and therefore invalid and unenforceable by the courts.

In particular four aspects of the Contract seem to be relevant here: (1) the transfer/waiver of (future) (property) rights;[932] (2) the restrictions on the granted *right to use*, *to exclude* and *to transfer* VAs;[933] (3) the right of the operator to make all necessary changes to balance the VW, to change properties of VAs and to seize them;[934] and (4) the limited remedies granted to those users whose rights under the Contract may have been violated.[935]

6.4.1 Unconscionability / Reasonable Expectations

The equitable concept of unconscionability, written down in the Uniform Commercial Code, California Civil Code and Restatement (Second) of Contracts and generally applicable to all contracts and any of their clauses, states that:

> If the court as a matter of law finds the contract or any clause of the contract to have been unconscionable at the time it was made the court may refuse to enforce the contract, or it may enforce the remainder of the contract without the unconscionable clause, or it may so limit the application of any unconscionable clause as to avoid any unconscionable result.[936]

In the absence of a statutory definition, 'Unconscionability has generally been recognized [by US courts] to include an absence of meaningful choice on the part of one of the parties together

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[930] There is some support for the validity of shrink-wrap licences provided that the user had opportunity to read and accept or reject the terms by returning the software within a reasonable time (*Beta Computers [Europe] Ltd v Adobe Systems [Europe] Ltd* [n537]; *Wettbewerbswidrige Behinderung durch Vertrieb eines Programms zur Beseitigung eines Hardware-Kopierschutzes* Decision from 10 February 1989 - 2 U 290/88, NJW 1989, 2633 [OLG Stuttgart]; cf Helmut Redeker, 'B. Der Erwerb von Soft- und Hardware: 6. Schutzhüllenverträge und Entervereinbarungen', *IT-Recht* [IT-Recht, 5 edn, CH Beck 2012] paras575ff). And click-wrap licences are typically considered enforceable (Phillip Johnson, 'All Wrapped up? A Review of the Enforceability of "Shrink-wrap" and "Click-wrap" Licences in the United Kingdom and the United States' [2003] 25 EIPR 98, 102 [fn54]; Redeker, 'B. Der Erwerb von Soft- und Hardware: 6. Schutzhüllenverträge und Entervereinbarungen' [ibid] paras575ff; Peter Schlosser, *§ 305: 3. Einzelheiten der Obliegenheit, die Kenntniserlangung zu ermöglichen* [Staudinger, Beck-Online 2013] para151).

[931] ibid.

[932] Subch4.4.2.

[933] Subch4.4.3.

[934] Subch4.4.4.

[935] Subch4.4.5.

[936] UCC, s2-302; Cal Civ Code, s1670.5(a); R2K, s208. The Cal Civ Code's and the R2K's sections on unconscionability are patterned upon UCC, s2-302 and apply to contracts generally. See generally Farnsworth, *Contracts* (n341) §4.28 (with further references).

with contract terms which are unreasonably favorable to the other party.'[937]

Designated as *procedural* and *substantive* unconscionability,[938] procedural unconscionability or the 'absence of meaningful choice' concerns the contract formation, with a focus on 'unequal bargaining positions [oppression] and hidden terms common in the context of adhesion contracts [surprise]',[939] and substantive unconscionability arises when the contract terms are unreasonably favourable to the party seeking enforcement (or rather 'shock the conscience'[940]). 'The two elements [thereby] operate on a sliding scale such that the more significant one is, the less significant the other need be.'[941]

In *Blizzard v Internet Gateway*,[942] for example, the defendants reverse engineered a network protocol, which was prohibited by the applicable Contract, and created a server emulator that allowed players to 'experience the multi-player features of Blizzard's [network] games' without connecting to or paying for the Battle.Net network service.[943] Blizzard sued for breach of contract. The District Court found the Contract not procedurally unconscionable,[944] because the defendants were 'not unwitting members of the general public [but] computer programmers and administrators familiar with the language used in the contract'.[945] Despite 'unequal bargaining power (...) the defendants had [always] the choice to select a different video game, to agree to the terms (...), or to disagree and return the software for a full return of their money'.[946] Moreover, the court stated that the Contract was not substantively unconscionable because it did not 'involve[] contract terms that [were] so one-sided as to "shock the conscience" or that impose[d] harsh or oppressive terms'.[947] Bearing all of this in mind, the District Court held the Contract enforceable.[948]

In comparison to the defendants in *Blizzard v Internet Gateway*, the average user in VWs may have better prospects when attacking the restriction-of-rights clauses in the Contract for unconscionability. And because the Battle.Net Terms of Use chose US law,[949] the US law

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[937] *Williams v Walker-Thomas Furniture Co* 350 F2d 445, 449 (DC Cir 1965); *Pardee Construction Co v Superior Court* 100 CalApp4th 1081 (2002) (holding a contract for home purchase unconscionable because of a lack of meaningful choice where buyers could have opted not to purchase at all).

[938] See generally Arthur A Leff, 'Unconscionability and the Code: The Emperor's New Clause' (1976) 115 YaleLSch LegalSRepo 485 (referring to 'bargaining naughtiness as "procedural unconscionability," and to evils in the resulting contract as "substantive unconscionability."')

[939] A contract of adhesion is a 'standardized contract, which, imposed and drafted by the party of superior bargaining strength, relegates to the subscribing party only the opportunity to adhere to the contract or reject it.' (*Comb v PayPal Inc* [n880] 1172).

[940] ibid.

[941] ibid.

[942] *Davidson & Associates Inc (Blizzard) v Internet Gateway* 334 FSupp2d 1164, 1179 (ED Mo 2004).

[943] ibid 1172.

[944] ibid 1179-80.

[945] ibid 1179.

[946] ibid.

[947] ibid 1180.

[948] ibid.

[949] *Battle.NetToU (2004)*, c13 ('This agreement shall be governed by and construed in accordance with the laws of

doctrine of unconscionability would have been applicable not only to US users but also to other users in the world.[950] More likely to be regarded as unwitting members of the general public rather unfamiliar with the language used in the Contract, users may still be surprised that they shall not have any (property) rights in *their* VAs and that the operator may change the properties of *their* VAs, delete them and terminate the Contract at its sole discretion.[951] Whilst beginner users may still have an initial *choice* to accept these one-sided terms of the Contract or be excluded from the VW altogether,[952] more advanced users who have already spent some time in the VW may not as easily choose to terminate a 'new' Contract.[953] They would not only lose the ability to capitalise on their past investments of time, effort, and money, but they would also lose their social connections within the VW.[954] Considering the absence of a meaningful choice,[955] the operator's superiority of bargaining power,[956] and the fact that the typical Contract is a contract of adhesion,[957] there is thus some reason to believe that the typical Contract might be held procedurally unconscionable.

Moreover, US courts should find the restriction-of-rights clauses substantively unconscionable, if the terms unduly favour one party[958] or if the 'disputed provision of the contract falls outside the "reasonable expectations" of the nondrafting party'.[959]An obligation to transfer/waiver of (future) (property) rights as well as a mere limited *right to use*, *to exclude* others from and *to transfer* VAs[960] may 'shock the conscience' if the operator can change the properties of VAs,

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the State of California, without giving effect to any principles of conflicts of law.')

[950] Subch6.2.3; 3.2 (quoting *SLToS*, c11.5[para1]). cf subch6.2.2 (European users).

[951] Generally *A&M Produce Co v FMC Corp* 135 CalApp3d 473, 486-87 (1982).

[952] n54.

[953] *BlzdEULA(US)*, c9(A)(i) ('Blizzard may create updated versions of this Agreement [each a "New Agreement"] as its business and the law evolve.'); (ii) ('This Agreement will terminate immediately upon the introduction of a New Agreement. [...] You will be given an opportunity to review the New Agreement before choosing to accept or reject its terms.')

[954] Balkin, 'Law and Liberty in Virtual Worlds' (n375); Taylor, *Play Between Worlds: Exploring Online Game Culture* (n73) 135; Sal Humphreys, 'Commodifying Culture: It's not just about the Virtual Sword' (Other Players, Copenhagen, Denmark, 6-8 December 2004).

[955] *Williams v Walker-Thomas Furniture Co* (n937); *Telecom International America Ltd v AT & T Corp* 280 F3d 175, 194 (2d Cir 2000).

[956] *A&M Produce Co v FMC Corp* (n951) 473ff.

[957] *Wheeler v St Joseph Hospital* 63 CalApp3d 345, 356 (1977).

[958] *John Deere Leasing Co v Blubaugh* 636 FSupp 1569, 1573 (D Kan 1986); *American Software Inc v Melane ALI* 46 CalApp4th 1386, 1391 (1996); *William N Stirlen v Supercuts Inc* 51 CalApp4th 1519, 1532 (1997); *24 Hour Fitness Inc v Superior Court* 66 CalApp4th 1199, 1213 (1998); *Davidson & Associates Inc (Blizzard) v Internet Gateway* (n942) 1180.

[959] *Gutierrez v Autowest Inc* 7 CalRptr3d 267, 275 (Call App 2003). See also *C&J Fertilizer Inc v Allied Mutual Insurance Co* 227 NW2d 169, 177 (Iowa 1975); Craswell, 'Property Rules and Liability Rules in Unconscionability and Related Doctrines' (n54) 27 (noting that whereas the reasonable expectations doctrine was originally applied to insurance contracts, it is increasingly being applied 'to other standard form contracts as well'); Meehan, 'Virtual Property: Protecting Bits in Context' (n54) 14ff (substantive unconscionability and reasonable expectations); Chelsea King, 'Forcing Players to Walk the Plank: Why End User License Agreements Improperly Control Players' Rights regarding Microtransactions in Video Games' (2017) 58 WmMLRev 1365 (reasonable expectations doctrine).

[960] The 'most essential sticks in the bundle of rights that are commonly characterized as property' (*Kaiser Aetna v US* [n276] 176).

seize them and terminate the Contract with the user for 'any reason, or for no reason',[961] at its sole discretion, granting the user limited remedies but no refund, even when the user has made significant investments of time, effort, and money or paid subscription fees for Services not supplied yet.[962]

To answer the more important question whether a denial of (property) rights and a prohibition of RMT[963] may be unreasonably favourable to the operator,[964] one might also want to evaluate and compare the different interests of the parties:

Investing up to hundreds of millions of US Dollars in the creation of the VW operators will mainly be interested to run a successful Service, recover costs and earn money.[965] The vitality of VWs hereby often depends on continuous development, improvement and expansion, and every now and then some balancing and redress to unintentional side-effects.[966]

Considering the associated financial risks,[967] most operators would want to deny (property) rights and prohibit RMT not only to limit their liability for loss and damages arising out of, or in connection with the de-valuation, destruction or seizure of VAs, but also to keep *absolute* control over their creation (ie, to thwart any attempt to exploit their investments made and to take away their in-game revenues and to avoid VW imbalance and a glut of virtual currency).[968]

An unbalanced and possibly inflated VW without a real incentive for the users to invest more time and effort—when they might simply use money[969]—to advance in the VW may lose existing users and fail to attract new ones.[970] Of course, this will be different between VWs. Whilst RMT may destroy the game objective, lead to competitive disadvantage and diminished experience in MMOGs, a *proper* economy may be just that what a metaverse needs to thrive.[971]

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[961] Sheldon, 'Claiming Ownership, but Getting Owned: Contractual Limitations on Asserting Property Interests in Virtual Goods' (n268) 769-79 (describing *WoW's* '[p]articularly aggressive [...]' practice of terminating User accounts).

[962] Subch6.4.2.

[963] *Kaiser Aetna v US* (n276) 176.

[964] Subchs4.4.2; 4.4.3.

[965] n49.

[966] Eg, new, or more powerful armour could make existing weaponry useless.

[967]

[968] n50 (in-game revenue); subch4.4.4 (imbalance). See Dibbell, *Play Money: Or, How I Quit My Day Job and Made Millions Trading Virtual Loot* (n214) 48 (inflation); Dibbel, 'Owned! Intellectual Property in the Age of eBayers, Gold Farmers, and Other Enemies of the Virtual State - Or, How I Learned to Stop Worrying and Love the End-User License Agreement' 141 ('The cash market for gold drove the gold farmers, and the gold farmers drove hyperinflation within the game [...]').

[969] Subch5.4.

[970] See Raph Koster, 'Declaring the Rights of Players' (*Raph Koster's Website,* 27 August 2000) <www.raphkoster .com/gaming/playerrights.shtml> accessed 17 November 2018 ('[T]he common good is that which increases the population of a [VW] without surrendering core social tenets or mores.'); Phillip Stoup, 'The Development and Failure of Social Norms in Second Life' (2008) 58 Duke LJ 311 ('The optimal mix between code-created rules and real-world regulations could be determined by finding the "mix that provides optimal protection at the lowest cost."' [citing Lessig, *Code Version 2.0* (n860) 169]).

[971] Eg, *SL*. Subch6.4 (discussing the two conflicting interests faced by operators such as MindArk and Linden Lab, [1] to restrict rights, title and interest, whilst [2] permitting RMT to allow for a *proper* economy).

Often fewer users are interested in RMT than in a well-balanced VW.[972]

Comparing the *different* interests of the parties, there may be a good reason for an imbalance of the parties' rights and obligations,[973] but an imbalance caused by inconsistency between the Contract terms and the operator statements—raising false expectations in the users—is completely different. To exemplify, this thesis further contrasts the Contracts of *Second Life*, *World of Warcraft*, and *Entropia Universe*[974] with the promotional material used by Linden Lab, Blizzard and MindArk to advertise the VW.

In particular the website of *Entropia Universe* seems flawed with inconsistencies, but since Entropia Universe is governed by Swedish law, this examination follows in sub-chapter 6.4.2.[975]

Not before long though, Linden Lab too used some rather *misleading* advertisement on its website such as 'Make real money in a virtual world. That's right, real money;'[976]

> There are as many opportunities for innovation and profit in Second Life as in the Real World. Open a nightclub, sell jewelry, become a land speculator; the choice is yours to make. Thousands of residents are making part or all of their real life income from their Second Life Businesses[,][977]

and even after that Linden Lab strongly encouraged RMT. For example, the *What Is Second Life?* page stated:

> Virtual Jobs—Virtual job opportunities in Second Life abound. There are full time dancers, models, bouncers, architects, fashion designers, psychologists, event planners and DJs, to name a few.
>
> Open a Store—Unleash your inner entrepreneur: open a store in Second Life. Fashion boutiques, car dealerships, hotels, even amusement parks—you'll find them all here. Launch any business you can dream of—not only is it fun, it can be profitable.
>
> Sell Virtual Land—Become a land baron. Buy land, develop property, manufacture mansions and sell, sell, sell! Second Life's most successful land baroness even landed on the cover of Business Week.[978]

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[972] Of course, this qualification will always be subject to an individual VW study.

[973] Eg, James R Maxeiner, 'Standard-Terms Contracting in the Global Electronic Age: European Alternatives' (2003) 28 YaleJL &Tech 109, 121 (fn69) (stating that the number of unconscionability cases 'is in the tens or hundreds rather than in thousands or higher'); Robert L Oakley, 'Fairness in Electronic Contracting: Minimum Standards for Non-Negotiated Contracts' (2005) 42 HousLRev 1041, 1064 ('Although unconscionability is an available doctrine and is occasionally used, in fact the number of cases in which it has actually been found is relatively small.')

[974] nn155; 334; 840.

[975] Since *EU* is governed by Swedish law (subch6.2.3) this examination follows in subch6.4.2.

[976] *Second Life*, whatis – The Marketplace (Linden Lab, 'Second Life: The Marketplace [2008]' [*Internet Archive WayBackMachine,* 18 February 2008] <https://web.archive.org/web/20080218181111/http://secondlife.com/whatis/marketplace.php> accessed 17 November 2018).

[977] Linden Lab, 'Second Life: Business Opportunities' (*Internet Archive WayBackMachine,* 29 January 2009) <https://web.archive.org/web/20090129233656/http://secondlife.com/whatis/businesses.php> accessed 17 November 2018.

[978] Linden Lab, 'What Is Second Life? - Make Money' (*Internet Archive WayBackMachine,* 8 June 2012) <https://web.archive.org/web/20120419124055/http://secondlife.com:80/whatis/?lang=en-US> accessed 17 November 2018.

This advertisement contradicted *Second Life's* ToS which do not acknowledge property rights other than copyright in UGC. However, times have changed, various disputes have been fought and temporarily Linden Lab stopped using such advertisement.[979] But not for long, in its current advertising campaign, Linden Lab returned to its previous inconsistency.

> Business [one tile of many on the Second Life homepage]: Start a virtual business and earn real profits. Last year, roughly $60 million (USD) was paid out to creators![980]
>
> Earn Real Profits in the Virtual World: Are you Second Life's next millionaire?
> Ways to make money in Second Life:
> - Become a Merchant
> - Become a Landlord
> - Create Experiences
> - Get a Job or a Gig[981]

In contrast *World of Warcraft* is rather consistent. Blizzard completely avoids any language in its advertising materials or in the Contract (including the *Blizzard Terms of Sale [US]*[982]), that might imply a virtual economy or that might imply that any of the VAs in *World of Warcraft* might have actual value outside the VW (thereby building a magic circle[983]). While it is still

[979] In its early days Linden Lab stated on its homepage: 'SECOND LIFE IS AN ONLINE, 3D VIRTUAL WORLD, IMAGINED, CREATED AND OWNED BY ITS RESIDENTS'; but sometime after *Bragg* (alleging violations of California consumer protection laws, and other related tort and contract claims [*Bragg v Linden Research Inc* (n56) 597 (fn8)]) Linden Lab removed the word 'owned', so that the statement became: 'SECOND LIFE IS AN ONLINE, 3D VIRTUAL WORLD, IMAGINED AND CREATED BY ITS RESIDENTS'. Only a few years later, after *SL* users brought class action against Linden Lab (*Evans v Linden Research Inc* [n56]; Inara Pey, 'Evans et al vs Linden Lab – L$43 Million Settlement' [*Inara Pey - Living in a Modemworld,* 30 June 2013] <https://modemworld.me/2013/06/30/evans-et-al-vs-linden-lab-l43-million-settlement/> accessed 17 November 2018) alleging – once again – violations of California consumer protection laws, and other related tort and contract claims because Linden Lab continued to represent that users own virtual items and that L$ are a valid currency, but at the same time withdrew such representations setting out in the then current *SLToS* that virtual goods and L$ are a 'limited license' and/or 'virtual token' and Linden Lab is the owner (Linden Lab, 'SLToS [2010]' [15 December 2010] <https://web.archive.org/web/20121006173958/http://secondlife.com/corporate/tos.php?lang=en-US> accessed 5 November 2010); Linden Lab temporarily stopped its misleading advertisements (Linden Lab, 'What is Second Life?' [*SecondLife.com,* nd] <http://secondlife.com/whatis/> accessed 17 November 2018 [referring to 'Exploring and Discovery', 'Filled with Friends', 'Self-Expression', 'Endless Fun', and 'Artistic Bliss' but not to making actual money]).

[980] <http://secondlife.com>.

[981] Linden Lab, 'Second Life: Earn Real Profits in the Virtual World: Are You Second Life's next Millionaire? Ways to Make Money in Second Life' (*SecondLife.com,* nd) <http://go.secondlife.com/landing/business/?lang=en> accessed 17 November 2018; cf Linden Lab, 'Second Life Community: Selling Objects' (*SecondLife.com,* nd) <https://community.secondlife.com/knowledgebase/english/selling-objects-r64/> accessed 17 November 2018; Linden Lab, 'Second Life: Marketplace' (n32). Without a (contractual) *right to use*, *to exclude* and *to transfer* (that are also the 'most essential sticks in the bundle of rights that are commonly characterized as property' [*Kaiser Aetna v US* (n276) 176]), the user would not be able to *sell* objects and items in *Second Life* (*SLT&Cs*, cc3.1[para2]; 3.4[para2] [transfer of Linden Dollars and 'Virtual Land License(s)]'). Subchs4.2; 8.1.2; 9.2.

[982] Before players can buy objects in the Blizzard Shop, they have to agree to the *BlzdEULA(US)* and *Blizzard Terms of Sale (US)*. The *Blizzard Terms of Sale (US)* may not expressly state that the player does not become the owner of the object he/she purchases, but they have to be read together with the restrictive *BlzdEULA(US)*. See also c1 of the *Blizzard Terms of Sale (EU)* ('The use of Digital Content or a Service is also governed by the Battle.net End User License Agreement, any other end-user license agreements and/or any other terms of use and/or terms of services presented to you during the ordering process.')

[983] Subch9.2.6.

forbidden to 'purchase, sell, gift or trade any Account',[984] to 'transfer your rights and obligations to use the Platform [including, but not limited to, visual components, narrations, characters, items and computer code[985]]', or 'sell, sublicense, rent, lease, grant a security interest in or otherwise transfer any copy of the Platform or component',[986] Blizzard itself has begun to *sell* objects in the Blizzard Shop,[987] to offer a *WoW* Token system (to purchase gold pieces);[988] and to allow players to trade/buy objects and items for gold pieces in the *WoW* Auction House[989] or from NPC vendors.[990] This does not necessarily mean that there is some inconsistency between the terms of the Contract and the operator statements but that the previously strong magic circle of *World of Warcraft* is becoming weaker.

Moreover, the examined restriction-of-rights clauses in the *Second Life* Contract arguably falls outside of the reasonable expectations of the users.[991] Whilst it may be difficult or impossible to fully determine what would constitute the reasonable expectations of the users (and which would—if unmet—favour a finding of substantive unconscionability[992]), one might assume that every user will reasonably expect that the operator will not change the properties of *their* VAs, delete them and terminate the Contract arbitrarily.[993] If Linden Lab would like to encourage investment (of time, money and effort), it should not be entitled to create a false sense of security and avoid any real responsibility (against the user's reasonable expectations) but rather it should equip the users with the necessary rights to realise those expectations.

Considering that 'unconscionability is an available doctrine[,] (...) occasionally used, [but that] in fact the number of cases in which it has actually been found is relatively small',[994] it is not certain that a US court would find the restriction-of-rights clauses in the *Second Life* Contract substantively unconscionable. But based on the arguments above, this author argues that a US court should hold them substantively unconscionable.[995]

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[984] *BlzdEULA(US)*, c2(A)(vii).
[985] *BlzdEULA(US)*, c2(A)(i); (v).
[986] *BlzdEULA(US)*, c1(C)(x). Similar *FNEULA*, c4; *FNToS*, para5 ('Intellectual Property Rights') ('The Services, including all content, features, and functionality thereof, are owned by Epic, its licensors, or other providers of such material and are protected by United States and international copyright, trademark, patent, and other intellectual property or proprietary rights laws.')
[987] *Blizzard, 'Blizzard Shop: WoW Token'* (n32).
[988] n32.
[989] WoWWiki, 'Auction House' (n32).
[990] Appendix D2.
[991] n959.
[992] *Gutierrez v Autowest Inc* (n959) 275; *C&J Fertilizer Inc v Allied Mutual Insurance Co* (n959) 177. See generally SM Waddams, 'Good Faith, Unconscionability and Reasonable Expectations' (1995) JConL 55, 57 (noting that 'In common law systems it often occurs that the same problem is dealt with by a variety of different techniques, under different names.')
[993] Generally *A&M Produce Co v FMC Corp*.
[994] Oakley, 'Fairness in Electronic Contracting: Minimum Standards for Non-Negotiated Contracts' (n973) 1064.
[995] *ProCD Inc v Zeidenberg* (7th Cir 1996) (n906) 1449. See also Meehan, 'Virtual Property: Protecting Bits in Context' (n54) 14ff; 18; King, 'Forcing Players to Walk the Plank: Why End User License Agreements Improperly Control Players' Rights regarding Microtransactions in Video Games' (n959) (reasonable expectations).

In similar cases courts have usually confined their attention to the unconscionable clauses themselves,[996] but sometimes refused to enforce entire contracts[997] and occasionally even included additional terms.[998] The US courts should therefore 'enforce the remainder of the [*Second Life*] [C]ontract without the unconscionable [restriction-of-rights] clause[s], or (...) limit [their] application (...) as to avoid any unconscionable result.[999]

6.4.2 European Law: Significant Imbalance in Rights and Obligations

Similar to *Entropia Universe* users from the United States (subject to Swedish law),[1000] users in the United Kingdom (subject to UK law) and Germany (subject to German law) are asked in the Contract to transfer or waive any emerging property rights,[1001] or simply to acknowledge that all future property rights will belong exclusively to the operator.[1002]

The widespread restriction-of-rights clauses are examined in accordance with the Unfair Contract Terms Directive (**UCT Directive**).[1003] According to UCT Directive, Art 3(1), 'A

[996] *Vaughan v Kizer* 400 SW2d 586, 589 (Tex App 1966) ('Whether a given contract is reasonable as to time and area are not questions of fact, but are questions of construction under the evidence, and therefore questions of law for determination by the court.') See generally Leff, 'Unconscionability and the Code: The Emperor's New Clause' (n938) (discussing the unconscionability of single contractual provisions).

[997] *American Home Improvement Inc v Morris J MacIver* 201 A2d 886 (NH 1964). cf Peter Apostal, 'Sales - Unconscionable Contract or Clause - Uniform Commercial Code' (1966) 15 DePaulLRev 499, 506 ('Contracts should be held intact where the intent of the parties clearly manifests a desire to enter into such an agreement. To declare an entire contract unenforceable due to one insignificant unconscionable clause is certainly as unjust and inequitable as permitting enforceability of that single clause.')

[998] *Vasquez v Glassboro Services Association Inc* 83 NJ 86, 105 (NJ 1980) (holding that because of the unconscionability of a contract that provides for housing of migrant worker, 'public policy requires the implication of a provision for a reasonable time to find alternative housing'). cf *Brown v Devine* 402 SW2d 669, 672 (Ark 1966) ('pointing out that courts have no authority to vary the terms of a written agreement, for to do so would simply he to make a new contract between the parties').

[999] n936. See also *BlzdEULA(US)*, c13(F); *SLToS*, c11.4(para3) (severance); Omri Ben-Shahar, 'Fixing Unfair Contracts' (2011) 63 StanLRev 869 (discussing whether the unconscionable term should be replaced by [1] the 'most reasonable term', [2] a 'punitive term, strongly unfavorable to the overreaching party', or [3] a 'minimally tolerable term, which preserves the original term as much as tolerable'). But bearing in mind that there are only two options, the users may, or they may not claim (property) rights in accumulated operator and user-generated content, this question does not have to be answered.

[1000] Subch6.2.3 (on the applicability of Swedish/European law on *EU* users from California).

[1001] **UK law** allows for the assignment of future copyright (CDPA, s91); but ascertainable future physical property (and contractual) rights may only be assigned for valuable consideration in equity, treated as a contract to assign in the future if, and when, the right comes into existence (*Holroyd v JG Marshall* [1862] 11 ER 999 [HL]; *Tailby v Official Receiver* [1888] 13 AppCas 523 [HL]; Oshley Roy Marshall, *The Assignment of Choses in Action* [2 edn, Pitman 1950] 99). **German law** allows for the assignment of ascertainable future physical property rights (anticipatory *constitutum possessorium*; BGB, ss 868, 930); future *right of use* (UrhG, s40 [the German author's right itself is not assignable]; see also Rudolf Kraßer, 'Verpflichtung und Verfügung im Immaterialgüterrecht' [1973] GRURIntlT 231); and future contractual rights (*Vorausabtretung von Forderungen* Decision from 25 October 1952 - I ZR 48/52, NJW 1953, 21 [BGH]; Putzo [ed], *Palandt Bürgerliches Gesetzbuch* s398, para11). **Swedish law** is also likely to allow for the assignment of ascertainable future copyright, physical property and contractual rights, treated as a contract to assign in the future if, and when, the right comes into existence (see Swedish Act on Copyright in Literary and Artistic Works, s27 [stating that '(p)rovisions governing the transfer of copyright in certain specific cases are included in sections 30–40a (but that they) only (apply) in the absence of an agreement to the contrary']; Charlotta Emtefall, Anders Hellström and Jim Runsten, 'Outsourcing: Sweden Overview' [*Thomson Reuters: Practical Law,* 1 April 2018] <https://uk.practicallaw.thomsonreuters.com> accessed 17 November 2018).

[1002] Whilst a waiver of property rights is possible under UK and Swedish law it may not be as easily justified under German law. An *acknowledgement* of the operator's exclusive rights, however, may still be understood as a *pactum de non petendo* (Putzo [ed], *Palandt Bürgerliches Gesetzbuch* s205, para2).

[1003] According to Rome I, Art6(1), Swedish, UK or German law would be applicable. But this is only a simplified

contractual term which has not been individually negotiated shall be regarded as unfair if, contrary to the requirement of good faith, it causes a significant imbalance in the parties' rights and obligations arising under the contract, to the detriment of the consumer.'[1004]

The Directive contains an Annex with 'an indicative and non-exhaustive list of terms which may be regarded as unfair' in a consumer contract.[1005] According to that Annex, any term which has the object or effect of permitting/enabling the operator 'to retain the sums paid for [S]ervices not yet supplied (...) where it is the [operator itself which] dissolves the [C]ontract',[1006] 'to alter the terms of the [C]ontract unilaterally without a valid reason which is specified in the [C]ontract'[1007] (or valid consent[1008]), or 'to alter unilaterally without a valid reason any characteristics of the product or [S]ervice to be provided'[1009] may be unfair and unenforceable. But the more important question for this research will be[1010] whether an imbalance in rights caused by inconsistency may result in the invalidity and unenforceability of those clauses in the Contract denying (property) rights and prohibiting RMT.[1011] Further to the earlier discussion on US law,[1012] one might contrast the *Entropia Universe* Contract with the promotional material used by MindArk to advertise the VW.

For example, according to its website *Entropia Universe* provides a 'Real Cash Economy',[1013] *sells* 'Land Deeds', 'Land Areas', 'Estates',[1014] as well as other objects[1015] and its virtual

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account and Council Directive (EEC) 93/13 of 5 April 1993 on Unfair Terms in Consumer Contracts [1993] OJ L95/29 [in subsequent footnotes use: **UCT Directive**], Art3(1) was implemented in the UK, Germany and Sweden with the same/similar content by adopting/amending CRA, ss62-63; BGB, ss305ff; and the Swedish Consumer Contracts Act (1994: 1512), ss10ff to be read together with the Swedish Act on Contracts and other Legal Documents on Wealth and Commercial Matters (1915:218), s36(1). See n160 (on the interpretation of national law in accordance with the UCT Directive).

[1004] UCT Directive, Art3(1).

[1005] UCT Directive, Art3(3) refers to the Annex (Anx). See subch6.2.2 (definition of consumer).

[1006] UCT Directive, Art3(3), Anx1(f). See *SLToS*, c4.4; *EUAToU*, c5.4(para3).

[1007] UCT Directive, Art3(3), Anx1(j). *SLToS*, c4.3(para2); *EUEULA*, c18 ('MindArk's Right to Change the Agreement'); *EUAToU*, c18.2.

[1008] *Felthouse v Bindley* (1862) 11 CB (NS) 869 (CCP); *Zulässigkeit des Substraktionsverfahrens bei Wohnungs-eigentümern und AG-Hauptversammlungen* Decision from 19 September 2002 - V ZB 37/02, NJW 2002, 3629 (BGH); *Formularmäßige Vereinbarung des Zustandekommens eines Vertrages bei vierwöchigem Schweigen des Verkäufers auf das Angebot* Decision from 28 December 2004 - I 21 U 68/04, NJW 2005, 1515 (OLG Düsseldorf); BGB, s308(5).

[1009] UCT Directive, Art3(3), Anx1(k). See *SLToS*, c1.2 ('as it sees fit at any time without notice'); *EUEULA*, c3(para13) ('at any time and at MindArk's sole discretion'); contra *WoWEULA(EU)*, c9 ('[Blizzard] shall have the right to deploy or provide patches, updates and modifications to the Game, as needed or as useful to: [i] enhance the gaming experience by adding new content to the Game, [ii] incorporating new features to the Game, [iii] enhancing content or features already in the Game; [iv] fixing 'bugs' that may be altering the Game; and [v] determining how you and other players utilize the Game so that the Game can be enhanced for the enjoyment of the Game's users; and [vi] protect you and other players against cheating; and [vii] make the gaming environment safer for you.')

[1010] Subch6.4.1.

[1011] Subchs4.4.2; 4.4.3.

[1012] Subch6.4.1.

[1013] MindArk, 'Entropia Universe: More than a Game' (*EntropiaUniverse.com,* nd) <www.entropiauniverse.com /entropia-universe/> accessed 17 November 2018; MindArk, 'Real Cash Economy Experience' (*EntropiaUniverse.com,* nd) <www.entropiauniverse.com/> accessed 17 November 2018..

[1014] PlanetCalypso.com, 'Investments' (nd) <www.planetcalypso.com/opportunities/> accessed 17 November 2018 (Mindark periodically creates new areas in *EU* and auctions control of them to the general public).

[1015] Objects in *EU* are *sold* through Trade Terminals (EntropiaDirectory.com, 'Trade Terminal' [n32]), Auction

currency Project Entropia Dollars (**PED**)[1016] to its users, charges PED to auction objects and to *repair* unlimited equipment as it *degrades* over time.[1017]

MindArk clearly emphasises that users are spending actual money with every action they take and that the rewards are worth actual money.[1018] Indeed, the opportunity to earn actual money is used in *Entropia Universe* to promote the Services, as some chosen examples of *Entropia Universe's* websites may illustrate:

> More than a Game: The Universe[.] Entropia Universe is an advanced 3D online virtual environment with (...) one universal Real Cash Economy system.[1019]

Subsequent pages are even more explicit:

> Entropia Universe is a unique blend of online-based entertainment, e-commerce and social interaction where participants from all over the world can meet and participate in a variety of activities that provide them with the potential for earning money while they play.[1020]
>
> The Entropia Universe even has its own currency, [PED] that is pegged to the US Dollar and MindArk guaranteeing the value.[1021]
>
> The Entropia Universe currency [PED], has a fixed exchange rate of 10:1 with the US Dollar. 10 PED = 1 US$. PED is used to purchase a vast range of items for your avatar including equipment, clothing, property and more. Deposit real funds to acquire PED. You can also withdraw accumulated PED to your real world bank account.[1022]

Houses or Auctioneers (EntropiaDirectory.com, 'Auction' [n32]); MindArk, 'Entropia Universe: Auction & Trade' (*EntropiaUniverse.com,* nd) <https://account.entropiauniverse.com/support-faq/in-game-issues/auction-and-trade/> accessed 17 November 2018) and the *EU* Webshop (MindArk, 'Entropia Universe: Webshop' [n763]). See also Alice, 'Basic Trading Tutorial' (n32); Appendix D.

[1016] MindArk, 'Entropia Universe (2008)' (*Internet Archive WaybackMachine,* nd) <http://web.archive.org/web/20080513180758/http://www.mindark.com/entropia-universe/> accessed 17 November 2018 ('Entropia Universe's income base are the fees that users pay for acquisition and repair of the different assets and objects that the user chooses to use in-world.') Please note that this particular *Entropia Universe* webpage has been taken down, however, there is no reason to believe that the business model has been changed. See also EntropiaPlanets.com Wiki, 'About Making Money in Entropia Universe' (12 July 2016) <www.entropiaplanets.com/wiki/About_Making_Money_in_Entropia_Universe> accessed 17 November 2018; SamusAran, 'Entropia Universe - A Guide for Newbs by a Newb' (*HubPages.com,* 21 June 2016) <http://hubpages.com/games-hobbies/My-Exploration-Of-Free-To-Play-MMOs-Entropia> accessed 17 November 2018.

[1017] All objects in *EU* (other than resources) degrade with use but in contrast to unlimited objects, limited objects cannot be repaired (Thanatos, 'Noob Tutorial' [*CyreneSecrets.com,* 31 August 2013] <http://cyrenesecrets.com/noobtutorial/> accessed 17 November 2018).

[1018] MindArk, 'Entropia Platform (Project Entropia Dollars [PED] that Is Pegged to the US Dollar and MindArk Guaranteeing the Value)' (*Entropiaplatform.com,* nd) <www.entropiaplatform.com/entropia-platform/> accessed 17 November 2018) (PED is convertible to USD and vice versa), and may be withdrawn to the user's bank account using a fixed exchange rate (MindArk, 'Withdrawals Information [Fixed Exchange Rate]' [n32]).

[1019] MindArk, 'Entropia Universe: More than a Game' (n1013).

[1020] MindArk, 'Entropia Universe (Earning Money While Playing)' (*Entropiaplatform.com,* nd) <www.entropiaplatform.com/3d-internet/> accessed 17 November 2018.

[1021] MindArk, 'Entropia Platform (Project Entropia Dollars [PED] that Is Pegged to the US Dollar and MindArk Guaranteeing the Value)' (n1018).

[1022] MindArk, 'Withdrawals Information (Fixed Exchange Rate)' (n32).

> Think Future - Invest in your Avatar! (...) You are in control how much you wish to invest in your virtual life.[1023]

In contrast to its advertisement, however, *Entropia Universe's* Contract clearly states that 'MindArk (...) retains all rights, title, and interest in all parts including, but not limited to Avatars, Skills and Virtual Items [and that users will only be granted] the licensed *right to use* a certain feature of the Entropia Universe in accordance with the [Contract]',[1024] and that MindArk may terminate the Contract 'for any reason' and at 'MindArk's sole discretion'.[1025] Although this inconsistency may be lessened by MindArk's offer to 'refund (...) the TT value[1026] of the objects on the Account' in the event of account termination, that inconsistency does not disappear.[1027] Noting that the TT value in *Entropia Universe* only represents the nominal value but not the higher market value of objects,[1028] MindArk does not seem to live up to its promises made in the advertisement.[1029]

Users may 'invest in [their] Avatar[s]' to participate in the offered 'Real Cash Economy system' and 'to earn real while they play', but without property rights in *their* objects or at least a contractual right to sub-licence,[1030] they will not have *anything* to *sell* in *Entropia Universe*.[1031] Considering the significant imbalance in the parties' rights and obligations caused by

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[1023] ibid.

[1024] *EUEULA*, c2(para3); 11(para1).

[1025] *EUEULA*, c17(paras1, 2) (emphasis added) (referring to any breach of the agreement).

[1026] The nominal value of the object as listed on the *EU* Trade Terminal. EntropiaDirectory.com, 'TT Value' (nd) <www.entropiadirectory.com/wiki/tt_value/> accessed 17 November 2018. The aggregate nominal value of an object with different components is the total nominal value of the components included.

[1027] *EUAToU*, c5.4(para3). Similarly, *Comb v PayPal Inc* (n880) 1173 (finding a lack of mutuality where the user agreement allowed 'PayPal "at its sole discretion" [to] restrict accounts, withhold funds, undertake its own investigation of a customer's financial records, close accounts, and procure ownership of all funds in dispute unless and until the customer is "later determined to be entitled to the funds in dispute"').

[1028] nn1026; 35ff (eg, market values of up to $6 million). See EntropiaLife.com, 'How to Make Money in Virtual World Trading' (nd) <http://universe.entropialife.com/earn-money/trading.aspx> accessed 17 November 2018; Planet-Calypso.com, 'Tradings Basics & terminology' (nd) <www.planetcalypso.com/guides/business-trade/trading/> accessed 17 November 2018.

[1029] EntropiaDirectory.com, 'TT Value' (n1026).

[1030] *EUEULA*, c2(para3) ('Despite the similarity in terminology, all Virtual Items, including virtual currency, are part of the Entropia Universe System [...] and MindArk [...] retains all rights, title, and interest in all parts including, but not limited to Avatars, Skills and Virtual Items. [...] You expressly acknowledge that all terms like "exchange of", "trade with", "purchase of", "sale of" or "use of" Virtual Items, and all similar terms in context of transactions with Virtual Items, refers to the licensed right to use a certain feature of the [...] Entropia Universe System in accordance with the terms and conditions of this agreement.'); c2(para4) ('MindArk hereby grants You a non-transferable, non-exclusive, worldwide and perpetual right [without the right to sublicense] to download, display and use Entropia Universe [...]'); c2(para6)(4) ('No transfer of license. The Participant may not sell, lease, sublicense or otherwise transfer any rights to the Entropia Universe System to third parties.'); c11 ('You expressly acknowledge that You do not obtain any ownership right or interest in the Virtual Item You "create" but all such terms refer to the licensed right to use a certain feature of the Entropia Universe System [...] in accordance with the Terms and conditions of this agreement. For clarity, MindArk [...] retains all rights, title and interest to all Virtual Items You create in-world.')

[1031] *EUEULA*, c10(para3) ('MindArk acknowledges the responsibility to maintain records on all transactions with Virtual Items via MindArk's Approved Transaction systems.') cf Joshua AT Fairfield, 'Bitproperty' (2015) 88 SCalLRev 805 (describing property as information of 'who owns what' stored in a system of lists and ledgers). Perhaps MindArk's lawyers have thought of such a ledger system when drafting the Contract but a ledger system where the operator is one of the participants and acts as a centralised entity serving as a trusted list curator does not seem to work.

inconsistency, there is therefore some reason to believe that the courts will and should consider the restriction-of-rights clauses in the *Entropia Universe* Contract unenforceable. Similar to this author's findings on unconscionability/reasonable expectations under US law, the restriction-of-rights clauses in the *Second Life* Contract are also likely to be, and indeed should be, considered unenforceable by European courts.

Comparing the UCT Directive with the previously examined US doctrine of unconscionability[1032] one might not only find that European law easily thwarts the enforceability of the restriction-of-rights clauses in the *Entropia Universe* and *Second Life* Contracts[1033] but also that Member States are asked to ensure that 'adequate and effective' means exist to prevent the continued use of unfair contract terms in the Contract,[1034] ie, that the consumer must be returned to the legal and factual situation that he would have been in if that unfair contract term had not existed (replacing an unfair term with a different, modified one is not possible[1035]).[1036] A claim for damages would be possible.[1037] Using unconscionable terms would be less damaging to the operator. [1038] Whilst a US court may refuse to enforce the entire Contract, or refuse to enforce or limit the application of an unconscionable term,[1039] the operator will often obtain the best possible Contract,[1040] and better if other provisions that might have been struck down are not themselves litigated.[1041] Also US courts have declined to entertain damage suits based on unconscionability.[1042]

[1032] Subch6.4.1.

[1033] The UCT Directive aims to set a minimum standard for consumer protection, with member states free to adopt or retain more stringent provisions to 'ensure a maximum degree of protection for the consumer' (UCT Directive, Art8).

[1034] UCT Directive, Art7.

[1035] If a restriction-of-rights clause in the Contract is invalid, illegal or unenforceable, a court may NOT hold that the clause shall be deemed modified to the minimum extent necessary to make it valid, legal and enforceable (CRA, s62[1]; BGB, s307[1]; Bassenge, Heinrichs and Thorn [eds], *Palandt* [n863] Vorbv§307[fn8] ['Verbot einer geltungserhaltenden Reduktion']). cf n998 (US law).

[1036] Joined Cases C-154/15, C-307/15 and C-308/15 *Naranjo v Cajasur Banco SAU, Martinez v Banco Bilbao Vizcaya Argentaria SA and Banco Popular Espanol SA v Lopez and Andreu* ECLI:EU:C:2016:980 (holding that if a term is unfair the consumer must be returned to the legal and factual situation that he would have been in if that term had not existed). See also CRA, s62(1) ('An unfair term of a consumer contract is not binding on the consumer.'); BGB, s306(1) ('If standard business terms in whole or in part have not become part of the contract or are ineffective, the remainder of the contract remains in effect.'); s306(2) ('To the extent that the terms have not become part of the contract or are ineffective, the contents of the contract are determined by the statutory provisions.')

[1037] See for example on German law, *Fertighaus* Decision from 28 May 1984 - III ZR 63/83, NJW 1984, 2816 (BGH); *Schadensersatzpflicht der Bank nach Kreditkündigung* Decision from 14 June 1994 - XI ZR 210/93, NJW 1994, 2754 (BGH); Bassenge, Heinrichs and Thorn (eds), *Palandt* (n863) §311(fn 41) (*culpa in contrahendo*).

[1038] Subch6.4.1. cf *Armendariz v Foundation Health Psychare Services Inc* (n880) 83ff; *Nagrampa v Mailcoups Inc* 469 F3d 1257, 1282 (9th Cir 2006); *Comb v PayPal Inc* (n880) 1165ff.

[1039] These provisions have been taken from UCC, s2-302 but are followed in R2K, s208 and other formulations of the unconscionability doctrine. See Farnsworth, *Contracts* (n341) §4.28.

[1040] Ben-Shahar, 'Fixing Unfair Contracts' (n999) 876 ('The standard criterion for filling gaps in contracts is to supply the most reasonable, majoritarian term.'); ibid 877 (discussing the possibility that the courts could also choose the most unfavourable term to replace an unconscionable term and punish the overreaching party).

[1041] Eg, in *Bragg* only the arbitration clause was struck down, other provisions were left intact (*Bragg v Linden Research Inc* [n56] 611-12).

[1042] *Cowin Equipment Co Inc v General Motors Corp* 734 F2d 1581, 1582 (11th Cir 1984) ('No case has been cited in which a damage award was based on an unconscionable contract.'); *Dean Witter v Reynolds Inc* 211 CalApp3d 758, 766 (Cal App 1989) (California's general statute on unconscionability 'merely codifies the defense of

6.4.3 Reliance / Promissory Estoppel

Noting the inconsistencies between the terms of the *Second Life* Contract and the Linden Lab statement on its website ('earn real profits'[1043]), one might also argue that a user's reasonable reliance on the promise of accumulated value—using promissory estoppel as a sword[1044]—may allow US courts to recognise (property) rights of the user in VAs.

A 'clear and definite' promise made by one party that another party relies on can be enforced on a theory of promissory estoppel,[1045] regardless of the existence or non-existence of a contract requiring the promise to be carried out.[1046] However, (1) a promise must have been made, (2) the promisor must have had reason to expect reliance on that promise, (3) the promise must have induced such reliance, and (4) circumstances must have been such that injustice can be avoided only by enforcement of that promise.[1047]

A statement that 'real profits' can be made in *Second Life* should be regarded as a promise rather than a mere prediction or statement of opinion,[1048] but it is questionable whether this promise is definite. One might agree that it is only possible for a user to 'earn real profits' as a 'merchant',[1049] if that user has (property) rights in the virtual object he/she is 'sell[ing]'.[1050] According to the *Second Life* ToS, a user shall,

> retain any and all Intellectual Property Rights [he/she] already holds[s] under applicable law in Content [he/she] upload[s], publish[es], and submit[s] to or through the Servers, Websites, and other areas of the Service, subject to the rights, licenses, and other terms of this Agreement, including any underlying rights of other users or Linden Lab in Content that [he/she] may use or modify.[1051]

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unconscionability').

[1043] nn980; 981.

[1044] In contrast to the laws of the UK (a shield, not a sword), promissory estoppel under US law may be used as a shield and a sword. See also R2K, s 90(1) ('A promise which the promisor should reasonably expect to induce action or forbearance on the part of the promisee or a third person and which does induce such action or forbearance is binding if injustice can be avoided only by enforcement of the promise. The remedy granted for breach may be limited as justice requires.')

[1045] eg, *D'Ulisse-Cupo v Board of Directors of Notre Dame High School* 520 A2d 217, 221 (Conn 1987) ('no problem with her teaching [...] the following year' and 'everything looked fine for her rehire' were 'neither sufficiently promissory nor sufficiently definite'). Indefinite promises are unenforceable (*Spooner v Reserve Life Insurance Co* 47 Wash2d 454 [1955]).

[1046] See R2K, s 90(1).

[1047] *Ricketts v Scothorn* 43 LRA 794 (Neb 1898) (outlining the requirements for a claim of promissory estoppel).

[1048] cf *Major Mat Co v Monsanto Co* 969 F2d 579, 583 (7th Cir 1992) ('you can rest assured that we will have an unending supply of remnants' was characterised not as a promise to the buyer but as 'a mere expression of opinion or prediction concerning the future availability of [...] remnants'). A promise is a manifestation of intent by the promisor to be bound, and is to be judged by an objective standard (R2K, s2 cmt b). Mere predictions or statements of opinion are not promises supportive of a promissory estoppel cause of action (*Werner v Xerox Corp* 732 F2d 580, 581 [fn1] [7th Cir 1984]).

[1049] Linden Lab, 'Second Life: Earn Real Profits in the Virtual World: Are You Second Life's next Millionaire? Ways to Make Money in Second Life' (n981) ('Create and sell virtual items in a global marketplace. From hobbyists to professionals Second Life offers endless opportunities for 3D designers, modelers, scripters, and everyone in between to profit from their creativity.')

[1050] ibid.

[1051] *SLToS*, c2.3(para1).

But 'Linden Lab [shall continue to] own[] the bits and bytes of electronic data stored on its Servers'.[1052] Moreover, the *Second Life* ToS state that the user shall

> acknowledge that when [he/she] receive[s] a User Content License [he/she] receive[s] only licensing and use rights; therefore, [he/she] does not acquire ownership of any copies of the Content, or transfer of any copyright or other Intellectual Property Rights in the Content.[1053]

A transfer of objects from one user to another may not require a reproduction,[1054] but without physical ownership in the copy,[1055] a user can only transfer or sub-licence his/her contractual *right to use*, *to transfer* and *to exclude* others from the particular copy he/she *sells*. This 'selling' to 'earn real profits' would be possible because of the contractual rights of the user in the copy irregardless of any physical ownership or copyright.[1056]

Some users who invest time, money and effort in *Second Life* may have done so relying on the promised opportunity to capitalise on their past investments. A denial of (property) rights that negates the virtual object's value could therefore result in injustice. Bearing in mind that the *Second Life* ToS allow the users to *sell their* objects and items in accordance with the terms of the Contract,[1057] however, injustice would only be given in the event of forced forfeiture.

6.5 Restraints of Trade

Considering that the Blizzard EULA (US) prohibit RMT (ie, 'you may not transfer your rights and obligations to use' and '[y]ou agree that you will not, [...] sell, sublicense, rent, lease [...] or otherwise transfer' objects and items[1058])—but shall not extend to in-world trade[1059]—whilst

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[1052] *SLToS*, c1.5(para2).
[1053] *SLToS*, c2.4(para4).
[1054] Subch4.3.1.4
[1055] Subchs5.2.1.2.4.2; 5.2.2.2; 5.3.2.2; 5.4.1.3; 8.1.2.2.3 (separate ownership in single objects and item copies).
[1056] *SLToS*, c2.2(para1) ('Linden Lab hereby grants [the user] a non-exclusive, non-transferable, non-sublicenseable, limited, personal, revocable license to access and use the Service [defined in *SLToS*, c1.1 as 'all features, applications, content and downloads offered by Linden Lab, including its Websites, Servers, Software, Linden Content, and User Content] in compliance with [the *SLToS*]'); *SLT&Cs*, c3.1(para3) ('Each Linden Dollar that you may acquire constitutes a limited license granted to you by Linden Lab to access and use Content, applications, services, and various user-created features in Second Life, and is digitally represented in Second Life as a virtual token that can be traded and/or transferred in Second Life with other users [and/or Linden Lab] in exchange for permission to access and use specific Content, applications, services, and various user-created features, in each case in accordance with this [*SLT&Cs*] and the [*SLToS*]. Except as expressly permitted by this [*SLT&Cs*] or otherwise expressly permitted by Linden Lab, Linden Dollars may not be sublicensed, encumbered, conveyed [...].'); *SLT&Cs*, c3.4(para3) ('The Virtual Land License is transferable by the holder to any other user provided that both users and the proposed transfer comply with the [*SLToS*][.]')
[1057] *SLToS*, c2.4(para3). See also *SLT&Cs*, cc3.1(para2) (Linden Dollars); 3.4(para2) ('Virtual Land License[s]), both requiring for the transfer that 'both users comply with [terms of the Contract], maintain their Accounts in good standing, and are not delinquent on any Account payment requirements').
[1058] n984ff.
[1059] In-world trade of objects and items is part of the game play introduced by Blizzard. According to the wording of the *BlzdEULA(US)/(EU)* it should be forbidden, but it is not. If the user cannot sub-license *his/her* objects and items, however the trade of these objects and items in the *WoW* Auction House becomes rather questionable. See nn1030ff (and accompanying text, raising the question of what there is left to sell).

Blizzard (as the operator) *sells* objects and items (including mounts, pets and helmets) but also WoW Token (to purchase gold pieces),[1060] character boosts and game time for actual money in the Blizzard Shop[1061] may violate the prohibition of restraints of trade.

6.5.1 Antitrust Violation

The Blizzard EULA (US) may be a tying arrangement.

An anti-competitive tying arrangement infringes section 1 ('contracts in restraint of trade') and section 2 (monopolisation) of the federal Sherman Act,[1062] section 3 (exclusivity arrangements) of the federal Clayton Act[1063] as well as the California Cartwright Act.[1064]

Since the 'Cartwright Act is patterned upon the federal Sherman Act and both have their roots in the common law; (...) federal cases interpreting [section 1 of] the Sherman Act are applicable with respect to the Cartwright Act'[1065] and shall be examined here.[1066]

6.5.1.1 Contract in Restraint of Trade

According to the US Supreme Court in Northern *Pacific Railway v United States*, a tying arrangement is 'an agreement by a party to sell one product but only on the condition that the

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[1060] n32.

[1061] Blizzard, 'Blizzard Shop' (n763).

[1062] n363. While interstate commerce is required for federal law to apply, the standard is very broad, and VWs are ubiquitous. See *Swift & Co v US* 25 SCt 276, 279-81 (1905) (applying the Sherman Antitrust Act 1890 [codified in 15 US Code, ch1, ss1-2 on Monopolies and Combinations in Restraint of Trade, s1; 2] [in subsequent footnotes use: **SHA**] to intrastate price fixing conspiracy). SHA, s1 ('Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal.')

[1063] Clayton Antitrust Act 1914 (15 US Code, ch1, ss12ff on Monopolies and Combinations in Restraint of Trade) [in subsequent footnotes use: **CLA**]. Similarly, Cal Bus & Prof Code, ss16727.

[1064] **Cartwright Act** (codified in Cal Bus & Prof Code, ss16720ff). Antitrust law may raise two different choice-of-law questions, the contract question to the RMT prohibition in the Contract (R2CoL, s187[2]; n893) and the tort question to the operator's sale of objects/items. According to the 'governmental interest analysis' adopted, the law of the forum (here California and Cartwright Act) is presumed to apply in tort cases unless a party demonstrates otherwise (*Washington Mutual Bank FA v Superior Court* 24 Cal4th 906, 918ff [2001]). cf Charles H Brower, 'Arbitration and Antitrust: Navigating the Contours of Mandatory Law' (2011) 59 BuffLRev 1127, 1130 (discussing mandatory laws).

[1065] *Chicago Title Insurance Co v Great Western Financial Corp* 69 Cal2d 305, 315 (1968). See also *Rolley Inc v Merle Norman Cosmetics Inc* 129 CalApp2d 844, 849 (1955) ('[T]he Cartwright Act is basically a codification of common law and the Sherman Anti-Trust law is also considered to be a restatement of common law.'); *Milton v Hudson Sales Corp* 152 CalApp2d 418, 440 (1957) ('There is little doubt that cases decided under the Sherman Act [...] and the common law policy against restraint of trade are applicable to problems arising under the Cartwright Act.')

[1066] Whilst SHA, s1/Cal Bus & Prof Code, ss16720ff (Cartwright Act) generally apply where there is proof of a 'combination of resources of two or more independent [entities] for the purpose of restraining commerce and preventing market competition' (*GHII v MTS Inc* 147 CalApp3d 256, 266 [1983] [*McManus 1983*]; *Copperweld Corp v Independence Tube Corp* 104 SCt 2731, 2739ff [1984]), tying agreements are different. The required combination can exist as between the entity and the victim (eg, *Siegel v Chicken Delight Inc* 448 F2d 43 [9th Cir 1971]; *Frederick O MacManus v AE Realty Partners* 146 CalApp3d 275 [1983]). See also *Frederick O MacManus v AE Realty Partners* 195 CalApp3d 1106, 1111 (1987) ('*Copperweld* does not "change" the law upon which we based our decision [in *MacManus 1983*]. [...] The *Copperweld* court overruled [*Perma Life Mufflers Inc v International Pars Corp* 88 SCt 1981 (1968)], relied upon [...] in [*MacManus 1983*, but *Perma Life* recognised] "that [i]n any event each plaintiff could clearly charge a combination between itself and the defendants or between the defendants and other franchise" [, and on such alternative basis, the] *Perma Life* decision could be upheld, even under *Copperweld* [which] was precisely the ground for our ruling in [*MacManus 1983*]'.)

buyer also purchases a different (or tied) product, or at least agrees that he[/she] will not purchase that product from any other supplier'.[1067]

'[H]ardly [serving] any purpose beyond the suppression of competition',[1068] courts have held tying arrangements unreasonable 'whenever a party has sufficient economic power with respect to the tying product to appreciably restrain free competition in the market for the tied product and a "not insubstantial" amount of interstate commerce is affected'.[1069]

With the virtual objects/items *being different* from the Software and the Services,[1070] such a tying arrangement would effectively prevent users from *selling* virtual objects/items in competition to the operator.[1071] An antitrust violation may therefore be established, if 'the seller [ie, Blizzard] has some special ability—usually called "market power"—to force a purchaser [ie, the user] to do something that he[/she] would not do in a competitive market',[1072] for example, being able as 'single seller to raise price and restrict output'.[1073]

Blizzard might argue that a single VW has only little market power, and that its 'activities are (...) disciplined by competition with other [operators]'.[1074] But even a vast number of competing VWs in the primary market for VW Software and Services does not necessarily preclude Blizzard's market power in the secondary market for virtual objects/items.[1075]

For the secondary market price (due to the prohibition of RMT) to affect the primary market, users 'must inform themselves of the total cost of the "package" [...] at the time of the purchase of the Software; that is [users] must engage in accurate lifecycle pricing'.[1076] In regard to VWs, the users would need to know the *purchase* price of the Software (if any),[1077] the subscription fees for the competing Services, the virtual objects/items necessary to experience the VW, the time required to progress and level-up and any changes to expect during the lifecycle of the VW.[1078] Considering the potential costs and difficulties to gather complete information, 'it makes little sense to assume (...) that [the decision of choosing a particular VW is] based on an

[1067] *Northern Pacific Railway Co v US* 78 SCt 514, 518 (1958).
[1068] *Standard Oil Company of California and Standard Stations v United States* 69 SCt 1051, 1058 (1949).
[1069] *Northern Pacific Railway Co v US* (n1067) 518.
[1070] Although the VA is 'functionally linked' to the VW (fn30), the economic effect of prohibiting RMT is that the VW will 'foreclose[] competition on the merits in a product market distinct from the market' for the VW itself (*Jefferson Parish Hospital District No 2 v Hyde* 104 SCt 1151, 1563 [1984]).
[1071] Marques Tracy, 'Antitrust Law and Virtual Worlds' (2010) 3 JBEL 369, 374.
[1072] *Jefferson Parish Hospital District No 2 v Hyde* (n1070) 1559, 1558 ('[T]he essential characteristic of an invalid tying arrangement lies in the seller's exploitation of its control over the tying product to force the buyer into the purchase of a tied product that the buyer either did not want at all, or might have preferred to purchase elsewhere on different terms.')
[1073] *Eastman Kodak Co v Image Technical Services Inc* 112 SCt 2072, 2080-81 (1992) (citing *Fortner Enterprises Inc v United States Steel Corp* 89 SCt 1252, 1259 [1969]).
[1074] Tracy, 'Antitrust Law and Virtual Worlds' (n1071) 375.
[1075] *Eastman Kodak Co v Image Technical Services Inc* (n1073) 2076.
[1076] ibid 2085.
[1077] Subch5.2.1.
[1078] Tracy, 'Antitrust Law and Virtual Worlds' (n1071) 378.

accurate assessment of the total cost of [the package] over the lifetime of the [VW]'.[1079] Without competition in the secondary market, however, one might assume that the operator will have the necessary market power.

Moreover, one might remember that operators are the creators of the VW, they possess most of the free land (server space) and have the ability to introduce new, modify and remove existing content.[1080] Stopping competition, does not necessarily make users *purchase* virtual objects/items from the operator, but those users who do not *purchase* from the operator will be forced to invest even more time and effort, and pay additional subscription fees to achieve the same result. Something he/she might not have done 'in a competitive market'.[1081] As a single supplier, Blizzard will be able to 'raise [the] price and restrict [the] output' at its sole discretion.[1082] And because of the high switching costs,[1083] existing users are locked-in and likely to 'tolerate some level of (...) price increase' before leaving *World of Warcraft*.[1084]

Blizzard possesses market power in the secondary market for virtual objects/items[1085] and has been 'attempting to exclude rivals on some basis other than efficiency, it is [therefore] fair to characterize its behavior as predatory,' exclusionary and likely to violate antitrust laws.[1086]

6.5.1.2 Monopolisation

Next to improper conduct, one might consider 'a pernicious market structure in which the concentration of power saps the salubrious influence of competition'.[1087] Offering federal courts[1088] 'a new jurisdiction to apply a "common law" against monopolizing',[1089] section 2 of the Sherman Act sanctions conduct which supports unlawful monopolisation.[1090]

According to the US Supreme Court a monopoly has two elements, '(1) the possession of *monopoly power* in the *relevant market* and (2) the wilful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident'.[1091]

Defining monopoly power as 'the power to control prices or exclude competition', one might

[1079] *Eastman Kodak Co v Image Technical Services Inc* (n1073) 2086.
[1080] Subch4.4.4.
[1081] Tracy, 'Antitrust Law and Virtual Worlds' (n1071) 377.
[1082] n1073.
[1083] Balkin, 'Law and Liberty in Virtual Worlds' (n375) 66.
[1084] *Eastman Kodak Co v Image Technical Services Inc* (n1073) 2087.
[1085] *Jefferson Parish Hospital District No 2 v Hyde* (n1070) 1151ff.
[1086] *Aspen Skiing Co v Aspen Highlands Skiing Corp* 105 SCt 2847, 2859 (1985).
[1087] *Berkey Photo Inc v Eastman Kodak Co* 603 F2d 263, 272 (2d Cir 1979).
[1088] California has no monopolisation statute analogous to SHA, s2.
[1089] *Berkey Photo Inc v Eastman Kodak Co* (n1087) 272 (citing Phililip Areeda and Donald F Turner, *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, vol 3 [Little 1978] 40).
[1090] 'Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony'.
[1091] *US v Grinnell Corp* 86 SCt 1698, 1704 (1966) (emphasis added); *Eastman Kodak Co v Image Technical Services Inc* (n1073) 2089.

assume that VWs which possess market power also have monopoly power,[1092] but does this monopoly power exist in the relevant market? 'Determination of the competitive market for commodities depends on how different from one another are the offered commodities in character or use, [and] how far buyers will go to substitute one commodity for another.'[1093]

Not one VW is the same as another, they may be similar but often they are not, and they all may have different purposes.[1094] In *Bragg v Linden Research Inc*, for example, the District Court stated in regard to *Second Life* that there are 'no reasonably available market alternatives [to defeat] a claim of adhesiveness'.[1095] And despite the existence of other fantasy worlds, *World of Warcraft* is still the most successful one attracting a majority of players;[1096] so it seems very unlikely that, for instance, a moderate increase in subscription fees would result in a considerable number of *World of Warcraft* users suddenly switching to *Entropia Universe* or other MMOGs (no cross-elasticity of demand).[1097] The relevant market for *World of Warcraft* would therefore be *World of Warcraft* itself.

To 'sap[] the salubrious influence of competition', Blizzard must have used that monopoly 'to foreclose competition, to gain a competitive advantage, or to destroy a competitor'.[1098] Using a tying arrangement to maintain and strengthen a monopoly may be an antitrust violation, but only if no 'valid business reasons can explain' the operator's actions.[1099] For example, Blizzard might claim that restrictions are necessary to prevent the glut of virtual currency,[1100] or to thwart any attempt to exploit Blizzard's investments made and to take away its in-game revenues.[1101]

Whilst inflation could be avoided through coding,[1102] a prohibition to exploit the operator's investments made would constitute an 'entry barrier[] to potential competitors by requiring them to enter two markets simultaneously', which is explicitly forbidden by the antitrust laws.[1103] Considering that often *World of Warcraft* users may not even like that (competing) users can simply use money to advance in the VW,[1104] but that Blizzard is *selling* its virtual

[1092] Subch6.5.1.1.
[1093] *US v EI du Pont de Nemours & Co* 76 SCT 994, 1006 (1956).
[1094] Chapter 1. See Tracy, 'Antitrust Law and Virtual Worlds' (n1071) 381-82; Edward Castronova, 'On Virtual Economies' (2003) IntJCompGR <www.gamestudies.org/0302/castronova/> accessed 17 November 2018 ('There are reasons to expect, however, that this market is not likely to be monopolized. First, there seems to be a great diversity of tastes for the different features. [...] Moreover, there are no economies of scale on the supply side to match the increasing returns on the demand side [citing SJ Liebowitz and Stephen E Margolis, 'Network Externality: An Uncommon Tragedy' (1994) 8 JEP 133]').
[1095] *Bragg v Linden Research Inc* (n56) 606.
[1096] n40.
[1097] *US v EI du Pont de Nemours & Co* (n1093) 1010.
[1098] *Eastman Kodak Co v Image Technical Services Inc* (n1073) 2090 (citing *US v Griffith* 68 SCt 941, 945 [1948]).
[1099] ibid 2091 (citing *US v Aluminium Company of America* 148 F2d 416, 432 [2d Cir 1945]) (internal quotation marks omitted).
[1100] Dibbell, *Play Money: Or, How I Quit My Day Job and Made Millions Trading Virtual Loot* (n214) 48.
[1101] n49 (operators may invest up to hundreds of millions US Dollars to create, uphold and develop the VW).
[1102] n1636f.
[1103] *Eastman Kodak Co v Image Technical Services Inc* (n1073) 2092.
[1104] Subch6.4.1.

objects/items anyway, Blizzard may not even argue that the current prohibition of RMT would 'satisf[y] its potential customers'.[1105]

Similar to *Aspen Skiing Co v Aspen Highlands Skiing Corp*, one might assume that the operator's effort to discourage RMT is 'not motivated by efficiency concerns' but 'entirely by a decision to avoid providing any benefit to' rivalling users.[1106] Blizzard's conduct is therefore likely to support unlawful monopolisation.

6.5.1.3 Prohibition of Exclusivity Arrangement

Similar to the Sherman Act, section 3 of the Clayton Act prohibits exclusivity arrangements that may 'substantially lessen competition'.[1107] But in contrast to the Sherman Act it may only be violated if the lease or the sale of 'goods, wares, merchandise, machinery, supplies, or other commodities' is tied to commodities, not services.[1108]

While software has already been considered a commodity,[1109] it is possible that the courts still will not follow this author's distinction between programming code and copy but regard the entire Software as intangible,[1110] or that they conclude that both, the copy of the Software and the copy of the virtual object/item, are not 'distinguishable in the eyes of buyers'.[1111]

6.5.2 Copyright Misuse Doctrine

Considering the difficulties to establish an antitrust violation in VWs, courts might also turn to the copyright misuse doctrine to reject any terms in the Contract that limit or prohibit an act otherwise permissible under the applicable intellectual property law.[1112]

In *Morton Salt v GS Suppiger*,[1113] for example, the owner and patent holder of a 'machine for depositing salt tablets' used by farmers attempted to licence the use of the 'patented machine upon [the] condition (...) that only the salt tablets of [the] patent owner's subsidiary would be

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[1105] *Aspen Skiing Co v Aspen Highlands Skiing Corp* (n1086) 2861.
[1106] ibid.
[1107] CLA, s3
[1108] CLA, s3; *Advance Business Systems and Supply Co v SCM Corp* 415 F2d 55, 64-65 (4th Cir 1969); *Hudson Valley Asbestos Corp v Tougher Heating & Plumbing Co Inc* 510 F2d 1140, 1145 (2d Cir 1975); *Sports Racing Services v Sports Car Club of America* 131 F3d 874, 880 (fn8) (10th Cir 1997); generally Tracy, 'Antitrust Law and Virtual Worlds' (n1071) 384ff.
[1109] *Digidyne Corp v Data General Corp* 734 F2d 1336, 1338-39 (9th Cir 1984); contra *Satellite T Associate v Continental Cablevision of Virginia Inc* 586 FSupp 973, 975 (ED Va 1982) (commodity is 'some type of tangible property that may be leased or sold'); affirmed in *Satellite Television & Associated Resources Ind v Continental Cablevision of Virginia Inc* 714 F2d 351, 358 (4th Cir 1983).
[1110] Subch5.2.1.2.1 (Intangible Theory).
[1111] *Jefferson Parish Hospital District No 2 v Hyde* (n1070) 1562-63; *Times-Picayune Pub Co v US* 73 SCt 872, 883 (1953).
[1112] Niva Elkin-Koren, 'A Public-Regarding Approach to Contracting Over Copyrights' in Rochelle Dreyfuss, Diane L Zimmerman and Harry First (eds), *Expanding the Boundaries of Intellectual Property: Innovation Policy for the Knowledge Society* (OUP 2001) 191-221; Ren Reynolds, 'Hands off MY Avatar! Issues with Claims of Virtual Property and Identity' (2003) <www.ren-reynolds.com/downloads/HandsOffMYavatar.htm> accessed 17 November 2018; *Motion Pictures Patents Co v Universal Film Manufacturing Co* 37 SCt 416, 421 (1917).
[1113] *Morton Salt Co v GS Suppiger Co* 62 SCt 402 (1942).

used'.[1114] The US Supreme Court found that whilst the patent holder was granted a monopoly right 'the use of the patent to secure an exclusive right or limited monopoly not granted by the Patent Office and which (...) is contrary to public policy' was forbidden.[1115]

Later in *Fortnightly v United Artists Television*, where Fortnightly received, reproduced and transmitted television programs without licence, the US Supreme Court hold that 'The Copyright Act does not give a copyright holder control over all uses of his copyrighted work.'[1116] And that 'If a person, without authorization from the copyright holder, puts a copyrighted work to a use (...) not enumerated in [the list of exclusive rights], he does not infringe.'[1117] But copyright misuse as a defence—similar to *Morton Salt v GS Suppiger*—was not considered by any US court before *Lasercomb America v Reynolds*.[1118]

In *Lasercomb America v Reynolds*, the Fourth Circuit considered the use of anticompetitive language in a licence agreement. Comparing *Morton Salt v GS Suppiger*, the court stated that 'since copyright and patent law serve parallel public interests, a "misuse" defense should apply to infringement actions brought to vindicate either right',[1119] and defined copyright misuse as 'the use of the [copyright] to secure an exclusive right or limited monopoly not granted by the [Copyright] Office and which it is contrary to public policy to grant'.[1120] Because the claimant had attempted to use copyright to foreclose innovation ('the Progress of Science and useful Arts'[1121]), the court rejected its infringement claim.

In the light of *Lasercomb America v Reynolds*, US courts are more likely to consider the prohibition of RMT in the Contract, effectively banning competition, as an attempt to use the copyright in the VW, Software and character database 'to secure an exclusive right (...) not [previously] granted' by copyright law.[1122]

6.5.3 Short Summary: Restraints of Trade (and European Law)

The Blizzard EULA (US) violate the prohibition of restraints of trade and the Blizzard EULA (EU) are not any different. The European users of *World of Warcraft* might claim an antitrust violation (TFEU, Art 102[b]).[1123]

[1114] ibid.
[1115] ibid 405.
[1116] *Fortnightly Corp v United Artists Television Inc* 88 SCt 2084, 2085-86 (1968).
[1117] ibid.
[1118] *Lasercomb America Inc v Reynolds* 911 F2d 970 (4th Cir 1990); Reynolds, 'Hands off MY Avatar! Issues with Claims of Virtual Property and Identity' (n1112).
[1119] ibid 975-76.
[1120] ibid 977.
[1121] US Constitution, Art1, s8, c8.
[1122] *Lasercomb America Inc v Reynolds* (n1118) 977.
[1123] *Microsoft* (Case COMP/C-3/37792) Commission Decision 2007/53/EC [2004] OJ L32/23. The relationship between EU competition law and the competition law of its Member States (here the UK Competition Act 1998, s18[2] and the German Act Against Restraints of Competition, s19) is governed by Art 3(1) of Council Regulation (EC) 1/2003 of 16 December 2002 on the Implementation of the Rules on Competition Laid Down in Articles 81 and

6.6 Summary: Unconscionable, Unreasonable or Anti-Competitive

Examining the Contracts of *Second Life*, *Entropia Universe* and *World of Warcraft*, frequently revised to comply with the developments in the law,[1124] one might appreciate the difficulties to find a truly enforceable Contract.

Whilst Linden Lab changed its advertising of *Second Life* to make its Contract less vulnerable to claims of unconscionability (and then soon returned to its old habits[1125]), *Entropia Universe* is still using misleading advertisement making some of the restriction-of-rights clauses unfair subject to European law (Swedish law, UK law and German law).[1126]

In contrast *World of Warcraft* had started strong within the *magic circle*,[1127] but because of later changes to the Blizzard business model (ie, continuing to prohibit RMT whilst starting to *sell* objects and items itself) US courts might, or at least should, find a violation of antitrust laws and a misuse of copyright.[1128] And if they do, the restriction-of-rights clauses that deny (property) rights and prohibit RMT in the Contract[1129] are also likely to be considered unenforceable.[1130]

Moreover, Linden Lab's and MindArk's misleading advertisement might support a claim of unfair competition (subject to the laws of the Member State, or perhaps California state law [raising the tort choice -of-law question[1131]]), but in contrast to the previous findings on

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82 of the Treaty [2003] OJ L1/1. Since the Contract may have effect on trade (RMT) between Member States both EU law (Marc Fallon and Stephanie Francq, 'The Intervention of Competition Law Rules in International Contractual Litigation' in Jürgen Basedow, Stephanie Francq and Laurence Idot [eds], *International Antitrust Litigation: Conflict of Laws and Coordination* [Hart 2012] [on the application of EU antitrust law]) and the law of the Member States apply (Rome I, Art6[1]; Rome II, Art6[3][a]).

[1124] n979 (on changes in Linden Lab's advertisement); Duranske, *Virtual Law: Navigating the Legal Landscape of Virtual Worlds* (n89) 31, 129 (on changes to the *SLToS* arbitration clause after *Bragg v Linden Research Inc* [n56]); Blizzard, 'WoWToU (2007)' (*Internet Archive WayBackMachine,* 11 January 2007) <https://web.archive.org/web/20070113192016/http://www.worldofwarcraft.com/legal/termsofuse.html> accessed 17 November 2018 (Blizzard started with a transnational one-size-fits-all Contract).

[1125] Subch6.4.1 (nn980; 981).

[1126] n160 (on the interpretation of national law in accordance with the Directives); Subch6.2 (applicable law).

[1127] Subch9.2.6. Duranske, *Virtual Law: Navigating the Legal Landscape of Virtual Worlds* (n89) 107f ('The fact that some users will inevitably find a way to buy and sell items in games is not a persuasive argument for forcing game companies to accept liability for the [grey] market trades, particularly when they have made the clear decision to try to keep the game world inside the protection of the magic circle.')

[1128] Antitrust law may raise two different choice-of-law questions, the contract question to the RMT prohibition in the Contract (R2CoL, s187[2]; n893) and the tort question to the operator's sale of objects/items.

[1129] Subch4.2 (Rights, title and interest are a pre-requisite for RMT).

[1130] See R2K, s178(1) ('A [...] term of an agreement is unenforceable on grounds of public policy if legislation provides that it is unenforceable or the interest in its enforcement is clearly outweighed in the circumstances by a public policy against the enforcement of such terms.'); Evans, 'The Supreme Court and the Sherman Anti-Trust Act' (n893) 61ff (discussing the 'public policy laid down in the Sherman Anti-Trust Act'). See also C-56/65 *Société La Technique Minière v Maschinenbau Ulm GmbH* [1966] ECR 235, 250 (holding that 'nullity [...] only applies to those parts of the agreement affected by the prohibition, or to the agreement as a whole if it appears that those parts are not severable from the agreement itself'). Whether the remaining provisions of the *BlizzardEULA(EU)* are enforceable depends on the national rules as to severance under the governing law of the Contract (C-319/82 *Société de Vente de Ciments et Bétons de l'Est SA v Kerpen & Kerpen GmbH & Co KG* [1983] ECR 4173, 4184). See *Living Design (Home Improvements) Ltd v Davidson* 1994 SLT 753 (OH); BGB, s139.

[1131] Any misleading advertisement in California may violate the Cal Bus & Prof Code, ss17200ff (California Unfair Competition Law) and Cal Civ Code, ss1750ff (California Consumers Legal Remedies Act) (this is a tort choice-of-law question [n1064], insofar different to the contract choice-of-law question [subch6.2.3] because any advertisement that does not breach the Contract may still harm the user), in regard to users from the United Kingdom the UK

unconscionability and restraints of trade none of the *unfair competition law* remedies available would make any of these restriction-of-rights clauses unenforceable.[1132]

It is uncertain whether US/EU courts will agree with the findings of this author,[1133] but there is reason to believe that they could, and in fact should, hold some of the examined restriction-of-rights clauses unenforceable.

The next chapter will show that an investment of time and effort (an investment of money has been examined in sub-chapter 5.4) in a VW governed by a court *corrected* Contract, where unenforceable restriction-of-rights clauses have been stricken out,[1134] may finally constitute the users' *first* property rights.

Consumer Protection from Unfair Trading Regulations 2008, ss3, 5(2); and in regard to users from Germany the German Act Against Unfair Competition, ss3, 5(1)(1) (Rome II, Art6[1]) (both national laws have been amended to implement Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning Unfair Business-to-Consumer Commercial Practices in the Internal Market [2005] OJ L149/22, Arts5; 6[1][6]).

[1132] One might also discuss the doctrine of promissory estoppel. Assuming that this doctrine adheres to the contract choice-of-law rules (cf Orvill C Snyder, 'Promissory Estoppel as Tort' [1950] 35 IowaLRev 28), US law is not applicable and hence the users from California cannot possibly claim reasonable reliance on the promise of accumulated value and use promissory estoppel as a sword (R2K, s90[1]; Farnsworth, *Contracts* [n341] §2.19 [fn28]; [fn36]). In contrast, German and Swedish law do not recognise the doctrine of promissory estoppel (David V Snyder, 'Comparative Law in Action: Promissory Estoppel, the Civil Law, and the Mixed Jurisdiction' [1998] 15 ArizJInt & CompL 695), and UK law only allows for the use of promissory estoppel as a shield (*Combe v Combe* [1951] 2KB 215, 217-18 [CA]; Ewan Mckendrick, *Contract Law* [10 edn, Palgrave Macmillan 2013] paras5.22ff)

[1133] n973.

[1134] n996ff (and accompanying text).

Chapter 7 Investing Time and Effort

7.1 User-Generated Content

Whilst there is no doubt that any initial property rights in the VW, Software and character database should belong to its creator/operator,[1135] the allocation of property rights in UGC is all but certain.

UGC does not only include any newly created content but also any pre-existing characters, objects and items (including those created by the operator or third users) that have been modified, manipulated and developed by the user. Often spending vast amounts of time and effort on the creation, modification, manipulation and development of characters, objects and items to gain prestige or competitive advantage, or simply to have more fun playing,[1136] users may build strong emotional connections to *their* characters and place a high value on UGC. But the users' experience of VAs as *property*, often starkly contrasts the in-world property models intended by the operator.[1137]

In the actual world most things people own as property will have been acquired from someone else through mutual transaction.[1138] But VWs are different, client-server system architecture and restrictive Contracts seem to preclude users from obtaining meaningful property rights through chain of title.[1139] Perhaps the most enduring question in VWs is therefore how property rights can be acquired or established spending time and effort. How do objects that are not recognised as property or are thought to have no owner become owned objects?

An acknowledgment of user (property) rights would not only be a pre-requisite for RMT but rights, title and interest in UGC would allow the user to claim loss and damages arising out of, or in connection with any de-valuation, destruction or seizure of his/her user-generated character, objects and items. The main question of this chapter is therefore whether the existing law recognises personal property rights of the user such as copyright in UGC[1140] and/or physical property rights in the copy of the UGC release/client version and the reference copy to the UGC server version.

[1135] Chapter 4. See also n47 (on the use of operators, programmers, developers, authors and creators in this thesis).
[1136] Subch5.4 (discussing subsequent *purchases*/spendings of money to accumulate content).
[1137] Chapter 1.
[1138] Merrill, 'Accession and Original Ownership' (n315) 461 ('accession tends to trump first possession when the two overlap').
[1139] Subchs2.2; 5.2; 5.2.1.2.4.1; 5.2.1.2.4.2; 5.4.1.
[1140] VWs mainly consist of images, texts and graphics (information). Complex VWs comprise a complex bundle of discrete copyrighted works (Reed and Angel [eds], *Computer Law: The Law and Regulation of Information Technology* [n220] ch7.2.1.1). However, this research is wilfully restricted and will ignore any question of copyright protection for the text/chat (literary work), the sound recording, the code producing the sound (literary work) and any set sequence of images (motion pictures). Some operators might acknowledge copyright in UGC but to the best of this author's knowledge no operator has ever transferred copyright in any of its works to any of its users. See for example, Atomic Blue, 'PlaneShift License' (nd) <www.planeshift.it/License> accessed 17 November 2018.

7.2 Copyright

Some VWs allow for (or even require for their sheer existence[1141]) the creation, modification, manipulation and development of characters, objects and items (**UGC**),[1142] some of which may qualify for copyright protection.

Once established, users may potentially claim copyright infringement by the operator, other users and third parties,[1143] based on the law of the country where infringement occurs.[1144]

However, a detailed discussion of intellectual property rights disputes—beyond potential claims against the operator—is outside the scope of this research.[1145]

7.2.1 Display

No matter how vividly users identify with *their* characters or treasure *their* objects and items, VAs will always be a combination of server version and client version, often designed, developed and *possessed* by the operator. But UGC is different, the display may be *inter alia* eligible for copyright protection as pictoral or graphic work.[1146]

Although the 'useful article doctrine' excludes copyright for the design of 'pictorial, graphic, or sculptural features that [cannot] be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article',[1147] the display of *characters, objects and items* may still be protected by copyright.

Not only is it possible that US courts would not consider the display (ie, geometries, images and

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[1141] Marcus, 'Fostering Creativity in Virtual Worlds: Easing the Restrictiveness of Copyright for User-Created Content' (n229) 72; Brad Cook, 'Second Life: Build Anything, Be Anyone, Set Your Own Agenda' (*Apple - Games - Articles,* nd) <www.bradcook.net/games/articles/2005/07/secondlife/> accessed 17 November 2018.

[1142] Francis Gregory Lastowka, 'User-Generated Content and Virtual Worlds' (2008) VandJEnt & TechL 893, 908ff; Ondrejka, 2004 #23} (n21) 87-88.

[1143] Non-signatories to the Contract. See also subch9.2.4.

[1144] 17 USC, s104; R2CoL, ss222; 6(2); Paul Edward Geller, 'Conflicts of Laws in Copyright Cases: Infringement and Ownership Issues' (2004) 51 JCoprSocUSA 315, 327. See also Christopher Wadlow, *Enforcement of Intellectual Property in European and International Law* (Sweet & Maxwell 1998) paras1-22; Gerhard Kegel and Ignaz Seidl-Hohenveldern, 'Zum Territorialitätsprinzip im internationalen öffentlichen Recht' in Andreas Heldrich, Dieter Henrich and Hans-Jürgen Sonnenberger (eds), *Konflikt und Ordnung, Festschrift für Murad Ferid* (CH Beck 1978) 234; Josef Drexl, 'The Proposed Rome II Regulation: European Choice of Law in the Field of Intellectual Property' in Josef Drexl and Annette Kur (eds), *Intellectual Property and Private International Law: Heading for the Future* (Hart 2005) 169-71; Calliess, *Rome Regulations: Commentary* (n850) Rome II, Art8, para20. 'The law applicable to a non-contractual obligation arising from an infringement of an intellectual property right shall be the law of the country [and indeed of every other country] for which protection is claimed [*lex loci protectionis*].' (ibid) It is therefore possible that the same work is protected under multiple national laws that may grant different scope of protection and enforcement measures.

[1145] n193.

[1146] Although today's VWs are far more complex and distinguished than the simple game *Scramble* which possibly suggests a broader reading of *Stern Electronics Incorporated v Kaufman* (*Stern Electronics Inc v Kaufman* [2nd Cir 1982] [n230] 856), it seems still unlikely that the user would receive any protection in regard to audiovisual works (unless it is machinima or similar).

[1147] 17 USC, s101 See *Mazer v Stein* (n250) (holding that the statuette base of a lamp was copyrightable as separable from the lamp's utilitarian aspects); *Lotus Development Corp v Paperback Software International* (n250) 58 (discussing copyright in a computer spreadsheet program, including the on screen presentation of its menu command structure); *DC Comics v Towle* 989 FSupp2d 948, 970 (CD Cal 2013) (recognising that the design features of the Batmobile are separable from the functionality of the underlying car and are in themselves eligible for copyright protection).

textures[1148]) of *characters*,[1149] objects and items a 'useful article',[1150] but even if they did, that display could be deemed identifiable separately from, and capable of existing independently of, any utilitarian aspects the design of the *display* might have.[1151]

Considering the display of this author's *Second Life* character JonasJustus, *his* chequered shirt and sunglasses,[1152] for example, one might argue that VAs cannot and should not be compared to any useful articles in the actual world (ie, their counterparts in the actual world) because they are only artistic renderings of those useful articles.[1153]

But graphical elements in *Second Life*, are just as much a 'useful article' as a chequered shirt and some sunglasses in the actual world. In contrast to shirts and sunglasses in the actual world, the display may not keep warm, protect someone's modesty or his/her eyes from UV light, but it makes the character, chequered shirt and sunglasses available in *Second Life.*

Arguing that this 'intrinsic utilitarian function' goes well beyond the mere portray of appearance or communication of information because the display is ultimately 'the accomplishment of work in the form of computer operation' (ie, parts of the Software that are responsible for the portray and communication of the display),[1154] the graphical elements of VAs would potentially be

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[1148] n120.

[1149] Characters in human, animal or imaginary form may not have an *actual* counterpart, but they are technically rather similar to objects and items and shall be treated in the same ways for the purpose of this research.

[1150] *Pose v Missing Persons* 745 F2d 1238 (9th Cir 1984) (discussing copyright in non-funtional swimsuits); *Chosun International Inc v Chrisha Creations Ltd* 413 F3d 324, 329 (2d Cir 2005) (discussing copyright in masquerad costumes; 'The function of a costume is, precisely, to portray the appearance of something [like a lion, ladybug, or orangutan], and in so doing, to cause the wearer to be associated with, or appear as, the item portrayed. It is difficult to see how such a "function" [separate and apart from the concomitant function as clothing] can make a costume, or a mask, "useful" under § 101.'); *Boyds Collection Ltd v Bearington Collection Inc* 360 FSupp2d 655, 661 (MD Pa 2005) (discussing copyright in clothing for a toy teddy bear; 'The clothing on a teddy bear obviously has no utilitarian function. It is not intended to cover embarrassing anatomical aspects or to protect the bear from exterior elements. Rather, it is intended and serves only to modify the appearance of the bear, to give the doll a different "look and feel" from others. Clothing on a bear replicates the form but not the function of clothing on a person. It does not constitute a "useful article" excluded from copyright protection.')

[1151] *Lotus Development Corp v Paperback Software International* (n250) 58 ('Elements of expression, even if embodied in useful articles, are copyrightable if capable of identification and recognition independently of the functional ideas that make the article useful.'); *Entertainment Research Group Inc v Genesis Creative Group Inc* 122 F3d 1211, 1221 (9th Cir 1997) (discussing copyright in inflatable costumes);

[1152] nn110; 111; 113. **Example 2-2** Client/Server Communication.

[1153] Benjamin Duranske, 'Boot Design Copyright Accusation in Second Life Highlights Linden Lab DMCA Policy' (*Virtually Blind,* 2 October 2007) <http://virtuallyblind.com/2007/10/02/copyright-clothing-second-life/> accessed 17 November 2018; Jessica Holyoke, 'Lindens Boot Dueling DMCA Claims To RL Court' (*Second Life Herald,* 30 September 2007) <https://herald.blogs.com/slh/2007/09/boot-controvers.html> accessed 17 November 2018.

[1154] Dennis S Karjala, 'Oracle v Google and the Scope of a Computer Program Copyright' (2016) 24 JIPL 1, 17 (citing Richard H Stern, 'Copyright in Computer Programming Languages' [1991] 17 RutgersComp & TechLJ 321, 370 [on functional aspects of programming languages]). 17 USC, s101 ('A "useful article" is an article having an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information.') See generally Pamela Samuelson, 'CONTU Revisited: The Case against Copyright Protection for Computer Programs in Machine-Readable Form' (1984) Duke LJ 663, 727f (noting that a book 'informs human beings about how [a] task might be done; the [computer program] does the task', Samuelson argues that a computer program is utilitarian and inappropriate for copyright protection); David G Luettgen, 'Functional Usefulness vs Communicative Usefulness: Thin Copyright Protection for the Nonliteral Elements of Computer Programs' (1996) 4 TexIPLJ 233, 248ff (arguing that copyright protection is inappropriate because computer programs are functional rather than communicative); Leo J Raskind, 'The Uncertain Case for Special Legislation: Protecting Computer Software' (1986) 47 UPittLRev 1131, 1143ff ('discussing the utilitarian nature of computer programs).

eligible for copyright protection, but only if the display was identifiable separately from, and capable of existing independently of, the computer operation.

In *Star Athletica v Varsity Brands*,[1155] for example, the US Supreme Court broke down the separability question into two components: (1) separate identification—whether the feature (display) 'can be identified separately from [...] the utilitarian aspects of the article [computer operation]' and (2) independent existence—whether the feature (display) is 'capable of existing independently of, the utilitarian aspects of the article [computer operation]'.[1156] The court stated that 'a feature of the design of a useful article is eligible for copyright if, when identified and imagined apart from the useful article, it would qualify as a pictorial, graphic, or sculptural work either on its own or when fixed in some other tangible medium'.[1157] Applying the findings of the US Supreme Court, one might agree that the VA display is separable and 'capable of existing independently' from the computer operation (eg, images can be used to advertise characters, objects and items for sale[1158]) and therefore potentially eligible for copyright protection.[1159]

7.2.1.1 Virtual Objects in Massively Multiplayer Online Games

Although opportunities for user customisation are becoming increasingly intricate and frequent, many of the current *player* creations in MMOGs are simply a mixture of choices made from a *limited* selection of possible characteristics. Narrow confines of expression in the game-play regulate the crafting of objects, advancing of characters and levelling-up.[1160]

Example 7-1 Crafting in *World of Warcraft*

In contrast to *Second Life*, *World of Warcraft* does not provide a build tool for its players to create and modify objects. But players may use recipes to make objects, enchantments, or to perform spells depending on the required profession, class and character level.[1161] A recipe is a list of ingredients which may be recorded in a

[1155] *Star Athletica LLC v Varsity Brands Inc* 137 SCt 1002, 1016 (2017) ('Because we reject the view that a useful article must remain after the artistic feature has been imaginatively separated from the article, we necessarily abandon the distinction between "physical" and "conceptual" separability, which some courts and commentators have adopted based on the Copyright Act's legislative history.' [with further references on judicative history]). See also HR Rep No 94-1476, 55 (1976) (legislative history of the Copyright Act distinguishes between physical and conceptual separability).

[1156] ibid 1010.

[1157] ibid 1012.

[1158] n251 (and accompanying text).

[1159] Subch7.2.6 (discussing the contribution of the VW programmer); n121 (release version).

[1160] Angela Adrian, 'Intellectual Property or Intangible Chattel?' (2006) 1 JICL & Tech 52, 55.

[1161] See generally WoWWiki, 'Recipe' (nd) <http://wowwiki.wikia.com/wiki/Recipe> accessed 17 November 2018. Some recipes do not teach the player to make something but they improve the skill of the player's profession and increase his/her skill points. WoWPedia, 'Profession' (nd) <http://wow.gamepedia.com/Profession> accessed 30 October 2018 ('A profession is a trade-oriented set of skills that player characters may learn and incrementally advance in order to gather, make, or enhance items that can be used in *WoW* gameplay. Professions are learned and improved via a trainer for a nominal fee, or sometimes advanced with special recipes. Any profession can be learned regardless of a character's faction, race, or class, although some racial traits provide bonuses to a particular profession, and some classes make use of unique skills that are mechanically similar to professions.')

> book, parchment or scroll[1162] looted from MOBs, rewarded from quests, *purchased* from NPC vendors or found in containers,[1163] be part of the player's professions or be taught by profession trainers, teaching the player in spell form how to make something.[1164] A player may choose his/her professions[1165] or class or what recipes to seek and obtain in the VW but the decisions about what recipes are included, how many and where these recipes and other set features of the game-play appear, the required profession or class and character level to use these recipes are still made and implemented by the operator.[1166]

Considering that the operator decides what options are included in the Software, how many and where these selections and other set features of game-play appear,[1167] the graphical display of objects so crafted (not newly created) is often not original.[1168]

But not all contributions in MMOGs are simply a choice between different predetermined options. In the fantasy game *Ultima Online*,[1169] for example, players who wished to decorate their homes came up with elaborate strategies for combining in-world objects in order to create images that look like items of the actual world. After all, there are 'several different techniques for making pianos that involve dozens of different objects, ranging from wooden crates and chessboards to fish steaks and fancy shirts'.[1170] If the *new* piano is eligible for copyright protection, strongly depends on and how the pre-existing objects are used.

A *new* 'work based upon one or more preexisting works (...) in which a work may be recast,

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[1162] Often in *WoW* books are guides, manuals or studies; parchments are formulae or volumes; and scrolls are designs, formulae, patterns, plans, recipes or schematics.

[1163] Any such recipe item will disappear as soon as the player has 'read' it, the player now knows the recipe as a spell. Appendix C3.

[1164] A profession trainer is a NPC that gives out to the player class abilities, spells, profession skills and recipes. Most of these improvements are costly (increasing with level) and only become available at certain levels (WoWWiki, 'Trainer' [nd] <http://wowwiki.wikia.com/wiki/Trainer> accessed 17 November 2018). See WoWWiki, 'Vendor' (n765).

[1165] Character's in *WoW* may choose two primary professions at a time (Alchemy, Blacksmithing, Enchanting, Engineering, Herbalism, Inscription, Jewelcrafting, Leatherworking, Mining, Skinning and Tailoring), and from a higher level any number of secondary professions (Archaeology, Cooking, First Aid and Fishing) (Blizzard, 'WoW Game Guide: Professions' [*US.Battle.net,* nd] <http://us.battle.net/wow/en/profession/> accessed 17 November 2018). A character can unlearn primary professions in order to free up profession slots, but the character will lose all the knowledge and experience previously gained within those professions (WoWWiki, 'Choosing Your Primary Professions' [nd] <http://wowwiki.wikia.com/wiki/Choosing_your_primary_professions> accessed 30 October 2018).

[1166] Grimes, 'Online Multiplayer Games: A Virtual Space for Intellectual Property Debates?' (n63) 981. An exception are modifications ("Mods"), external programs that allow players to alter and improve their gaming experience (Ondrejka, 'Escaping the Gilded Cage: User Created Content and Building the Metaverse' [n21] 85). See also *Micro Star v Formgen Inc* (n251) 1107ff; *Lewis Galoob Toys Inc v Nintendo of America Inc* 964 F2d 965 (9th Cir 1992).

[1167] ibid.

[1168] Subch7.2.1.3 (discussing the choices made to craft objects). In contrast to the metaverse, the ability of players to create (but not to craft) UGC in MMOGs is fairly limited, the most significant UGC may therefore probably be machinima, or the recording and editing of video footage generated within the MMOG (often uploaded on YouTube).

[1169] <www.uo.com>.

[1170] Ondrejka, 'Escaping the Gilded Cage: User Created Content and Building the Metaverse' (n21) 85; Tristan Pope, 'Piano Build in Ultima Online' (*YouTube,* 30 December 2013) <www.youtube.com/watch?v=nMqJ12lHt5w> accessed 17 November 2018; Appendix A.

transformed, or adapted', for example, may be protected by copyright as a derivative work.[1171] If the wooden crates, chessboards, fish steaks and fancy shirts are transformed copyright in a *new* piano would vest independently, whether or not any of the original decisions made in regard to its elements are apparent in the piano itself; copyright in the pre-existing works would not be folded into the new copyright.[1172]

Considering the piano—as an example for any other original UGC *created* in MMOGs—one might find that the pre-existing works are not 'recast, transformed, or adapted', but selected, arranged and locked down.[1173] The *new* piano is not a truly new virtual object in *Ultima Online* that has to be *defined* in the Software and added to the central server system.[1174]

But because the user's originality manifests in the 'selection, coordination or arrangement' of the components, the arrangement representing the piano may be protected by copyright as a collective work[1175]—or a compilation, if the different elements are not original themselves.[1176]

7.2.1.2 Virtual Objects in Metaverses

In contrast to MMOGs, metaverses often encourage their users to fill in the content of the VW.[1177] In its barest form, for example, *Second Life* is nothing more than an open terrestrial realm, with a basic geography of rolling meadows, streams, and mountains, but it provides an environment and the tools (eg, the *build editor* and upload facility), resulting in an abundance of creativity more easily accorded copyright protection.[1178]

Second Life users may link up to 256 individually resized, reshaped, hollowed out or otherwise modified prims to build one object.[1179] For further clarification one might consider the building processes necessary for one-prim and four-prim stools[1180] in *Second Life*:

[1171] 17 USC, s101 ('derivative work').
[1172] 17 USC, s103(b).
[1173] Every component does have its very own properties including its own location data (subch2.2, Appendix A).
[1174] See nn130ff (and accompanying text).
[1175] 17 USC, s101 ('compilation'); n243; Nimmer and Nimmer, *Nimmer on Copyright: A Treatise on the Law of Literary, Musical and Artistic Property, and the Protection of Ideas* (n227) §3.03(A) (Rel 94-8/2014) (noting that 'Compilations that do not constitute collective works are of less significance, as virtually any work otherwise eligible of copyright may be regarded as such a compilation, in that it inevitably is based in whole or in part upon [pre-existing] materials or data that are not in themselves eligible of copyright. If nothing else, every work consist of the "collecting and assembling of preexisting" ideas.')
[1176] 17 USC, s101 ('compilation'). Considering the similarities between derivative and collective works, a different substantive treatment may not seem justified (ibid §3.03[A] [Rel 94-8/2014]) and a terminological distinction not required (*Harris v Simon & Schuster Inc* 646 FSupp2d 622, 629 [SDNY 2009]), but the Copyright Act still makes such distinction.
[1177] Ondrejka, 'Escaping the Gilded Cage: User Created Content and Building the Metaverse' (n21) 87-88; Marcus, 'Fostering Creativity in Virtual Worlds: Easing the Restrictiveness of Copyright for User-Created Content' (n229) 72.
[1178] Subch2.2; **Example 7-2** Building Stools from Prims in *Second Life*; n1180.
[1179] Second Life Wiki, 'Limits' (nd) <http://wiki.secondlife.com/wiki/Limits> accessed 17 November 2018; Taran, 'On SecondLife's "Intellectual Property", Textures and More' (*Internet Archive WaybackMachine,* 15 November 2006) <https://web.archive.org/web/20090129172344/http://knowprose.com/node/16654> accessed 30 June 2008; Brian A White, *Second Life: A Guide to Your Virtual World* (Que 2008) 118ff (describing the *SL* building basics).
[1180] Prims or primitive objects are the basic building blocks in *SL* (eg, cubes, prisms, pyramids, tetrahedrons, [hemi]cylinders, [hemi]cones, [hemi]spheres, torus', tubes, rings, trees, or grass) which can be resized, reshaped,

Example 7-2 Building Stools from Prims in *Second Life*

> To build a one-prim stool, the user may rez a tube,[1181] stretch it (X to 0.7m), set the hole size Y to 0.5, the profile cut begin and end values to 0.25 and 0.95 respectively, and carve out the seat by setting the hollow value to 55.
>
> To build a stool with four prims instead, the user may rez a cylinder and flatten it by setting Z to 0.1m (seat). After placing the seat at sitting height, the user may rez a second cylinder, reduce the diameter (X and Y to 0.05m) and stretch it so that it reaches from the bottom of the seat to the ground (first leg). The user can then click on the leg, press SHIFT and drag the leg along the arrows making a second leg and position it a third of the way around the seat from the first leg. After forming and positioning a third leg, the user can select the seat, hold SHIFT and select the three legs, press CTRL and L to link the different prims together.
>
> Further editing the stools, the user may not only change the features (eg, gravity, friction, and density) of the stools and add textures to its surface,[1182] he/she may also include scripts as content[1183] set permissions[1184] and add a click action to the stool so that he or she can sit with a single left-click by selecting in the 'Click to' menu under the General tab of the editing tool the 'Sit on Object' option.

But not all UGC in *Second Life* is made from prims, pre-existing content may be modified and manipulated (eg, tattoos for avatars, custom textures for clothes),[1185] and objects may be created using CAD programs, editors or other software tools and uploaded to *Second Life*. Assuming the user expended a *de minimis* level of creativity, however, the graphical display of every object, whether made from prims,[1186] based on pre-existing content[1187] or created outside *Second Life* and uploaded, is eligible for copyright protection.[1188]

Remembering that the operator must *define* the uploaded UGC in the Software and add it to the central server system before it is made allocatable, usable and perceptible in the VW,[1189] one

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hollowed out and otherwise modified. Objects can be made of one or more prims, which can then be linked together to form more sophisticated objects. Each prim has one or more textures applied to its surface and can contain numerous items inside, including other objects, textures and software scripts. Please note that *SL* users can also create objects outside the VW using CAD programs, editors or other software tools and upload them to *SL*. See generally White, *Second Life: A Guide to Your Virtual World* (n1179) 118ff (describing the *SL* building basics).

[1181] To 'rez' is a verb commonly used in *SL* for the creation or making appear of objects, which dates back to Tron (1982), one of the first movies to use computer-generated graphics and to represent a VW.

[1182] A texture or image is a two-dimensional object which can be used to cover the surfaces of a prim as a visual representation of the material and look of an object or to make clothing and tattoos. Textures can be purchased or found for free in *SL*, or created in third-party graphic programs and uploaded to *SL* for L$10 per image.

[1183] n112. In *SL* scripts are written in the Linden Scripting Language largely based on the programming languages Java and C can be placed inside any prim. To include a script, the user must right-click on the existing object and click Edit. In the edit window the user must select the Content submenu, then New Script, add a new script and click save (eg, Infinity Ball Script, Appendix C1).

[1184] ibid.

[1185] The properties, fixed script and programming code of the pre-existing objects are set out in the server version. (Matt Mihaly).

[1186] Subch7.2.5.

[1187] Subch7.2.6.

[1188] Subch4.2 (referring to *Feist Publications Inc v Rural Telephone Service Co Inc* [n221] 350).

[1189] See nn130ff; 1248ff (and accompanying text).

might also ask whether the user may claim copyright in the programmer-modified graphical elements that complement the UGC release version (ie, images and textures[1190]).[1191]

Noting that both works, the uploaded original graphical display and the copy of the release version, are of the same substance, one might argue that they are two different versions of the same expression, rather than two different expressions of the same idea, and that hence the user may also claim copyright (if any) in the programmer-modified graphical elements that complement the UGC release/client version.[1192]

7.2.1.3 Characters in Virtual Worlds

While users may not be able to *create* characters themselves,[1193] often they can choose *their* favourite character from a selection of character types and will have vast opportunity to shape its attributes and appearance.[1194]

For instance, users may select one of 34 'new', 'classic' or 'fantasy' templates before entering *Second Life*;[1195] there are 129,600/100,800 possible combinations to shape the appearance of a male/female human paladin in *World of Warcraft*;[1196] and users in *Entropia Universe* can choose between 11 male/female presets for human characters, or use sensitive sliders to tailor in fine nuances almost every part of the character's body, hair and face (resulting in 87^n/88^n possible combinations).[1197] Similar to *Entropia Universe*, users may then use sliders in *Second Life* with values from 0-100 to edit *their* initial template, offering 65^100 combinations to tailor the new look of each character.[1198]

Often complemented with the appropriate equipment (eg, a paladin with plate, shield, axe, and sword) or different clothes, 'new skin', jewelry, and accessories (eg, a pirate with earring, eye patch, peg leg, and a parrot on his shoulder in *Second Life*), most character base shapes in VWs are human and other races available in fantasy worlds often originates from well-known mythical creatures such as dwarves, elves, gnomes, orcs and trolls.[1199]

Considering that originality in graphic displays of comic strip characters has mainly been found

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[1190] n120.
[1191] n121 (release version).
[1192] Subch7.2.4 (for a more detailed discussion of 'two different versions of the same expression').
[1193] *SL* users can create different looks and shapes and later keep them in the *My Inventory* closet, wearing them as outfits at the click of a button.
[1194] Appendix B (shaping the character's appearance).
[1195] <http://secondlife.com>.
[1196] <https://worldofwarcraft.com/en-us>. The appearance/characteristic of the character is strongly dependent on the character's race, class and profession. In *WoW*, players can choose and shape the appearance as well as the characteristics of Humans, Draenei, Dwarves, Gnomes, Night Elves, Pandaren and Worgen of the Alliance or Blood Elves, Goblins, Forsaken/Undead, Orcs, Pandaren, Tauren and Trolls of the Hordes.
[1197] <www.entropiauniverse.com>. It was impossible to determine the exact number of possible slider settings, but even if only assuming that each slider does only have 10 different settings, there are already 87^10/88^10 possible combinations to shape the appearance of a male/female character in *EU*.
[1198] *SL* users can create different looks and shapes and later keep them in the *My Inventory* closet, wearing them as outfits at the click of a button.
[1199] n1196.

if these characters combine a graphic representation with some defined character traits, however, it is questionable whether characters in VWs may be eligible for copyright protection as pictoral or graphic work.[1200] In *Detective Comics Inc v Bruns Publications Inc*, for example, the court held that the defendant's character 'Wonderman', 'appropriated the pictorial and literary detail embodied in [the claimant's] copyrights' of 'Superman'.[1201]

'[W]hile many literary characters may embody little more than an unprotected idea (...), a comic book character, which has physical as well as conceptual qualities, is more likely to contain some unique elements of expression.'[1202] Similar to a linear literary work or story, which 'begins, continues and ends', a 'graphic or three-dimensional work is created to be perceived as an entirety';[1203] and together, 'appearance, behaviour, [and] traits'[1204] increase distinctiveness of the character and hence the likelihood of finding originality.

'[C]ourts have consistently extended copyright protection to characters which are graphically represented',[1205] but this does not necessarily mean that VW characters would also be protected. Using sliders to change the appearance of the chosen human or well-known mythical creature may not be sufficient. Creative combinations to shape a character's appearance are almost impossible, the combinations offered by the Software only vary slightly (eg, 12 different face expressions for a human paladin in *World of Warcraft*[1206]), and are restricted by the (irrevocably chosen) race of that character.

Even the use of different items (eg, plate, shield, axe and sword in MMOGs, or 'new skin', jewelry, and accessories in metaverses) may not be enough to find originality in the rather stereotypical character's 'appearance, behaviour or traits' (copyright protection for the object/item itself will have to be considered separately[1207]). Most characters use different objects/items to improve statistics, tools and abilities, replace one object/item quickly with another, or may even keep different looks and shapes in *Second Life's My Inventory* closet, and wear them as outfits at the click of a button. Such quickly changing characters will hardly have a particular 'appearance, behaviour or traits' eligible for copyright protection.

Only if CAD programs, editors or other software tools outside the VW are used to create a

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[1200] Kelly M Slavitt, 'Gabby in Wonderland - Through the Internet Looking Glass' (1998) 80 JPTOSoc 611, 618 (citing *inter alia Hill v Whalen & Martell Inc* 220 F 359 [SDNY 1914]; discussing a performance using the characters 'Nutt and Giff', which were costumed and made up to be understood as, used the same language and utterances as, and the rest of the words in substantial harmony with the copyright protected characters 'Mutt and Jeff'); Woodrow Barfield, 'Intellectual Property Rights in Virtual Environments: Considering the Rights of Owners, Programmers and Virtual Avatars' (2006) 39 AkronLRev 649, 674.
[1201] *Detective Comics Inc v Bruns Publications Inc* 111 F2d 432, 433 (2d Cir 1940).
[1202] *Walt Disney Productions v Air Pirates* 581 F2d 751 (9th Cir 1978) 755 (citation omitted).
[1203] *Warner Bros Inc v American Broadcasting Companies Inc* 720 F2d 231, 241-42 (2d Cir 1983).
[1204] ibid 242.
[1205] Slavitt, 'Gabby in Wonderland - Through the Internet Looking Glass' (n1200) 628.
[1206] Appendix B2.
[1207] Subchs7.2.1.1; 7.2.1.2.

sufficiently original (often imaginary not stereotypical) character look, shape or appearance, that character (in addition to [1] the character's objects carried and items equipped,[1208] and [2] the graphical elements of the release version of the new characters, objects and items *defined* in the Software and added to the central server system[1209]) may be eligible for copyright protection as a pictoral or graphic work.[1210]

7.2.2 Audio-Visual Work

While VAs may be protected by copyright as pictorial or graphic works if they are fixed and demonstrate originality and some creative spark,[1211] only original works consisting of 'a series of related images which are intrinsically intended to be shown by the use of machines or devices (...) together with accompanying sounds, if any, regardless of the nature of the material objects (...) in which the works are embodied' may also be protected as audiovisual works.[1212]

Initially created by the operator,[1213] VWs are a rich combination of sights and sounds. But this audiovisual display of the VW changes over time; users who enter the VW may interact with other characters, objects and items, participate in quests and adventures (MMOGs), or create new and modify existing content (metaverse).

In *Stern Electronics v Kaufman*,[1214] for example, copyright in the 'sights and sounds' of the game *Scramble* was disputed, claiming that the audiovisual work was neither fixed in a tangible medium nor original because 'the sequence of some of the images appearing on the screen during each play of the game will vary depending upon the actions taken by the player'.[1215] On appeal the Second Circuit held that the 'player's participation does not withdraw the audiovisual work from copyright eligibility', nor does the fact that the pictoral, graphic and audiovisual work may be embodied in the same data as the program,[1216] but that '[t]he repetitive sequence of a substantial portion of the sights and sounds of the game qualifies for copyright protection as an audiovisual work'.[1217]

Applying *Stern Electronics v Kaufman* to VWs, the question is whether a chosen 'substantial portion of the sights and sounds' may be repetitive enough to merit copyright protection. While recorded original short clips (eg, explaining the next quest in MMOGs) may indeed qualify for

[1208] Including both the original display and the programmer-modified release version (ibid).
[1209] Subch7.2.4 (for a more detailed discussion of 'two different versions of the same expression'); n121 (release version); nn130ff; 1189ff (and accompanying text).
[1210] *Feist Publications Inc v Rural Telephone Service Co Inc* (n221) 350.
[1211] n229.
[1212] n230.
[1213] n47 (on the use of operators, programmers, developers, authors and creators in this thesis).
[1214] *Stern Electronics Inc v Kaufman* (2d Cir 1982) (n230) 852ff.
[1215] ibid 855.
[1216] ibid 856 ('The same thing occurs when an audio tape embodies both a musical composition and a sound recording.') See *Stern Electronics Inc v Kaufman* (ED NY 1981) (n230) 639; *Midway MFG Co v Strohon* (n230) 749; *Atari Games Corp v Oman* 888 F2d 878, 885-86 (DC Cir 1989).
[1217] *Stern Electronics Inc v Kaufman* (2d Cir 1982) (n230) 852; *Williams Electronics Inc v Arctic International Inc*.

copyright protection,[1218] unrecorded user interactions may not.[1219]

Once VWs are diverse and complex enough, a sufficient repetition of a 'substantial portion of sights and sounds' is rather unlikely.[1220]

7.2.3 Compilation of Choices: Character Customisation and Levelling-up

After an initial selection of the character's race, class, shape and appearance,[1221] any such character will individually evolve over time, effort and money spent and the choices made in VWs. In contrast to the metaverse where character choices are mostly made out of vanity, MMOGs require their players to level-up.[1222]

Similar to other set features of the game-play, the requirements for levelling-up are determined by the operator and implemented in the Software,[1223] but it is on the player to make individual choices to weight and form *his/her* favourite character.[1224]

More than its race, class, shape and appearance, players in MMOGs choose the character's professions,[1225] what area in the VW to explore,[1226] what quest and adventure to attempt; what character/monster to battle; what weapon, armour, object, spell or other item to pick up, carry and use; and how to train and use the character's profession[1227] to ultimately improve the character's statistics, tools and abilities (and level-up within the MMOG).

Example 7-3 Choices in *World of Warcraft*

> Exploring *World of Warcraft* with *his* human paladin JonasJustus (having Mining and Blacksmithing as primary professions[1228]), for example, this author decided to visit Westfall, talk to Farmer Saldean, accept his quest 'The Killing Fields', kill 20 Harvest Watchers,[1229] and to choose as reward the Harvester's Pants (61 Leg

[1218] Subch4.3.1.1.

[1219] Scott M Kelly and Kirk A Sigmon, 'The Key to Key Presses: eSports Game Input Streaming and Copyright Protection' (2018) 1 InteractiveEntLRev 2 (discussing the hot news misappropriation *International News Service v Associated Press* 39 SCt 68, 71 [1918] 71f ['one who has gathered general information or news at pains and expense for the purpose of subsequent publication through the press has such an interest in its publication as may be protected from interference']; *National Basketball Association v Motorola Inc* 105 F3d 841 [2d Cir 1997]; *World Chess US Inc v Chessgames Services LLC* 1:16-cv-08629, 9 [SDNY 2016] ['it is well-established that sports scores and events, like players' moves in (a chess championship), are facts not protectable by copyright'] and the copyrightability of the user's key presses in video games).

[1220] *Stern Electronics Inc v Kaufman* (2d Cir 1982) (n230) 855; Miller, 'Determining Ownership in Virtual Worlds: Copyright and License Agreements' (n229) 453-55.

[1221] See Blizzard, 'WoW Game Guide: Races' (*WorldofWarcraft.com,* nd) <https://worldofwarcraft.com/en-us/game/races> accessed 17 November 2018; Blizzard, 'WoW Game Guide: Classes' (*US.Battle.net,* nd) <http://us.battle.net/wow/en/game/class/> accessed 17 November 2018; subch7.2.1.

[1222] n21.

[1223] n1166.

[1224] Reynolds, 'Hands off MY Avatar! Issues with Claims of Virtual Property and Identity' (n1112).

[1225] n1161ff.

[1226] Each area does have its very own quests, adventures and often monsters.

[1227] **Example 7-1** Crafting in *World of Warcraft*.

[1228] Chosen at the time of play to mine ore, smelt ore, and smith metal weapons as well as mail and plate armour. See nn1161; 1164; 1165.

[1229] A type of harvest golem, a mechanical construction programmed to hunt and kill humans in Westfall (WoWWiki, 'Harvest Watcher' [nd] <http://wowwiki.wikia.com/wiki/Harvest_Watcher> accessed 17 November 2018).

> Armour, +3 Spirit, +2 Agility) and not the also available Harvester's Robe (28 Chest Armour, +2 Spirit, +2 Stamina). Whilst still in Westfall, this author then chose to visit the People' Militia on Sentinel Hill, talk to Captain Danuvin, accept his quest 'Patrolling Westfall', patrol the grasslands, track down and slay enough Gnolls to bring back 8 Gnoll Paws,[1230] and to receive as reward the Belt of the People's Militia (73 Waist Armour) and not the Bracers of the People's Militia (11 Wrist Armour). For the completion of the last quest, the character JonasJustus also gained 975 experience points and 250 reputation points with Stormwind.

Considering that any such decision directly or indirectly influences the character's statistics, tools and abilities, one might find that the player's choices and not the operator's Software, or character database ultimately form the individual character.[1231]

A single choice (insofar different from its graphical display or code) made during game-play is not protected by copyright.[1232] Although such choice may be 'infused with the author's taste or opinion'[1233] it is still based upon 'preexisting materials or data'.[1234] In contrast, the character itself may qualify as a compilation eligible for copyright protection. While the character's database entries will be arranged by the Software in a functional, rather unoriginal, practically inevitable order to enable the computer to read out the data, the abundance of choices made during game-play, selecting 'preexisting materials or data' to ultimately form the character, is likely to meet the *de minimis* level of creativity required.[1235] Different are only those choices made to shape the initial appearance of the character (in metaverses and MMOGs), which do not require a true selection[1236]—all sliders have to be used (to even consider copyright protection) and the resulting character will still only have marginal differences to any other character predetermined by the Software.[1237]

[1230] A race of Lordaeron, an extremely aggressive hyena-like humanoid (WoWWiki, 'Gnoll' [nd] <http://wowwiki.wikia.com/wiki/Gnoll> accessed 17 November 2018).

[1231] Subch4.3.1.3; Jay Lee, 'Data-Driven Subsystems for MMP Designers: A Systematic Approach' (2003) 10 GDM 34 (on databases used for MMOG design).

[1232] 17 USC, s103(b) ('copyright in a compilation [...] does not imply any exclusive right in the preexisting material').

[1233] *CCC Information Services Inc v Maclean Hunter Market Reports Inc* 44 F3d 61, 71 (2d Cir 1994) (holding that 'the selection and arrangement of data in [a compilation of used car valuations] displayed amply sufficient originality to pass the low threshold requirement to earn copyright protection'); ibid 70 (stating that the use of the merger doctrine to rule out protection for the compilation itself by characterising as 'ideas' the criteria used to select or arrange its contents would render copyright for compilations 'illusory').

[1234] 17 USC, s101 ('compilation'). Subch7.2.1.1.

[1235] *Feist Publications Inc v Rural Telephone Service Co Inc* (n221) 345; *Bellsouth Advertising & Publishing Corp v Donnelley Information Publishing Inc* 999 F2d 1436, 1473 (11th Cir 1993) ('Selection implies the exercise of judgment in choosing which facts from a given body of data to include in a compilation.') (citation omitted).

[1236] *Bellsouth Advertising & Publishing Corp v Donnelley Information Publishing Inc* (n1235) 1473.

[1237] See *Warren Publishing Inc v Microdos Data Corp* 115 F3d 1509, 1518 (11th Cir 1997) (holding that the claimant 'did not exercise any creativity or judgment in "selecting" cable systems to include in its Factbook, but rather included the entire relevant universe known to it'); *American Dental Association v Delta Dental Plans Association* 1996 WL 224494, *13ff (ND Ill 1996) (selecting dental procedures in 'Code on Dental Procedures and Nomenclature' was intended to be comprehensive, and therefore did not exhibit minimal originality to be copyrightable; arrangement of procedures under various headings and subheadings was likewise unoriginal and unprotectible).

Not all materials or data will be 'individually accessible' upon completion,[1238] but this does not mean that the result is a joint or derivative work,[1239] but rather a whole work more likely to be protected by copyright as a compilation in (the character database of the[1240]) MMOG than it will perhaps ever be as a graphical display.[1241]

7.2.4 Literary Work / Computer Program

Considering how VAs function and interact with the VW, one might also question whether any original UGC uploaded to the VW may also be protected by copyright as a computer program and hence as a literary work.[1242]

To be eligible for copyright protection, the UGC programming code uploaded *describing* its graphical display and functionality must qualify as a computer program, be separable from the basic Software programming code[1243] and be authored by the user.

According to 17 USC, s 101, a computer program is a 'set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result'. A broad understanding of this term may include the mere display of results because the underlying code will always contain information and instructions to optically or acoustically transform the digitised information into a perceivable creation (pixels and sound).

Pixels and sound may be protected by copyright,[1244] but if digitisation alone were sufficient to justify the qualification as a computer program,[1245] copyright protection would be available to almost all works in digital form. And, it should not be forgotten that 'the design of a useful article [here the computer operation to portray and communicate the display] shall be considered a pictorial [or] graphic [...] work only if, and only to the extent that, such design incorporates pictorial [or] graphic [...] features that can be identified separately from, and are

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[1238] Subch7.2.7.

[1239] Neither the options provided by the operator nor the user's choice are protected by copyright, and even if, options are not 'recast, transformed, or adapted'; and for joint authorship the parties are lacking the necessary intention (subch7.2.5). 17 USC, s101 ('derivative [and] joint work').

[1240] The character compilation itself would be an entry within the database. See Lee, 'Data-Driven Subsystems for MMP Designers: A Systematic Approach' (n1231) 34ff.

[1241] *Feist Publications Inc v Rural Telephone Service Co Inc* (n221) 340ff; *Bellsouth Advertising & Publishing Corp v Donnelley Information Publishing Inc* (n1235) 1473. Subch7.2.1.

[1242] Subch4.3.1.2.

[1243] Candidus Dougherty and Francis Gregory Lastowka, 'Copyright: Copyright Issues in Virtual Economies' (2007) 9 ECL & Pol 28.

[1244] Subch4.3.1.2, n219.

[1245] *Computer Associates International Inc v Altai Inc* (n230) 703 ('If a computer audiovisual display is copyrighted separately as an audiovisual work, apart from the literary work that generates it [i.e., the program], the display may be protectable [...]. Of course, the copyright protection that these displays enjoy extends only so far as their expression is protectable.'); *Atari Games Corp v Nintendo of America Inc* 1993 WL 214886, *3 (ND Cal 1993) ('Cases that grant protection to program output, however, usually arise where the program instructions generate an audiovisual display; copyright protection exists only because the output itself is a proper subject for copyright, not simply because it was generated by a copyrightable software program.'); *Design Data Corp v Unigate Enterprise Inc* 63 FSupp3d 1062, 1068 (ND Cal 2014); Marcus, 'Fostering Creativity in Virtual Worlds: Easing the Restrictiveness of Copyright for User-Created Content' (n229) 76ff.

capable of existing independently of, the utilitarian aspects of the [computer operation]'.[1246] For this reason, a distinction is necessary. Based on how the individual creative content (if any) is reflected, a boundary may be defined by the extent to which the instructions go beyond the necessary presentation of the work.

Example 7-4 When does Programming Code qualify as a Computer Program?

> If user A creates, draws or builds an object on his/her computer using a CAD program, editor or other software tool, the creation of the user will often only be reflected in the graphical work (eg, geometries, and textures) but not in the underlying programming code, even if the data necessary for the representation of the object was generated by such computer program. However, if user A also uses some scripting software, for example to program which user can exercise control over the object, whether the object can be moved in the VW or not, whether it is penetrable like virtual water or impenetrable like a virtual wall, and the like, the programming code may qualify as a computer program.

Original script and programming code that *describe* the functionality of UGC may therefore qualify as a computer program[1247] and be eligible for copyright protection as a 'collective work', or individually if separable from the graphical work (eg, geometries and textures).

Remembering that the operator must *define* the uploaded UGC in the Software and add it to the central server system before it is made allocatable,[1248] usable and perceptible in the VW,[1249] one might also ask whether the user may claim copyright in the programmer-modified script and programming code that complements the UGC server version.[1250] Noting that both works are of the same substance (describing both the UGC attributes and functionality), it seems as if only the external manifestation of the expression is changing.

In *Synercom Technology v University Computing*,[1251] for example, the District Court of the Northern District of Texas held that a translation of programming languages infringes the original work analogous to a translation from English to French.[1252] Reasoning that the fixed original programming language constituted an expression and not an idea, the court stated that the act of translating was essentially copying that original expression, altering only the 'external

[1246] 17 USC, s101. See also subch7.2.1 (discussing the useful article doctrine).
[1247] 17 USC, s101 ('computer program'). Subch2.2.
[1248] n110 (GUIDs).
[1249] See nn130ff; 1189ff (and accompanying text).
[1250] Subch2.2. See Natalie Heineman, 'Computer Software Derivative Works: The Calm before the Storm' (2008) 8 JHiTechL 235, 248f; generally Marc J Gordon, 'Derivative Work Protection for Computer Software Conversions' (1985) 7 Comm & L 3. See also nn113ff (and accompanying text).
[1251] *Synercom Technology Inc v University Computing Co* 462 FSupp 1003 (ND Tex 1978); cf *SAS Institute Inc v S&H Computer Systems Inc* 605 FSupp 816 (MD Tenn 1985).
[1252] *Synercom Technology Inc v University Computing Co* (n1251) 1016. See 17 USC, s103 (derivative works).

manifestation' of the expression.[1253]

Applying the findings of the Synercom court, one might argue that the uploaded original script and programming code and the copy of the server version, are two different versions of the same expression, rather than two different expressions of the same idea, and that hence the user may also claim copyright (if any) in the programmer-modified script and programming code that complements the UGC server version.[1254]

7.2.5 Computer or User-Generated Work?

Considering the possibility of copyright protection for some UGC display, compilation, script and programming code created using in-game building tools and set features of game-play, third party suppliers' CAD programs, editors and other software tools, one might be forgiven for immediately asking if the user can actually be the author of such works.[1255]

While authors have always used technical means such as 'quill pens, typewriters, and cameras' to create works, the use of computers instructed by computer programs may be different.[1256] Although some programs like word processing programs are passive tools which make the computer sometimes comparable to a typewriter, other programs may already contribute to creative authorship.[1257] But one might only assume that the users' input is more than minor when creating original UGC. And even if not, it is unlikely that the computer[1258] or the programmer of the software tool[1259] would be regarded as an author or joint author of the work. So the remaining question will be whether the operator (or third party supplier), the user or neither one of them is the author of the UGC work.[1260]

[1253] ibid 1016

[1254] See nn130ff; 1189ff (and accompanying text).

[1255] Subchs7.2.1; 7.2.2; 7.2.4; 7.2.5; 7.2.6. See also nn1192; 1209; 1250ff (each with accompanying text) discussing copyright in UGC *defined* in the Software and added to central server system.

[1256] Marshall A Leaffer, *Understanding Copyright Law* (5 edn, CAP 2010) §3.07.

[1257] Eg, software programs composing music or graphic images with only a minor human input. ibid §3.07, 109-10; generally Andrew J Wu, 'From Video Games to Artificial Intelligence: Assigning Copyright Ownership to Works Generated by Increasingly Sophisticated Computer Programs' (1997) 25 AIPLAQJ 131.

[1258] Arthur R Miller, 'Copyright Protection for Computer Programs, Databases, and Computer-Generated Works: Is Anything New since CONTU?' (1993) 106 HarvLRev 977, 1049 ('Today's "computer-generated" works still have identifiable human authors, and that will be true for the foreseeable future.'); Pamela Samuelson, 'Allocating Ownership Rights in Computer-Generated Works' (1986) 47 UPittLRev 1185, 1192ff. Bearing in mind that the US Congress was *only* empowered 'To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries;' (Art1, s8, c8 of the Constitution of the United States of 17 September 1787 [in subsequent footnotes use: **US Constitution**]), one might notice that computers will not need such incentive.

[1259] Any software used for the creation of VAs prepared for the operator (or third party supplier) will be a 'work for hire' (17 USC, ss101; 201[b]).

[1260] Noteworthy, CONTU, *Final Report of the National Commission on New Technological Uses of Copyrighted Works* (Digital Law Online, 31 July 1978) 44-45 likened the computer to a camera or typewriter and stated that the 'author [is the] one who employs the computer'. Contra Office of Technology Assessment, *Intellectual Property Rights in an Age of Electronics and Information* (US Government Printing Office, 1986) 72-73 (criticising the classification of the computer as a passive tool); Darin Glasser, 'Copyrights in Computer-Generated Works: Whom, If Anyone, Do We Reward?' (2001) 0024 DukeL & TechRev para1, 24 (noting that 'the computer cannot be viewed as a person acting within the scope of employment'); generally Samuelson, 'Allocating Ownership Rights in

While the operator (or third party supplier) owns copyright in the software,[1261] there are various reasons why the operator (or third party supplier) should not also be allowed to claim copyright in the display, compilation, script and programming code so created.[1262] According to 17 USC, s 102(a), for example, 'Copyright protection subsists (...) in original works of authorship fixed in any tangible medium of expression.' 'As a general rule, the author is the party who actually creates the work, that is, the person who translates an idea into a fixed, tangible expression entitled to copyright protection.'[1263] It is the user and not the operator (or third party supplier) who has the idea, builds, and uploads the stool to *Second Life*[1264] or selects, arranges and locks down the wooden crates, chessboards, fish steaks and fancy shirts of the piano in *Ultima Online*, or at least he/she is the person most directly responsible for their fixation.[1265]

The operator (or third party supplier) is without doubt—not the single author of the display, compilation, script and programming code but would it be possible that the use of the software to *create* them supports the finding of a derivative or joint work?[1266] According to 17 USC, s 101, a work must be 'based upon one or more preexisting works' to be even considered as a derivative work.[1267] From the common sense understanding of the two words 'based upon', it appears that the display, compilation, script and programming code are derived from the software. Without the third party software, the VA in its form created by the user and eligible for copyright protection would not have come into existence.[1268] But it is rather unlikely that the courts will ever consider the software's output as a derivative work because otherwise the operator (or third party supplier) would receive an additional exclusive *right to use* its computer program, not yet defined in the Copyright Act.[1269]

The chosen language and definition of derivative work in the Copyright Act may be wide but there is no indication that the US Congress sought after expanding the exclusive rights already granted to the author.[1270] And since the software is typically sold, leased and licensed,[1271] the operator's (or third party supplier's) stake in the display, compilation, script and programming

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Computer-Generated Works' (n1258) 1200ff.

[1261] Subch4.3.1.2.

[1262] Leaffer, *Understanding Copyright Law* (n1256) §3.07. Subchs7.2.1; 7.2.2; 7.2.4; 7.2.5; 7.2.6.

[1263] *Community for Creative Non-Violence v Reid* 109 SCt 2166, 2171 (1989) (referring to 17 USC, s102); *Burrow-Giles Lithographic Co v Sarony* 111 US 53, 57-58 (1884) ('An author [...] is "he to whom anything owes its origin; originator; maker; one who completes a work of science or literature."')

[1264] Uploaded content is typically checked in a holding area for third party copyright infringements and Contract violations, before being *defined* in the Software and added to the central server system.

[1265] ibid; *Andrien v Southern Ocean County Chamber of Commerce* 927 F2d 132, 135 (3d Cir 1998) ('Poets, essayists, novelists, and the like may have copyrights even if they do not run the printing presses or process the photographic plates necessary to fix the writings into book form.'); 17 USC, s101 ('fixed') 'by or under the authority of the author'.

[1266] Subch7.2.1.1.

[1267] 17 USC, s101 ('derivative work').

[1268] Samuelson, 'Allocating Ownership Rights in Computer-Generated Works' (n1258) 1205.

[1269] 17 USC, s106.

[1270] Samuelson, 'Allocating Ownership Rights in Computer-Generated Works' (n1258) 1212ff, 1219.

[1271] Subchs5.2.1; 5.3; 5.2.2

code created by the user is even more questionable. One might only assume that the benefit received from the sale (lease) and licence of the CAD program, editor or other software tool should effectively end the third party supplier's interest in the output.[1272] But the situation for the operator appears to be somehow different.

Similar to third party software the programming code of the Client Software is not only licensed but the copy of it is often sold.[1273] Hence, the creation of UGC does not only raise the question of copyright ownership but also affects the integration of the UGC copy in the VW, Software and character database (as to be discussed in sub-chapter 7.2.6). The operator's interest in the output,[1274] however, does not seem to justify a derivative work, especially if the users' are *forced* to grant an 'unrestricted, unconditional, unlimited, worldwide, irrevocable, perpetual, and cost-free' licence to the operator.[1275] One might also acknowledge that the National Commission on New Technological Uses of Copyrighted Works (**CONTU**) of the US Congress suggested that the user of the program should be the author of the output.[1276] 'To the extent that the CONTU Final Report may be construed to reflect what Congressional intent was',[1277] there is therefore another reason to believe that the operator's claim to a derivative work—only because of the necessary use of the Software to create it—would not be successful.

The operator may be the copyright owner of the Software used for the creation of the display, compilation, script and programming code but there is no precedent or statutory authority justifying any possible claim to joint authorship because of that use. According to 17 USC, s 101, a joint work is 'a work prepared by two or more authors with the intention that their contributions be merged into inseparable or interdependent parts of a unitary whole',[1278] each author of the joint work would share an undivided interest in the entire joint work.[1279] Two different test may be used to evaluate the contribution of the operator, determining its authorship status. The first is Goldstein's 'copyrightable subject matter test' and the second is

[1272] Any further claim of authorship by the third party supplier in the output created after selling, leasing and licensing the third party software to the user would result in an unreasonable imbalance in rights likely to render such a restriction on the user unenforceable (compare subchs6.4.1; 6.4.2).
[1273] Subchs5.2.1; 5.3.1.
[1274] Subch6.4.1 (discussing the operator's interests).
[1275] *SLToS*, cc2.3(paras4&5); 2.4(para1).
[1276] CONTU, *Final Report of the National Commission on New Technological Uses of Copyrighted Works* (n1260) 44-45; Samuelson, 'Allocating Ownership Rights in Computer-Generated Works' (n1258) 1211 ('the programmer's right to negate any assertion of rights by the user would render meaningless CONTU's proposal that the user be treated as the "author" and "owner" of the output, because in reality the programmer's power over derivatives would give him virtually total control over the output of the program').
[1277] Samuelson, 'Allocating Ownership Rights in Computer-Generated Works' (n1258) 1213; Glasser, 'Copyrights in Computer-Generated Works: Whom, If Anyone, Do We Reward?' (n1260) para20.
[1278] 17 USC, s101 ('joint work').
[1279] *Donna V Dodd, Made & Co Inc* 374 FSupp 429 (SDNY 1974); *Erickson v Trinity Theatre Inc* 13 F3d 1061 (7th Cir 1994).

Nimmer's *de minimis* standard test.[1280]

According to Goldstein's test a 'collaborative contribution will not produce a joint work and a contributor will not obtain a co-ownership interest, unless the contribution represents original expression that could stand on its own as the subject matter of copyright'.[1281] Nimmer's position, on the other hand, is that the only requirement to achieve joint authorship is simply more than a *de minimis* contribution by each author.[1282] '*[D]e minimis* [requires that] more than a word or line must be added by one who claims to be a joint author.'[1283] Whilst one might assume that the operator is the legal author of the Software,[1284] one might question the role of the Software in the creative process and output, but the actual difficulty comes in defining the scope of the operator's and user's intention.[1285]

'The requisite intent to create a joint work exists when the putative joint authors intend to regard themselves as joint authors', the mere intention to merge their contributions into one unitary work is not sufficient.[1286] Intent may 'not turn solely on the parties' own words or professed state of mind',[1287] or on the (unenforceable) Contract alone,[1288] but rather judged by a standard of reasonableness. And there is no reason to believe that any user who cherishes *his/her* VA would have the intention to share authorship in *his/her* VA.[1289]

After all, the protected display, compilation, script and programming code are computer-assisted rather than computer-generated works,[1290] and neither the operator nor any third party supplier becomes the author/co-author just because of the users' use of their software to create them.

7.2.6 Operator and User-Generated Work?

Considering further that any UGC display, compilation, script and programming code eligible for copyright protection has to be *included* in the VW, Software and character database to

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[1280] *Erickson v Trinity Theatre Inc* (n1279) 1069ff; Russ VerSteeg, 'Defining "Author" for Purposes of Copyright' (1996) 45 AmULRev 1323, 1326ff.

[1281] Paul Goldstein, *Goldstein on Copyright* (3 edn, Aspen 2005) §4.2.1.2 (Rel 2015). The copyrightable subject matter test has been adopted by a majority of courts (eg, *Ashton-Tate Corp v Bravo Technologies Inc* 916 F2d 516, 521 [9th Cir 1990]; *MGB Homes Inc v Ameron Homes Inc* 903 F2d 1486, 1493 [11th Cir 1990]; *Childress v Taylor* 945 F2d 500, 506ff [2d Cir 1991]; *Erickson v Trinity Theatre Inc* [n1279] 1069-70), and Goldstein's view is substantiated by the use of the term 'author' in 17 USC, 101 ('a work prepared by two or more authors'), which suggests that each collaborator's contribution must be a copyrightable 'work of authorship' within the meaning of 17 USC, s102(a).

[1282] Nimmer and Nimmer, *Nimmer on Copyright: A Treatise on the Law of Literary, Musical and Artistic Property, and the Protection of Ideas* (n227) §6.07 (Rel 15-6/1983).

[1283] ibid.

[1284] Subch4.3.1.2; 17 USC, s201(b) ('In the case of a work made for hire, the employer or other person for whom the work was prepared is considered the author for purposes of this title.')

[1285] *Childress v Taylor* (n1281) 508; *Thomson v Larson* 147 F3d 195, 201 (2d Cir 1998); Samuelson, 'Allocating Ownership Rights in Computer-Generated Works' (n1258) 1223.

[1286] *Papa's-June Music Inc v McLean* 921 FSupp 1154, 1157 (SD NY 1996) (citing *Childress v Taylor* [n1281] 507-08).

[1287] *Thomson v Larson* (n1285) 195ff.

[1288] Subch6.4.

[1289] Farnsworth, *Contracts* (n341) §3.6 (objective theory of assent).

[1290] Subchs7.2.1; 7.2.2; 7.2.4; 7.2.5; 7.2.6.

become available, perceptible and valuable,[1291] one might also question whether (1) the user becomes a co-author of the VW; Software and character database, (2) the operator becomes a co-author of the UGC display, compilation, script and programming code and whether (3) a user might claim sole copyright ownership in the UGC display, compilation, script and programming that is/becomes *combined* with the VW, Software and character database.[1292]

Most users would want *their* UGC works to be/become part of the VW, Software and character database,[1293] because outside the online environment they have only limited or no value.[1294] But none of the operators has yet agreed to truly share copyright ownership in their creation,[1295] and without intention of joint authorship the user cannot become a co-author of the VW, Software and character database. Moreover, the operator may have permitted the user to upload and/or *fix* the UGC display, compilation, script and programming code,[1296] but the user's intention alone to merge them interdependently (not inseparably) into the VW, Software and character database is not sufficient to establish his/her intention to joint-authorship.[1297] Therefore, the operator does not become a co-author of the UGC display, compilation, script and programming code.

Regarding the *combined* 'unitary whole',[1298] one might ask whether the user can still be the sole author of the uploaded and *defined* UGC display, compilation, script and programming code.[1299] Only contributions of different authors[1300] that are clearly identifiable and separable and still have 'independent meaning standing alone' may be acknowledged individually.[1301]

[1291] Compare subch7.2.5 (regarding the use of the operator's or third party supplier's software to create them). Copies of the VA display may be reproduced for outside use (eg, VA screen shots for advertisement) but any such reproduction does require first perception in the VW.

[1292] Miller, 'Determining Ownership in Virtual Worlds: Copyright and License Agreements' (n229) 458.

[1293] Compilations do not have to be uploaded, they are already part of the VW, Software and character database. See *Papa's-June Music Inc v McLean* (n1286) 1157 ('It is not enough that they intend to merge their contributions into one unitary work.')

[1294] Unless passporting of VAs becomes reality (n1372), the value of VAs will only ever materialise in the VW.

[1295] Eg, *SLToS*, c2.1 'Linden Lab and its licensors own all right, title, and interest in and to the Service, including all Intellectual Property Rights therein, other than with respect to user Content'; or the licence agreement of the open-source MMOG *PlaneShift*, 'Any other work (such as 2D graphics, 3D models, music and sounds, character descriptions or fantasy world histories) will be the property of Atomic Blue once you submit it, but you will continue to have the right to display the work as part of a personal portfolio.' (Atomic Blue, 'PlaneShift License' [n1036]).

[1296] nn1265; 1293 (fixation); nn130ff; 1189ff; 1248ff (and accompanying text) (discussing copyright in UGC *defined* in the Software and added to central server system).

[1297] *Papa's-June Music Inc v McLean* (n1286) 1157 (n1293). See Farnsworth, *Contracts* (n341) §3.6 (objective theory of assent). See also subch7.2.5 (discussing intent).

[1298] *MGB Homes Inc v Ameron Homes Inc* (n1281) 1493 (citing Nimmer and Nimmer, *Nimmer on Copyright: A Treatise on the Law of Literary, Musical and Artistic Property, and the Protection of Ideas* [n227] §6.04 [Rel 1989]); 17 USC, s101 ('joint work' and 'unitary whole').

[1299] See nn130ff; 1189ff; 1248ff (and accompanying text) discussing copyright in UGC *defined* in the Software and added to central server system.

[1300] Subch7.2.5 (discussing Goldstein's 'copyrightable subject matter test' and Nimmer's *de minimis* standard test).

[1301] *Childress v Taylor* (n1281) 505 ('Parts of a unitary whole are "inseparable" when they have little or no independent meaning standing alone. That would often be true of a work of written text, such as the play that is the subject of the pending litigation. By contrast, parts of a unitary whole are "interdependent" when they have some meaning standing alone but achieve their primary significance because of their combined effect, as in the case of the words and music of a song.') See also 17 USC, s101 ('A "collective work" is a work, such as a periodical issue, anthology, or encyclopedia, in which a number of contributions, constituting separate and independent works in themselves, are assembled into a collective whole.')

In contrast to the compilation, fixed script and programming code (or the copy proposed in this thesis[1302]), the display of the UGC is actually perceivable by the human senses and therefore identifiable and separable from the rest of the VW.[1303]

Noting that the UGC display, script and programming code are only subsequently *defined* in the Software, added to the central server system and made allocatable, usable and perceptible in the VW,[1304] one might further agree that none of the newly *defined* display, script and programming code will have been referenced in database entries of/used for pre-existing content.[1305] Technically not interwoven with the VW, Software and character database, the UGC display, script and programming code may be removed effortlessly—often at the stroke of the operator's computer key.[1306] A compilation of choices may be different because it has been created by the user using in-game building tools and set features of game-play, and it refers to pre-existing works of the operator, but it is still separable and identifiable because technically it is only a list of references that can be removed (as a whole or in parts) just as easily.[1307]

Considering that the fixed display, compilation, script and programming code of the user are separable and identifiable, one might agree that they will always keep their independent meaning standing alone.[1308] Regardless of joint authorship in the 'unitary whole' (which is not given here), any user who creates such an original work will therefore have a strong copyright claim (sole authorship) against the operator, other users and indeed any third party.[1309]

7.2.7 Different Protection for European Users?

Consolidated in accordance with international agreements, one might already question the mere possibility of different protection for European users.[1310] But considering the VW architecture, different results might be possible in regard to MMOG character compilations.[1311]

Whilst in the United States, these compilations may only be protected by copyright,[1312] both UK and German law would allow for twofold protection:[1313] Every original character compilations

[1302] Subchs5.2.1.2.4.2; 5.4.1.1; 5.4.1.2.
[1303] See also nn1146ff (and accompanying text) (discussing the useful article doctrine).
[1304] See nn110 (GUIDs); 1299 (with further references); subch7.2.1.1.
[1305] cf nn1173 (piano); 1296 (and accompanying text); subch2.2; Appendix A.
[1306] Subch4.4.4; Blizzard, 'Character Transfer' (*US.Battle.net,* nd) <https://us.battle.net/shop/en/product/world-of-warcraft-service-character-transfer> accessed 17 November 2018.
[1307] Subchs2.2; 7.2.3 (The Software changes the character properties, if the user amends his/her compilation).
[1308] Subchs7.2.1; 7.2.2; 7.2.4; 7.2.5; 7.2.6 (possible copyright protection).
[1309] 17 USC, ss201(a), 106.
[1310] Sterling, *World Copyright Law* (n664) §7.04.
[1311] Subch7.2.2.
[1312] Subch7.2.2. See Jonathan Band, 'The Database Debate in the 108th Congress: The Saga Continues' (2005) 27 EIPR 205 (analysing the discussion in the US on adopting a protection model similar to the Database Directive).
[1313] The Database Directive was implemented in the UK by amending the CDPA and adopting the Copyright and Rights in Databases Regulations 1997 [in subsequent footnotes use: **DReg**] and in Germany by amending the UrhG. See n160 (on the interpretation of national law in accordance with the [Database] Directive).

is eligible for copyright protection whether it qualifies as database or not;[1314] but only character compilations (or characters) that are databases may also be protected by a *sui generis* database right.[1315] This database right does not require originality but a 'substantial investment in obtaining, verifying or presenting the contents of a database'.[1316] In *British Horseracing Board v Hill*,[1317] the EU Court of Justice later clarified that this substantial investment is necessary to be made in regard to the obtaining and verification of data but not in regard to its creation.[1318]

One might therefore discuss, (1) whether the user's investment of time and effort, other than money (which is to no doubt an investment), may qualify as an 'investment' under the Database Directive,[1319] and (2) whether that investment in the character is made to obtain and verify, or rather to create data. The loot (objects, items, virtual currency[1320]) is clearly obtained. Even the character properties are pre-defined (and do not have to be created), they may only be amended if the user succeeds in the relevant quest/task. But the most important question seems to be (3) whether the character (compilation) of the user is likely to be regarded as a database.

A database is defined as 'a collection of independent works, data or other materials which are arranged in a systematic or methodical way, and are individually accessible by electronic or other means'.[1321] But not all materials or data compiled to an MMOG character is 'individually accessible' upon completion. Stored in different database entries within the character database, each character will be the result of different statistics (eg, maximum agility, intellect, spirit,

[1314] Compilations (CDPA, s3[1][a]; UrhG, s4[1]); databases (CDPA, s3A; UrhG, s4[2]). Regarding the originality requirement: C-5/08 *Infopaq International A/S v Danske Dagblades Forening* [2009] ECR I-06569 (leading to an harmonisation of the originality standard, whereafter works [regardless of their type] must be the 'author's own intellectual creation' to be considered original); C-393/09 *Bezpenostní Softwarová Asociace v Ministerstvo Kultury* [2010] ECR I-00000; C-604/10 *Football Dataco Ltd v Yahoo UK Ltd* [2012] ECR I-0000; *SAS Institute Inc v World Programming Ltd* [2013] EWHC 69 (CH); Steven James and Ruth Arkley, 'European Jurisprudence and Its Impact on Copyright Protection' (2013) 15 ECL & Pol 6.

[1315] Database Directive, Art 7ff; DReg, regs13ff; UrhG, ss87(a)ff.

[1316] DReg, reg13(1); UrhG, ss87a(1). Noteworthy, Database Directive, Rec(15); Art3(2) suggest that copyright in a database should only protect the structure of the database, while the new *sui generis* database right protects the data stored in the database.

[1317] C-203/02 *British Horseracing Board Ltd v William Hill Organization Ltd* [2004] ECR I-10415 paras 31, 34 (*William Hill* established an online betting service using and displaying information about forthcoming races derived via a third party news feed from the *British Horseracing Board* database).

[1318] *British Horseracing Board Ltd v William Hill Organization Ltd* [2001] ECDR 20 (HC Pat); *British Horseracing Board Ltd v William Hill Organization Ltd* [2001] EWCA Civ 1268 (CA); *British Horseracing Board Ltd v William Hill Organization Ltd* (n1317) paras 31, 34; *British Horseracing Board Ltd v William Hill Organization Ltd* [2005] EWCA Civ 863 (CA).

[1319] The term investment is not defined in the Database Directive, but the recitals provide an indication as to what type of investment is required: Rec(7) ('the making of databases requires the investment of considerable human, technical and financial resources'); Rec(39) ('financial and professional investment made in obtaining and collection the contents'); Rec(40) ('investment may consist in the deployment of financial resources and/or the expending of time, effort and energy'). See Estelle Derclaye, *The Legal Protection of Databases: A Comparative Analysis* (Edward Elgar 2008) 73-75.

[1320] n21 (experience points); nn111, 113 (objects and items). Virtual currency in VWs is not a separate object, the user may see a graphic for gold pieces, but that graphic will usually be the same no matter how many gold pieces there are. The graphic will be tied to the object type 'gold pieces', not to an individual gold piece. The gold pieces themselves are typically a number in the character properties (eg, an integer '2304' for a character who has 2304 gold pieces), but some VW may also provide vaults or bank accounts (Mike Sellers).

[1321] Database Directive, Art2(1); CDPA, s3A(1); UrhG, ss87(a).

stamina, and strength), tools (eg, weapons, and equipment), and abilities (eg, spells, and combat techniques). While tools may be replaced and primary professions *unlearned*, the agility, intellect, spirit, stamina and strength of a certain character is inseparably linked to that character. Over time, money and effort spent, the statistics of every character may eventually increase but upon completion the players cannot know (or better learn through the database) which of their made choices resulted in a particular increase of statistics; the statistics of each character can only be accessed as a whole.

Considering the above, one might find that the character compilation does not qualify as a database and that therefore the *sui generis* database right does not apply.

7.2.8 Summary: Copyright in User-Generated Content

Copyright exists regardless of the storage location or fragmentation of the copy.[1322]

Assuming a *de minimis* level of creativity, metaverse users may claim copyright protection in the display (or parts of the display[1323]) of every object they create, whether it is made from prims, based on pre-existing content or uploaded, and also in any script and programming code they write that *describes* its functionality.

Bearing in mind that both the uploaded (and hence *fixed*) display, script and programming code and the copies that have been *defined* in the Software and added to the central server system are of the same substance (ie, two different versions of the same expression, rather than two different expressions of the same idea), the user may also claim copyright (if any) in the display, script and programming code as made available and perceptible.[1324]

New objects in MMOGs that are based on an original selection and arrangement of pre-existing content may be protected as a compilation.

Moreover, original character displays, that are only ever likely to occur in metaverses but not in the more pre-defined MMOGs, if at all,[1325] and original character compilations in MMOGs (formed by the choices made during game-play, selecting 'preexisting materials or data'),[1326] are eligible for copyright protection.

All the works created by users in VWs are computer-assisted and not computer-generated. The operator is not the co-author of the UGC and even so the protected works will be *combined* with the VW, Software and character database, users can still claim sole copyright ownership.

[1322] Subchs2.2; 4.3.2; 7.3 (physical property rights in the copy).
[1323] Subch7.2.1.2 (n1185).
[1324] See nn130ff; 1189ff; 1248ff (and accompanying text) discussing copyright in UGC *defined* in the Software and added to central server system.
[1325] Subch7.2.1.3.
[1326] Subch7.2.3.

7.3 Physical Property Rights in the Copy

In addition to a bundle of copyrights the user may already have in *his/her* UGC,[1327] one might also think of physical property rights in the UGC copy created when using the *build editors* and upload facilities of the VW (a transfer of title to accumulated operator and third user content *purchased* has already been discussed in sub-chapters 5.3.1 and 5.4.1).[1328]

The dominant understanding in the Anglo-American tradition[1329] is that original ownership in goods is established by first possession.[1330] Resources are imagined as originally existing in an open-access commons/the public domain.[1331] Individuals may acquire physical property rights in a portion of this common pool by being the first to reduce things to possession.[1332]

Using 'raw material' of the operator, the *build editor* or prims[1333] to create UGC in the VW does not suffice to claim first possession (Lockean labour theory),[1334] but a user's claim to uploaded UGC (that has previously been created outside the VW) may be stronger. Unfortunately for the user, the original, uploaded UGC copy has only little or no value. Only the new, fragmented copy is made allocatable, usable, perceptible and therefore tradable in the VW,[1335] but physical property rights in the newly *defined* content are questionable.

'One method of the original acquisition of personal property is by artificial accession, which may be defined as the right of ownership which one acquires (...) by (...) mixing with it something which he or another already owns.'[1336] Because the new copy is 'intended to be furnished as a distinct chattel'[1337] and becomes part of the VW, Software and character database,[1338] physical ownership would belong to that person which 'has supplied the larger or more valuable input'.[1339] Not inseparably interwoven,[1340] *mixing* the UGC with the VW, Software and character database will not qualify as an accession 'in the true sense of the term

[1327] Subchs7.2.1; 7.2.2; 7.2.4; 7.2.5; 7.2.6 (possible copyright protection).
[1328] Subch7.2.1.2.
[1329] See n403 (*lex situs*); Sir Lawrence Collins and others (eds), *Dicey, Morris and Collins on the Conflict of Laws* 1110 (r119, para22-004); *In Re Hoyles* [1911] 1 Ch 179, 185 (CA) ('[I]n order to arrive at a common basis on which to determine questions between the inhabitants of two countries living under different systems of jurisprudence, our Courts recognize and act on a division otherwise unknown to our law into movable and immovable.')
[1330] n315.
[1331] Subch8.2.2.1.
[1332] Subch8.2.2 (normative reasoning).
[1333] *SLToS*, cc2.2; 1.1. The right to use the build editor/prims has been granted with the right to use the service (including by the *SLToS* definition 'all features, applications, content and downloads offered by Linden Lab').
[1334] Subch8.2.2.1. Merrill, 'Accession and Original Ownership' (n315) 459ff.
[1335] nn130ff.
[1336] Earl C Arnold, 'The Law of Accession of Personal Property' (1922) 22 ColumLRev 103 (*confusio*); American Jurisprudence 2d, '1 Accession and Confusion' (*lawin.org,* nd) <http://lawin.org/american-jurisprudence-2d/> accessed 17 November 2018 (accession and confusion); Merrill, 'Accession and Original Ownership' (n315) 466 (providing the example of grain from two or more farmers mixed in a single container).
[1337] n1297.
[1338] *SLToS*, cc2.3 (licence to Linden Lab); 2.4 (licence to other users).
[1339] Merrill, 'Accession and Original Ownership' (n315) 466; Erez Shaham and Noam Sher, 'A Purchaser of a Product v an Owner of Stolen Intellectual Property: The Revival of the Accession Rule' (2007) 28 WhittierLRev 319, 334, 341ff.
[1340] nn1305ff (and accompanying text).

because [the UGC copy] can be added to and taken away from its medium [often at the stroke of the operator's computer key] without causing any material damage to that host object'.[1341]

But regardless of whether or not the law of accession is applicable to software, one might agree that, once the programmer has modified, fragmented and *defined* the new UGC copy, the operator has definitely supplied the 'larger or more valuable input' to the tangible mix (not including copyright) because ultimately the operator's input is what makes the new UGC copy allocatable, usable and perceptible.[1342]

A user's claim to *his/her* UGC is therefore restricted to a bundle of copyrights, that only prohibits the copying/producing of similar ideas, expressions, or products,[1343] but does not give the user a *right to use*, *to exclude* others from exercising control over, or *to transfer his/her* UGC (copy) in client/server system architecture.

7.4 Summary: Investing Time and Effort

Without the restrictions of the Contract,[1344] users may claim copyright in some original UGC displays, compilations, scripts and programming code, but which are of little or no value to the user, who wishes for a right to access and control *his/her* character, objects and items.

Considering the value of VAs and the imbalance in rights, US legal scholars have begun to question the allocation of property rights and enforceability of the Contract.[1345] Convinced that the existing legal framework should be extended to protect the users' investment of time, money and effort,[1346] Fairfield, Meehan and others have eventually proposed a new virtual property right for rivalrous, persistent and interconnected 'code' or 'bits in context', meaning the displayed VA uncoupled from copy and programming code.

Only property rights that can be justified economically, normatively or otherwise are likely to be ever acknowledged by US courts. Chapter 8 and Chapter 9 examine whether a new property right is actually necessary for a user to claim rights in *his/her* characters, objects and items.

[1341] Green and Saidov, 'Software as Goods' (n508) 167 (citing Goode and McKendrick, *Goode on Commercial Law* [n520] 197).

[1342] See nn130ff; 1189ff; 1248ff (and accompanying text) (discussing copyright in UGC *defined* in the Software and added to central server system); *SLToS*, c1.2(para3) ('Such user Content submitted by you or others need not, however, be maintained on the Service by us for any period of time and you will not have the right, once submitted, to access, archive, maintain, or otherwise use such user Content on the Service.')

[1343] nn263; 1342. Subchs7.2.1; 7.2.2; 7.2.4; 7.2.5; 7.2.6 (possible copyright protection). See also subch5.4.1.1; UCC, ss2-501(1), 2-401(1) (lack of identification).

[1344] According to this research US courts should hold the restriction-of-rights clauses in the typical Contract (including a transfer/waiver of [future] property rights clause) unconscionable, unreasonable, or anti-competitive and therefore unenforceable (subch6.4).

[1345] Subch6.4.1 (and accompanying footnotes).

[1346] Horowitz, 'Competing Lockean Claims to Virtual Property' (n63) 2.

Chapter 8 Property Theory and (Contractual) Obligation

8.1 A New Property Right?

A 'technologically inaccurate portrayal of software', that ignores the fact that computer software has 'physical properties of mass and volume'[1347] has led, limited and restricted early scholarly debate of property rights in VWs to copyright and contract law.

Most users may not be interested in a bundle of copyrights, and they will certainly not know about the legal and technical implications of client/server system architecture,[1348] but they wish for a right to access and control *their* VAs. Having one eye on the outcome—an allocation of property rights that is acceptable to the user—and believing that property rights in VAs should be rather similar to physical property rights, various scholars have called for a new virtual property right.[1349] But it is questionable whether a new virtual property right is necessary (and justifiable) in a VW governed by contract law.

This author proposes instead a new quasi-property right that originates in the contractual *right to use* (and *to exclude* others from exercising control over) VAs granted in the Contract and fits in with the (flexible) contractual governance system found in VWs.

A new quasi-property right that is property like because of the horizontal effect of that Contract and a net of implied secondary contracts between the users (sub-chapter 9.2), which may (or may not) be treated someday by the US courts as a new form of property.[1350]

8.1.1 A New Virtual Property Right?

Ignoring the 'physical properties of mass and volume',[1351] Meehan, Fairfield and others argue for a new conceptualisation of virtual property and describe the characters, objects and items to be regulated rather nebulously as 'bits (the [VA] represented electronically) in context (as used in the [VW])',[1352] or intangible 'code'.[1353]

8.1.1.1 Meehan's 'Bits in Context'

Every character, object and item consists of a client version and a server version (which are never the same, or even similar), copies, and parts of copies, of which are stored in different

[1347] n176.
[1348] The user will only ever see the displayed graphics (the sensual experience), the technology of the VW (the underlying code and the system architecture) will stay unknown. One might also have to consider that technology is highly influenceable and possibly changing over time (eg, the development of cloud-gaming). Stephens, 'Sales of In-Game Assets: An Illustration of the Continuing Failure of Intellectual Property Law to Protect Digital-Content Creators' (n105) 1523 ('Game developers can change the method of conveyance, however, to ensure that asset transfers infringe on the reproduction right.')
[1349] Fairfield, 'Virtual Property' (n63) 1049.
[1350] n1421; subch8.1.2.2.
[1351] n176.
[1352] Meehan, 'Virtual Property: Protecting Bits in Context' (n54) 29f.
[1353] Fairfield, 'Virtual Property' (n63) 1077-78.

storage locations.[1354] Every bit (of information) may be moved around on the computer's hard disc and scattered about the client and the server program.[1355]

Noting the flaws of copyright,[1356] Meehan briefly discusses but rejects the cybertrespass theory[1357] before proposing a new virtual property right in any 'bits (the [VA] represented electronically) in context (as used in the [VW])'.[1358] Conferring property rights on a mere *abstraction* may alleviate the troubles of identifying the *true* object of protection, but without the copy, or in fact any other mooring (eg, an entry in the character database), it will be difficult to attribute and allocate property rights in 'bits in context'.

In contrast to the contractual rights of the user (ie, a *right to use*, *to exclude* others from and *to transfer* VAs), Meehan's conceptualisation of virtual property does not clarify what specific (virtual property) rights are applied to these 'bits in context'. The 'bits in context' theory shall therefore be rejected.

8.1.1.2 Fairfield's 'Code'

Similarly, Fairfield argues for an acknowledgment of virtual property rights in the 'code' of the VA.[1359] This 'code', however, does not appear to be understood in the programming sense[1360] but rather as code-based objects—an intangible display[1361]— uncoupled from the programming code and the copy.

Ignoring the technical details, Fairfield soon turns to the alleged differences between this new virtual property right and any existing copyright in the VA, arguing for the rivalrousness, persistence and interconnectivity of the intangible virtual property to justify a new virtual property right:

> The rivalrousness gives me the ability to invest in my property without fear that other people may take what I have built. The persistence protects my investment by ensuring that it lasts. Interconnectivity increases the value of the property due to

[1354] The server version holds references to the properties, fixed script and programming code of the VA (defining its attributes and determining its value), the client version contains all its display related aspects (ie, images, textures, models and animations). The server version is stored on the server and the client version is stored in the Client Software, CDN or on the server (in case of a web-client, see also n101).
[1355] Subchs2.2; 5.2.1.2.4.2.
[1356] Meehan, 'Virtual Property: Protecting Bits in Context' (n54) 23; subch4.3.1.4.
[1357] ibid 25ff; subch4.3.2.2.
[1358] ibid 29f; 27f ('Courts should not base protection of virtual property on the integer representing the virtual property that resides in the game company's database. The user does not have a right to that integer outside of the context of the game or outside of the context of the user's account for that game.')
[1359] Fairfield, 'Virtual Property' (n63) 1077.
[1360] 'If I own a building in a virtual world, I own it regardless of the intellectual property inherent in the underlying code. I own it regardless of the physical chattel used by another person to experience it. I own it, control it, can invite people to be in it, hold meetings in it, work there, invest in it, and sell it to other people who might want to do the same.' (ibid [n63] 1078).
[1361] If the electronically delivered copy is deemed tangible upon conversion from electrical impulse, then even if it is only viewed on the user's computer screen, it has taken tangible form in the computer's RAM or cache, has been 'felt' by the senses of sight or sound or both. See also n305 (rejecting the tangibility of the display itself).

> network effects—not least of which is the fact that other people's experience of my resource may be such that it becomes desirable, and hence marketable, to them.[1362]

While Fairfield's virtual property right shall provide the *right to use*, *to transfer* and *to exclude* others from using the VA—insofar similar to physical property rights in chattels;[1363] copyright only prohibits the copying of, or producing of similar, fixed expressions of ideas but does not impede another person from using the (VA) copy.[1364] However, it is rather questionable whether a VW that is governed by Contract and uses client/server system architecture would actually allow for VAs to be rivalrous, persistent, and interconnected.

Considering the means necessary to run a successful VW, users should not have a *right to exclude* all others—including the operator—from *their* VAs. The operator must still be able to change the attributes of VAs or to delete them, to (re-)balance the VW where necessary, to keep it (working and) attractive to the majority of users.[1365]

In fact, most Contracts explicitly deny the users property rights in VAs.[1366] Even though the 'code' is identifiable and separable from the rest of the VW (as it can be seen and be identified on the user's computer screen), only those VAs assigned/allocated to the user (and transferred to *his/her* character inventory) may also become his/her (virtual) property.[1367]

Whilst client/server system architecture allows for a certain amount of persistence,[1368] the loss of objects through server crashes or rollbacks—sometimes necessary because of bugs in the Software, or similar—continues unabated.[1369] Virtual property is entirely dependent on continued operation of the Software (persistence),[1370] thus when the VW containing virtual property ceases to function, virtual property will cease to exist in any usable form.[1371]

Finally, while there is some interconnectivity between multiple users of one VW connected through the Internet; interconnectivity between different VWs has not been established yet.[1372] For instance, weapons crafted, bought or looted in *World of Warcraft* cannot be transferred and

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[1362] Fairfield, 'Virtual Property' (n63) 1047, 1054.
[1363] Subch4.3.2.1 (discussing the traditional concept of property and the concept of a 'bundle of rights').
[1364] nn263; 264.
[1365] Subch4.4.4.
[1366] Subch4.4.
[1367] In contrast to 'bits in context' or the copy proposed in this thesis, the display of the object is actually perceivable by the human senses and therefore identifiable and separable from the rest of the VW. See Meehan, 'Virtual Property: Protecting Bits in Context' (n54) 27ff; subchs7.2.6 (separability of the display); 5.2.1.2.4.2; 5.4.1.1; 5.4.1.2; 7.3.
[1368] Mike Sellers.
[1369] Mike Sellers (stating that this is changing because of the increased use of cloud-based servers, 'where when one [server] goes down another [with redundant RAM storage] is right there to carry on'). See Nelson, 'Fiber Optic Foxes: Virtual Objects and Virtual Worlds Through the Lens of Pierson v Post and the Law of Capture' (n321) 6-28 (fn100) (on the rollbacks, operators would prefer to keep secret).
[1370] Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 40.
[1371] Dan E Lawrence, 'It Really is Just a Game: The Impracticability of Common Law Property Rights in Virtual Property' (2008) 47 WashburnLJ 505, 515.
[1372] Nelson, 'Fiber Optic Foxes: Virtual Objects and Virtual Worlds Through the Lens of Pierson v Post and the Law of Capture' (n321) 6-28, 17; Sean F Kane, 'Virtual Worlds: "Passporting" of Avatars and Property between Virtual Worlds' (2007) 9 ECL & Pol 10 (passporting of avatars).

used in *Entropia Universe* and the piano *build* in *Ultima Online* cannot be transferred to *Second Life*. The proposed virtual property right would only be good against the particular VW.

Whilst most virtual property right theorists claim that the property rights regime should be extended to protect the users' investment of time, money and effort, [1373] they fail to explain how this new property right may be implemented or justified. Instead they start with the desired scope of the new property right and craft the necessary body of the new property right according to that scope, without any proper analysis of the existing legal framework. [1374]

Virtual property is neither rivalrous, nor persistent, nor interconnected; just as little as virtual property rights are comparable to copyright, they cannot and should not be compared to physical property rights (ie, a *right to use*, *to exclude* and *to transfer*) or grant the same or similar rights. And without the rules of the Contract, a balanced allocation of property rights is impossible. [1375]

8.1.1.3 Summary: Virtual Property Rights

In contrast to Fairfield's 'code', that is visually perceived and in analogy to the copyrightable display conceptually, if not physically separable, [1376] Meehan's 'bits in context' are not 'definable, identifiable' and separable, [1377] and they do not have the potential to become a new form of property. Not being rivalrous, persistent, or interconnected virtual property rights cannot and should not be compared to physical property rights (ie, a *right to use*, *to exclude* and *to transfer*) or grant the same or similar rights. Moreover, a balanced allocation of property rights between the operator and the users would not be possible (all-or-nothing).

Although this author does not agree with Fairfield, he acknowledges that if the restriction-of-rights clauses in the Contract (including the transfer/waiver of [future] [property] rights clause) were held unconscionable, unreasonable or anti-competitive and therefore unenforceable, that the discussion of new property rights, including virtual property rights, will continue. Because copyright protection is of little or no value to the user, who just wishes for a right to access and control *his/her* character, objects and items.

8.1.2 A New Quasi-Property Right?

Most theories on users' rights in VAs lend themselves to the use of property rights terms, but does this also mean that those rights should necessarily be regarded as property rights? Value

[1373] Horowitz, 'Competing Lockean Claims to Virtual Property' (n63) 2.
[1374] Matthias Nänni, 'Der Vertrag über die Nutzung virtueller Welten' (2008) Jusletter <www.rwi.uzh.ch/lehreforschung/alphabetisch/vdc/cont/Jusletter_MN.pdf> accessed 17 November 2018 6.
[1375] An enforceable transfer/waiver of future property rights clause would exclude virtual property rights.
[1376] Subch7.2.6.
[1377] n802 (discussing new 'categor[ies] of property, [and] right[s] affecting property').

can attach to anything whether or not one chooses to call it property.[1378]

For instance, one might find value in the contractual obligation of the *seller* to transfer the *sold* characters, objects and items to the *buyer*,[1379] or in the contractual obligation of the operator to supply the Services to the user (including the temporary transfer of copies of VA client versions allocated to him/her)—the latter to some extent rather similar to a lease:[1380]

Example 8-1 Lease

> A lessee acquires only the right to the 'possession and use' of the goods for a limited period of time 'in return for some consideration'.[1381] Title to the goods does not pass; the lessor retains title to and a residual interest in the leased goods[1382] which revert back to the lessor at the end of the lease term.[1383]

Noting the changes in the notion of property over time from 'things that are owned by persons' to 'bundle[s] of rights' and an 'eliminat[ion of] any necessary connection between property rights and things',[1384] one might soon get caught in the seemingly seamless web of law,[1385] when trying to distinguish between property rights and contractual obligations[1386]:

Example 8-2 Debt

> If A loans B money and B does not repay, A's claim for the debt is founded in the loan agreement. 'One common misconception is that the claim arises out of the creditor's property. At the heart of this misconception is the legally incorrect notion that [A] is due *his* money, the money he loaned [B]. In fact, [A] is due the money he is *owed*; it is not *his* money, (...) he does not possess it or control it. The debt is merely a promise of repayment.'[1387]

[1378] Subch8.2.3. Worthington, 'The Disappearing Divide Between Property and Obligation: The Impact of Aligning Legal Analysis and Commercial Expectation' (n2) 918-19 ('[P]roperty is divided into real and personal property; personal property is, in turn, divided into choses in possession and choses in action [tangible and intangible property respectively]. [However,] [n]ot all choses in action are property [...] [and] not all obligations are property. Those "choses" that are not property, or "property rights," are merely personal rights, or personal obligations.')

[1379] Nelson, 'Fiber Optic Foxes: Virtual Objects and Virtual Worlds Through the Lens of Pierson v Post and the Law of Capture' (n321) 6-23.

[1380] Subchs5.3f.

[1381] UCC, s 2A-103(1)(j) (2002).

[1382] Lawrence, 'The Uniform Commercial Code' §1.05[A][2].

[1383] ibid §1.05[A][2]. Subch5.3.1 (comparing the Services Contract in VW to a lease).

[1384] Thomas C Grey, 'Disintegration of Property' in Richard H Chused (ed), *A Property Anthology* (Anderson 1997); subch4.3.2.1.

[1385] See Thomas Ross, 'Metaphor and Paradox' (1989) 23 GaLRev 1053 (discussing the metaphor seamless web of law).

[1386] Garner and others (eds), *Black's Law Dictionary* (n328) 1179 (An 'obligation' is 'A legal or moral duty to do or not do something.')

[1387] Nelson, 'Fiber Optic Foxes: Virtual Objects and Virtual Worlds Through the Lens of Pierson v Post and the Law of Capture' [n321] 24); Frederic William Maitland, *The Forms of Action at Common Law: A Course of Lectures* (CUP 1971) 31 ('We are tempted to say that Debt is a "real" action, that the vast gulf which to our minds divides the "Give me what I own" and "Give me what I am owed" has not yet become apparent.')

8.1.2.1 Contractual Obligation of the Operator

Most Contracts supposed to govern VWs include the following, or similar, contractual obligations. Whilst the user promises to comply with the terms of the Contract and to pay a monthly subscription fee if requested; the operator grants him/her access to the VW, Software and character database and promises to the user to supply the Services. See for example, paragraph 1 and clause 2.2 of the *Second Life* Terms of Service:

> This agreement (...) describes the terms on which [Linden Lab] offer[s] you access to its interactive entertainment products and services.[1388]
>
> "Service" means all features, applications, content and downloads offered by Linden Lab, including its Websites, Servers, Software, Linden Content, and User Content as those terms are defined herein.[1389]
>
> Linden Lab hereby grants you a non-exclusive, non-transferable, non-sublicenseable [sic], limited, personal, revocable license to access and use the Service (...) in compliance with these Terms.[1390]

8.1.2.1.1 Promise(s) or Agreement

A further analysis of the *right to use* granted to the user will require a detailed examination of the scope and purpose of the operator's contractual obligations set out in the Contract.

Contractual obligations are self-imposed, voluntary obligations that may arise from any 'agreement, promise, or other undertaking'.[1391] Notwithstanding the long lasting debate on moral justifications of the enforceability of contracts as promise or agreement[1392]—which does not seem important for present purposes[1393]—one might notice that the *right to use* may be, nothing more but also nothing less, than the promise of a bilateral agreement.

Because promises and agreements communicate intentions to undertake obligations and both create obligations,[1394] agreements may be understood as an exchange of conditional promises

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[1388] *SLToS*, para1.
[1389] *SLToS*, c1.1.
[1390] *SLToS*, c2.2.
[1391] Stephen A Smith (ed), *Atiyah's Introduction to the Law of Contract* (6 edn, Clarendon Press 2005) 1 (contrasting contractual obligations with obligations in tort and unjust enrichment).
[1392] Frederick Pollock, *Principles of Contract at Law and in Equity: Being a Treatise on the general Principles Concerning the Validity of Agreements, with a special View to the Comparison of Law and Equity, an with References to the Indian Contract Act, and occasionally to Roman, American, and Continental Law* (Stevens & Sons 1876); Charles Fried, *Contract as Promise: A Theory of Contractual Obligation* (HarvUP 1981) (both on promises); Robert Joseph Pothier, *A Treatise on the Law of Obligations, or Contracts*, vol 2 (Strahan 1806); Patrick S Atiyah, *The Rise and Fall of Freedom of Contract* (Clarendon 1979); Guenter H Treitel, *An Outline of the Law of Contract* (6th edn, OUP 2004) 1 (all three on agreements). See generally Hugh Beale and others (eds), *Chitty on Contracts*, vol 1 (31st edn, Sweet & Maxwell 2012) pt1, ch1, s1; Anne De Moor, 'Are Contracts Promises?' in John Eeekelar and John Bell (eds), *Oxford Essays in Jurisprudence (Third Series)* (OUP 1987).
[1393] This thesis does not discuss the moral justification, but the formation of the Contract. See Michael G Pratt, 'Promises, Contracts and Voluntary Obligations' (2007) 26 LPh 531; Ewan Mckendrick, *Contract Law: Text, Cases, and Materials* (3rd edn, OUP 2008) 4.
[1394] Joseph Raz, 'Promises and Obligations' in Peter Michael Stephan Hacker and Joseph Raz (eds), *Law, Morality,*

(namely 'offer' and 'acceptance').[1395] Consequently, the user's *right to use* will be a promise of the operator to grant the user this *right to use*.

A promise is defined as 'a statement by which one person commits to some future beneficial performance, or the beneficial withholding of a performance, in favour of another person' which shall be enforceable by law.[1396] One might hence presume that if a 'promise is [not] a commitment as to future behavior',[1397] that the exchange will not be a contract.[1398]

Although there are agreements in relation to VWs, that are not immediately recognisable as someone's commitment as to some future behaviour, the promises made may still predate—even if only by a few seconds—the actual performance.

Example 8-3 Software Purchase

A user who hands over a copy of the Client Software at the till is—at that very moment—making a promise to pay for the copy. The retailer accepts the offer by taking the copy and scanning the bar code, thereby making a reciprocal promise to deliver the copy. Only after the sales contract has been concluded, the user pays the purchase price and the retailer hands over the copy to the user as promised.

Example 8-4 Real Money Trade

The *purchase* of objects often traded on online auction sites[1399] is not simultaneous either. Another user who presents *his/her* object on the online auction site is—at that very moment—making a promise to transfer the *right to use* that object to the highest bidder. The user who makes a bid by clicking 'Submit bid' or 'Buy it now' is making a reciprocal promise to pay for the transfer of the *right to use* that object. Only if the user is the remaining bidder an agreement has been concluded, the user

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and Society: Essays in Honour of HLA Hart (Clarendon 1977); Smith (ed), *Atiyah's Introduction to the Law of Contract* (n1391) 56-57.

[1395] Smith (ed), *Atiyah's Introduction to the Law of Contract* (n1391) 57; Jack Beatson, Andrew Burrows and John Cartwright, *Anson's Law of Contract* (29th edn, OUP 2010) 2.

[1396] Martin Hogg, *Promises and Contract Law: Comparative Perspectives* (CUP 2011) 6, 22-23 ('[A] statement cannot be a promise if it merely confirms a past action or state of affairs ['I promise that it was not I who broke your vase' or 'I accept responsibility for the accident'] or confirms a present action or state of affairs ['I hereby give you my car' or 'I promise that I am not having an extra-marital affair'].'); R2K, s1 ('A contract is a promise or a set of promises for the breach of which the law gives a remedy, or the performance of which the law in some way recognizes as a duty.'); cf Andreas Rahmatian, 'A Comparison of German Moveable Property Law and English Personal Property Law' (2010) 3 JCompL 197 217 ('In German law, the division of the transfer of real rights into the two separate acts of "contract" [Verpflichtungsgeschäft, "bargain of obligation"] and "conveyance" [Verfügungs-geschäft, "bargain of disposition"] is strongly developed, as this principle of separation [Trennungsprinzip] is complemented by a second principle of abstract real conveyance [Abstraktionsprinzip].')

[1397] Farnsworth, *Contracts* (n341) §1.1.

[1398] The rules on property, tort, and unjust enrichment would apply. See Smith (ed), *Atiyah's Introduction to the Law of Contract* (n1391) 3-4.

[1399] *Simmons v Danhauer & Associates LLC* 2010 WL 4238856, *1 (DSC 2010) (classifying an online auction as a 'sale by auction [...] complete when the auctioneer so announces by the fall of the hammer' [UCC, s2-328]). See generally Halsbury's Laws of England, vol 2(3) (Butterworths 2003) 201 (defining an auction as 'a manner of selling [...] property by bids, usually to the highest bidder by public competition.'); Ralph Cassady, *Auctions and Auctioneering* (UCalP 1967) 56ff); Brian Harvey and Franklin Meisel, *Auctions Law and Practice* (3 edn, OUP 2006) 29.

> pays the *purchase price* and the other user hands over the object to the user in the VW as promised.[1400]

Example 8-5 Subsequent *Purchase* of Objects from the Operator

> Similarly, if the user *purchases* an object directly on the operator's website by clicking 'Buy Now' (eg, a Whomper [a *WoW* pet] in the Blizzard Shop) he/she is—at that very moment—making a promise to pay for the transfer of the *right to use* the object.[1401] The operator accepts the user's offer by providing an option to the user to amend his payment information, thereby making a reciprocal promise to grant the *right to use* the object. Only after the contract has been concluded, the user pays the *purchase price* (by clicking 'Pay Now') and the operator adds the item GUID to the character inventory as promised.[1402]

And even if not,[1403] 'no great conceptual harm [seems to be] done by accepting that performance may occur simultaneously with the promise to perform';[1404] there may always be an ancillary duty of performance under the Contract that has to be performed later (for example, the supply of the Services [including online access[1405]]).

8.1.2.1.2 Right to use Individual Virtual Assets

Considering the *right to use* the VW, Software and character database, one might also look deeper into the imminent transfer of a *right to use* any individual character, objects and items allocated to the user in accordance with the terms of the Contract.

Whilst most (offline) software licences allow for an extensive *right to use* the software and its *never-changing* features, the Contract is different because the scope of the licence might change over time. For example, how should the player's *right to use* gold pieces be *defined* in *World of Warcraft*, if *his/her* gold stock increases or shrinks?[1406]

The Software (but not the operator) will certainly *monitor* the progress of each character, but instead of granting a new or amending an existing *right to use* as the user progresses,[1407] most

[1400] **Example 8-4** Real Money Trade.
[1401] Blizzard, 'Blizzard Shop: Whomper - Buy Now' (*Battle.Net,* nd) <https://eu.shop.battle.net/en-us/product/world-of-warcraft-pet-whomper> accessed 17 November 2018.
[1402] Blizzard, 'Blizzard Shop: Whomper - Pay Now' (*Battle.Net,* nd) <https://eu.battle.net/shop/en-us/checkout/pay/cHxkNzRkNmIzMnwzNzU0OXwwfHx8fHx8> accessed 17 November 2018 ('By clicking "Pay Now," you agree to the [*BlzdEULA(EU)*], [Blizzard Terms of Sale (EU)], and to the immediate delivery of your order. You will lose the right to withdraw your order once the delivery process has started.')
[1403] Unlikely in VWs because of the requirement of valid consent (subch6.3).
[1404] Hogg, *Promises and Contract Law: Comparative Perspectives* (n1396) 216 ('Such transactions are no doubt anomalous, but their status as an anomaly need not to be seen as undermining a general theory which continues to provide a satisfactory explanation for the field of obligations overall.')
[1405] Subch5.3 (supply of Services and online access).
[1406] See nn130ff; 1189ff; 1248ff (and accompanying text).
[1407] Andreas Lober and Olaf Weber, 'Den Schöpfer verklagen: Haften Betreiber virtueller Welten ihren Nutzern für

Contracts allow for future progress with a general licence, unless the user breaches the Contract. The operator's intention is sufficiently incorporated in the *autonomous* VW, so that any progress of the user will result in an amendment of the corresponding *right to use*.[1408]

8.1.2.1.3 A New Form of Feudalism?

Some scholars even describe the contractual governance of VWs as a new form of feudalism, where the user's interest in the VA is a *seisin* rather than ownership.[1409] Only if the user 'swears homage to the lord' by clicking 'I agree' to the Contract, the operator will deliver to the user the VA by adding the character GUID to the user account and the object and item GUID to the character inventory.[1410]

The operator might even allow for subinfeudation.[1411] In regard to RMT, one might remember that the *seller's right to use* the VA roots in his/her *right to use* the VW, Software and character database. The buyer's *right to use* the VA will then result from the *seller's* promise to transfer his/her *right to use* the VA. Any such transfer agreement will then have to comply with the terms of the Contract (licences, sub-licences, sub-sub-licences, etc). Similar to the assignment and novation of rights, however, sub-licences of the contractual obligation (or separable parts thereof) are often prohibited by the Contract.[1412]

Interestingly, Linden Lab and MindArk both offer a trading platform to their users[1413] and refer in their Contracts to a licensed *right to use*,[1414] but only *Second Life* allows its user licensees to sub-licence objects, Linden Dollars and virtual land[1415]—raising questions in regard to the actual content of the *Entropia Universe* users' *right to transfer*.[1416]

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virtuelle Güter?' (2006) CuR 837, 839.

[1408] Subch8.1.2.2.3; nn808ff (and accompanying text) (separability).

[1409] James T Grimmelmann, 'Virtual World Feudalism' (2009) 118 YaleLJ 126.

[1410] n113.

[1411] n53. There were two different means of alienation in the feudal system, subinfeudation and the substitution of one tenant for another (Theodore FT Plucknett, *A Concise History of the Common Law* [5th edn, Little 1956] 538; A James Casner and W Barton Leach, *Cases and Text on Property* [1st edn, Little 1950] 259; Heller, 'The Boundaries of Private Property' [n282] 1171).

[1412] Subchs6.4; 6.5.

[1413] n53.

[1414] n1030 (*EUEULA*); n1056 (*SLToS*).

[1415] *SLToS*, c2.4(para3) ('Any agreement you make with other users relating to use or access to your Content must be consistent with [the terms of the Contract], and no such agreement can abrogate, nullify, void or modify [the terms of the Contract].') See also *SLT&Cs*, c3.1(para3) (Linden Dollars) (n1056); c3.4(para3) ('Virtual Land License[s]') (n1056).

[1416] *EUEULA*, c2(para3) ('Despite the similarity in terminology, all Virtual Items, including virtual currency, are part of the Entropia Universe System and/or features of the Entropia Universe, and MindArk and/or respective MindArk's Planet Partner[s] retains all rights, title, and interest in all parts including, but not limited to Avatars, Skills and Virtual Items.'); c2(para4) ('MindArk hereby grants You a non-transferable, non-exclusive, worldwide and perpetual right [without the right to sublicense] to download, display and use Entropia Universe [...]'); c2(para6)(4) ('No transfer of license. The Participant may not sell, lease, sublicense or otherwise transfer any rights to the Entropia Universe System to third parties.')

8.1.2.1.4 Summary: Contractual Obligation of the Operator

Notwithstanding copy and programming code, VAs may be understood as a self-imposed voluntary contractual obligation of the operator to grant the user a *right to use* the VW, Software and character database that includes immanently a *right to use* characters, objects and items. Value can attach to anything[1417] whether or not one chooses to call it property.[1418]

8.1.2.2 Turning Contractual Obligations into (Quasi-) Property

Although presumably most legal systems distinguish 'property rights from mere personal rights to the delivery or transfer of an asset. I own property; I am owed performance of a transfer obligation',[1419] it is often difficult to say where the one starts and the other ends.[1420]

In particular *Worthington* argues for a 'disappearing divide between property and [contractual] obligation', emphasising that over the years some purely personal obligations have already been treated as property, such as debts,[1421] shares, and even contracts.[1422]

8.1.2.2.1 Bundle of (Relative) Rights

The classic distinction between property rights and contractual obligations is the well-known dichotomy drawn by *Hohfeld* between rights *in rem* and rights *in personam*[1423]—similarly distinguished in civil law systems between absolute and relative rights.[1424] According to *Hohfeld*, rights *in rem* are good against the world,[1425] but rights *in personam* shall only apply against a single person or group of persons.[1426] Since the Contract embodies obligations owed by the operator to the user, it may hence be understood as an *in personam* right.

Without any intrinsic difference between *in rem* and *in personam* rights, both rights are 'of the same general character'.[1427] *Hohfeld's* distinction is presumed entirely on the number of people to whom the respective right applies.[1428] But if property rights are merely a 'bundle of rights', a

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[1417] Subch8.2.3.
[1418] n1378.
[1419] Royston Miles Goode, 'Ownership and Obligation in Commercial Transactions' (1987) 103 LQRev 433; Steve Hedley, 'Contract, Tort and Restitution; or, on Cutting the Legal System down to Size' (1988) 8 LegalS 137, 150-51 ('The law of obligations [is] a body of law on the protection and transfer of various assets an individual may own. [These assets may include *inter alia* interests in] land, chattels [...], labour [and] intellectual property').
[1420] n1378.
[1421] *Toledo Blank Inc v Pioneer Steel Service Co* 98 OhioApp3d 109 (1994). Contra Farnsworth, *Contracts* (n341) §1.3; **Example 8-2** Debt.
[1422] *Lynch v US* 292 US 571 (1934) (holding that 'Valid contracts are property, whether the obligor be a private individual, a municipality, a state, or the United States.')
[1423] Pey-Woan Lee, 'Inducing Breach of Contract, Conversion and Contract as Property' (2009) 29 OJLS 511, 513. Subch4.3.2.
[1424] AM Honoré, 'Rights of Exclusion and Immunities Against Divesting' (1960) 34 TulLRev 453
[1425] Hohfeld, 'Fundamental Legal Conceptions as Applied in Judicial Reasoning' (n272) 719 (fn22 [with further references]).
[1426] ibid 718. Subch9.2.
[1427] ibid 723.
[1428] ibid ('[W]e might say that a right in personal is one having few, if any, "companions"; whereas a right in rem always has many such "companions."') ; cf Merrill and Smith, 'What Happened to Property in Law and Economics?' (n268) 364 ('Hohfeld failed to perceive that in rem property rights are qualitatively different in that they attach to

recognisable 'collection[] of functional attributes, such as the *right to exclude*, *to use*, *to transfer* or to inherit particular resources',[1429] without any relevance of the thing;[1430] a distinction between any (physical) property rights in accumulated operator, third user and user-generated content and the contractual obligation of the operator will hardly be possible.[1431]

An examination of the Contract, its horizontal effect and implied net of secondary contracts,[1432] would probably be best to support this author's assumption of a disappearing divide (ie, the quasi-absolute effect of the Contract),[1433] but at this point of the research the sheer existence of a tort of inducing breach of contract—protecting a promisee's expectations from the interference of strangers similar to property[1434]—should be sufficient for the proposed analogy between rights *in rem* and rights *in personam*.[1435]

8.1.2.2.2 Lack of 'Thingness'

Arguing that 'the right to property is a *right to exclude* others from things which is grounded by the interest we have in the use of [separable] things'[1436] one might also argue that without the constraints of traditional forms (or rather 'thingness'[1437]) of property a distinction between property rights and contract rights might be impossible.[1438]

According to Penner's theory of separability, for example, 'Only those "things" in the world which are contingently associated with any particular owner may be objects of property.'[1439] Not yet explaining why property should be identifiable and separable, one might note that Penner's theory of separability is rather a first step. It is because something is separable from its owner

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persons insofar as they have a certain relationship to some thing.')

[1429] ibid 365 (emphasis added).

[1430] n280.

[1431] Subchs4.3.2.1; 8.1.2.1.

[1432] Subchs9.2.1.1; 9.2.3.

[1433] Subchs9.2.1ff. See Madison, 'Law as Design: Objects, Concepts, and Digital Things' (n281) 444 ('Agreements can thingify data'; providing the example of data protection through a net of contracts).

[1434] Roderick Bagshaw, 'Inducing Breach of Contract' in Jeremy Horder (ed), *Oxford Essays in Jurisprudence (Fourth Series)* (OUP 2000) 131; Peter H Eula, 'Inducing Breach of Contract: A Comparison of the Laws of the United States, France, the Federal Republic of Germany and Switzerland' (1978) 2 BCIntl & CompLRev 41 (stating that the principle of *Lumley v Gye* [*Lumley v Gye* (1853) 118 ER 749 (QB)] was adopted in the US, also citing US cases). Generally AP Simester and Winnie Chan, 'Inducing Breach of Contract: One Tort or Two?' (2004) 63 CLJ 132.

[1435] Honoré, 'Ownership' (n277) 128ff; Andrew S Gold, 'A Property Theory of Contract' (2009) 103 NwULRev 1, 34ff.

[1436] James E Penner, *The Idea of Property in Law* (Clarendon 1997) 71 (emphasis added).

[1437] Heller, 'The Boundaries of Private Property' (n282) 1193-94 ('While the modem bundle-of-legal relations metaphor reflects well the possibility of complex relational fragmentation, it gives a weak sense of the "thingness" of private property. Conflating the economic language of entitlements with the language of property rights causes theorists to collapse inadvertently the boundaries of private property. As long as theorists and the Court rely on the bundle-of-legal-relations metaphor, they need some analytical tool to distinguish things from fragments, bundles from rights, and private from nonprivate property.')

[1438] JW Harris, *Property and Justice* (OUP 1996) 119-61; Worthington, 'The Disappearing Divide Between Property and Obligation: The Impact of Aligning Legal Analysis and Commercial Expectation' (n2) 917ff.

[1439] Penner, *The Idea of Property in Law* (n1436) 111. See generally Lee, 'Inducing Breach of Contract, Conversion and Contract as Property' (n1423) 514ff.

that Penner regards it as transferable or alienable.[1440] 'For an owner to have a right to a thing, there must be a distinguishable owner and a distinguishable thing;'[1441] a contract, however, is conceived by Penner as bound to the holder's personality.[1442]

As mentioned earlier, this thesis recognises the *right to use*, *to transfer* and *to exclude* as the three most essential attributes of property rights.[1443] Instead of ignoring the thing, this thesis questions the tangibility requirement, but acknowledges that identifying property rights without consideration of the (intangible) thing may be impossible.[1444]

8.1.2.2.3 Identifiability and Separability

Similar to Fairfield's 'code',[1445] the contractual obligation of the operator to grant the user a *right to use* individual VAs[1446] could only possibly turn into a new form of property if it were 'definable, identifiable' and separable from the rest of the Contract and 'capable in its nature of assumption by third parties' and had 'some degree of permanence or stability'.[1447]

Quantitative measurable, arbitrarily separable and after division still usable (objects and items may be easily *moved* from one character inventory to another[1448]) contractual obligations such as the VA licence resulting from the Software Contract[1449] are 'capable in its nature of assumption by third parties', and have 'some [sufficient] degree of permanence or stability', so that they have the potential to become a new form of property.[1450]

8.1.2.2.4 Summary: Turning Contractual Obligations into (Quasi-) Property

With the category of property rights expanding over time to include various intangibles,[1451] this

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[1440] ibid 113.
[1441] Penner, 'The "Bundle of Rights" Picture of Property' (n279) 803.
[1442] ibid 29 ('Rights in personam should apply as relations between individuals where their individuality, i.e. their personality, is relevant to the right.') (internal quotation mark omitted).
[1443] n273.
[1444] Subch4.3.2.1. cf Moringiello, 'False Categories in Commercial Law: The (Ir)Relevance of (in)Tangibility' (n285) 143f.
[1445] Subch8.1.2.2.4.
[1446] Subch8.1.2.1.2; n344.
[1447] *National Provincial Bank Ltd v Ainsworth* (n802) 1248.
[1448] Subch4.3.1.4; nn255ff (and accompanying text).
[1449] Subchs5.2.2.2; 5.3.2.2; 5.4.1.3 (discussing qualitative, quantitative and arbitrary separability).
[1450] n1447.
[1451] See Carrier and Lastowka, 'Against Cyberproperty' (n286); DeLong, *Property Matters: How Property Rights Are Under Assault and Why You Should Care* (n270) 25; Franks, 'Analyzing the Urge to Merge: Conversion of Intangible Property and the Merger Doctrine in the Wake of Kremen v Cohen' (n268) 493ff, 515ff; Hunt, 'This Land Is Not Your Land: Second Life, CopyBot, and the Looming Question of Virtual Property Rights' (n193) 158; Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 1ff; Jacob Rogers, 'A Passive Approach to Regulation of Virtual Worlds' (2008) 76 GeoWashLRev 405, 416; Sheldon, 'Claiming Ownership, but Getting Owned: Contractual Limitations on Asserting Property Interests in Virtual Goods' (n268) 758; Westbrook, 'Owned: Finding a Place for Virtual World Property Rights' (n165) 791; I Trotter Hardy, 'Property (and Copyright) in Cyberspace' (1996) UChiLegalF 217 (intellectual property); Moringiello, 'False Categories in Commercial Law: The (Ir)Relevance of (in)Tangibility' (n285) 119ff (domain names), 136 (bank accounts). See also on property rights in domains Sheldon Burshtein, 'Is A Domain Name Property?' (2005) CJL & Tech 195; Xuan-Thao N Nguyen, 'Commerical Law Collides with Cyberspace: The Trouble with Perfection - Insecurity Interests in the New Corporate Asset' (2002) 59 WashLeeLRev 37; subch5.4.1.2.

author proposes that sometimes even '[a]greements can thingify'.[1452] Because quasi-property rights that result from the contractual obligation of the operator, the *rules of conduct* and a net of implied secondary contracts between each and every user,[1453] are property like, this chapter will continue to examine whether economic, normative, and other reasons would support a treatment of quasi-property rights as full property rights.

8.2 Reasoning for an Acknowledgement of a New Property Right

As already explained, a user's claim to *his/her* VAs is restricted to a bundle of copyrights, that only prohibits the copying of, or producing of similar, fixed expressions of ideas,[1454] and a limited contractual *right to use, to exclude* and *to transfer.*

New virtual property rights have been suggested to protect the user's investment of money, time and effort. But only virtual property rights in 'bits in context' have been rejected yet because without the copy, or in fact any mooring (eg, an entry in the character database), it will be impossible to identify any particular 'bits in context' or to separate them from the rest of the Software, in order to allow for an allocation of individual but virtual property rights.[1455]

An acknowledgement of virtual property rights in Fairfield's 'code' (once independent from the limitations of the Contract[1456]) or a treatment of quasi-property rights as a new full property right may still be possible,[1457] but questioning the common notion of the common law of property,[1458] any new property right, however garnished, will require some economic, normative, or other form of justification.[1459]

8.2.1 Economic Reasoning—Efficient Allocation of Resources

> [E]conomics is the study of property rights over scarce resources. (...) The allocation of scarce resources in a society is the assignment of rights to uses of resources [and] the question of economies, or of how prices should be determined, is the question of how property rights should be defined and exchanged, and on what terms.[1460]

[1452] Madison, 'Law as Design: Objects, Concepts, and Digital Things' (n281) 444 (discussing the protection of data through a net of contracts). Subchs8.1.2; 9.2.
[1453] Subchs9.2.1.1; 9.2.3.
[1454] nn263; 264. Subch7.2 (copyright protection).
[1455] Subchs7.3 (physical property rights); 5.2.1.2.4.2; 5.4.1.1; 7.2.4; 7.2.5.
[1456] Subchs6.4; 6.5; 8.1.1.2 (discussing the lack rivalrousness, persistence and interconnectivity).
[1457] Subch8.1.1.2 (Fairfield's 'code'). See on quasi-property rights: *International News Service v Associated Press* (n1219) 71; Shyamkrishna Balganesh, 'Quasi-Property: Like, but not quite Property' (2012) 160 UPaLRev 1889; Lauren Henry Scholz, 'Privacy as Quasi-Property' (2016) 101 IowaLRev 1113.
[1458] Property rights may be protected by common law or by statute, but unless and until property rights are protected by statute the US courts will have to decide emerging property rights disputes according to common law.
[1459] Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 57.
[1460] Armen Albert Alchian, *Pricing and Society* (Occasional Paper No 17, Westminster: the Institute of Economic Affairs, IEA 1967) 2-3.

One might say that cyberspace is theoretically infinite[1461] and that therefore there is no need for property rights in the VW,[1462] but still most[1463] VWs have come to mirror the market system and scarcity of the actual world[1464] to create incentives in the VW, enable development and achievement[1465] and hence attract more (paying) users.

> Law and economics rely on the standard economic assumption that individuals are rational maximizers, and study the role of law as a means for changing the relative prices attached to alternative individual actions. Under this approach, a change in the *rule of law* will affect human behavior by altering the relative price structure—and thus the constraint—of the optimization problem. Wealth maximization, serving as the paradigm for the analysis of law, can thus be promoted or constrained by legal rules.[1466]

Assuming that property rights once created, will be traded rationally[1467] to maximise utility but allocated efficiently[1468] through the 'invisible hand of the price mechanism' to the best interest of society,[1469] the enclosure of property rights may be an important condition for an efficient allocation of resources[1470] (expanding the 'size of the pie'[1471]) but only when it avoids both the

[1461] See Harold Smith Reeves, 'Property in Cyberspace' (1996) 63 UChiLRev 761, 775-76 ('Computer systems have finite computing and storage capacity.')
[1462] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Edward Elgar 2004) para4.1.1 (Economics is *inter alia* subject to the assumption, that 'People have unlimited wants but only limited means.')
[1463] Not all VWs mirror the market system of the actual world (eg, LambdaMOO [Mnookin, 'Virtual(ly) Law: The Emergence of Law in LambdaMOO' (n16)]).
[1464] Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 33 ('No modern virtual world allows for unlimited resource creation, so the laws of economics operate much as they do in the real world.'); Fairfield, 'Virtual Property' (n63) 1064ff.
[1465] Castronova, 'Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier' (n39) 17 ('Constraints create the possibility of achievement, and it is the drive to achieve something with the avatar that seems to create an obsessive interest in her well-being.')
[1466] Richard A Posner and Francesco Parisi, *Economic Foundations of Private Law* (Edward Elgar 2002) (emphasis added); Randy E Barnett, 'Contract Scholarship and the Reemergence of Legal Philosophy (Book Review)' (1984) 97 HarvLRev 1223, 1229-33; Michael Risch, 'Virtual Rule of Law' (2010) 112 WVaLRev 1, 8 (with further references). See subch9.3.3 (and accompanying footnotes) (*rule of law*); Brian Z Tamanaha, 'The History and Elements of the Rule of Law' (2012) SingJLegalStud 232, 240f ('A growing body of evidence indicates a positive correlation between economic development and formal legality, which is attributed to the enhancement of [the *rule of law*].'); Kevin E Davis and Michael J Trebilcock, 'The Relationship Between Law and Development: Optimists versus Skeptics' (2008) 56 AmJCompL 895 (discussing thriving economics and the *rule of law*).
[1467] Russell B Korobkin and Thomas S Ulen, 'Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics' (2000) 88 CalLRev 1051, 1055 (the 'rational choice theory' describes how people respond to incentives).
[1468] Thomas J Miceli, *Economics of the Law: Torts, Contracts, Property, and Litigation* (OUP 1997) 127 (arguing that the protection of property rights allows for the efficient transfer of property).
[1469] Smith and Mill, *The Wealth of Nations* (n742) 364 (invisible hand is a metaphor used by Adam Smith to describe unintended social benefits resulting from individual actions); A Mitchell Polinsky, *An Introduction to Law and Economics* (3rd edn, Aspen 2003) 7 ('The attractiveness of efficiency [...] is that [...] everyone can be made better off if society is organized in an efficient manner.')
[1470] See Hunter, 'Cyberspace as Place, and the Tragedy of the Digital Anticommons' (n290) 507; James Boyle, 'The Second Enclosure Movement and the Construction of the Public Domain' (2003) 66 LContempProbs 33, 37 ('the enclosure of the intangible commons of the mind'); Yochai Benkler, 'Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain' (1999) 74 NYULRev 354, 386ff.
[1471] Randy E Barnett, 'A Consent Theory of Contract' (1986) 86 ColumLRev 269, 277-78 ('Economic efficiency is viewed by some in [the 'law and economics'] school as the maximization of some concept of social wealth or welfare: "the term *efficiency* will refer to the relationship between the aggregate benefits of a situation and the aggregate costs of the situation .... In other words, efficiency corresponds to 'the size of the pie.'" According to this

tragedy of the commons and the tragedy of the anticommons.[1472]

8.2.1.1 Tragedy of the Commons

One economic reason for a recognition of (private) property rights may be the otherwise imminent tragedy of the commons.[1473] For clarification purposes one might consider the following example:

Example 8-6 Tragedy of the Commons

> In the event of logging in a public forest, it is in the interest of the rational timber producer to remove as many trees as possible from the public forest.[1474] Of course, the loss of too many trees will result in erosion of the forest and deterioration of the timber quality, but this cost is shared among all timber producers. The timber producer does not bear the full cost of logging additional trees (externality[1475]), but receives the full benefit. Each timber producer acting in his/her own interest results in the degradation of the commons for everyone.

Offering common resources in VWs[1476] (for the sake of argument ignoring the operator's property rights in the Software and the restraints of the Contract[1477]) will lead the rational user to maximise *his/her* content. Without any restrictions, users may use more than one character in free-to-play VWs, may duplicate their favourite objects and are likely to discontinue (rather than to improve and maintain) the use of failed creations and disliked VAs, ultimately scattering the VW with unused, unwanted, *unowned*, empty shells.

This overuse will not only slow down the VW (using additional bandwidth, computing, and

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view, legal rules and practices are assessed to see whether they will expand or contract the size of this pie.') (citations omitted).

[1472] Eg, Frank H Easterbrook, 'Cyberspace and the Law of the Horse' (1996) UChiLegalF 207, 211ff, 215ff (discussing domain names); McGowan, 'The Trespass Trouble and the Metaphor Muddle' (n281) 140 (arguing for an emphasis on efficiency ['transaction cost analysis'] as well as social costs and benefits).

[1473] Alfred North Whitehead, *Science and the Modern World (Lowell Lectures, 1925)* (Pelican Mentor Book 1948) 11 ('[T]he essence of dramatic tragedy is not unhappiness. It resides in the solemnity of the remorseless working of things.') See Garrett Hardin, 'The Tragedy of the Commons' (1968) 162 Science 1243, 1244ff; Harold Demsetz, *Ownership, Control, and the Firm: The Organization of Economic Activity*, vol 1 (Blackwell 1990) 177 (overhunting); Eirik G Furubotn and Rudolf Richter (eds), *Institutions and Economic Theory: The Contribution of the New Institutional Economis* (UMichP 2005); Lessig, *Code Version 2.0* (n860) 181; Richard A Posner, *Economic Analysis of Law* (Law School Casebook Series, 4th edn, Little 1992) 33.

[1474] Robert Cooter and Thomas S Ulen, *Law and Economics* (4 edn, Pearson Addison Wesley 2004) 46 (describing public land as non-exclusionary land which provides for non-rivalrous consumption); ibid 143 ('[T]he general public does not have free access to most public property. To illustrate, the national parks in the United States are publicly owned, but [...] no one can graze animals or cut wood.')

[1475] ibid 44ff (explaining the difference between private costs [here the costs of employing loggers and providing machinery] and social costs; the social costs being private costs plus any additional costs involuntarily imposed on the other timber producers [externalities]).

[1476] Daniel McFadden, 'The Tragedy of the Commons: A Noble Laureate's Warning on the Net's Shared Resources' (*Forbes.com,* 9 October 2001) <www.forbes.com/asap/2001/0910/061.html> accessed 17 November 2018 ('the commons that is likely to have the greatest impact on our lives in the new century is the digital commons'.)

[1477] See also Chapter 6.

storage capacities)[1478] and devalue every single copy so created[1479] but deteriorate the entire VW (similar to the erosion of the forest and deterioration of the timber quality).[1480] As with all shared resources, self-interest can lead to a tragedy of the commons, therefore operators and users are perhaps best protected by the establishment of property rights and markets that reduce negative externalities by discouraging pure self-interest.[1481]

Coming back to the logging of trees in a public forest, for example, one might find that if the forest is privatised, any rational timber producer and forest owner[1482] would be interested to reduce the number of trees logged to maintain his/her forest (or when keeping the same number of employees and logging machinery, to buy more forest).[1483]

A change in the *rule of law* is hence likely to affect human behaviour by altering the relative price structure (each private forest owner will now have to bear the full loss of the erosion of the forest and the deterioration in timber quality). Especially as new technology develops, and new markets open,[1484] new property rights seem to emerge[1485] in response to the desires of the parties 'for [an] adjustment to the new benefit-cost possibilities'.[1486]

But bearing in mind that the allocation of rights in VWs is governed by Contracts *bargained* for by the parties,[1487] and that the commons is owned by the operator,[1488] a new virtual property right may not be necessary because the Contract comes to avoid the tragedy of the commons.

8.2.1.2 Lower Transaction Costs?

Another economic argument for a new property right may be that a failure to recognise property rights (other than the property rights of the operator) may increase the transaction costs—typically including search, bargaining and enforcement costs—for third parties,[1489] and hence

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[1478] Eg, *EUAToU*, c5.4(para1) .

[1479] Eg, *Eros LLC v Robert Leatherwood and John Does* 2008 WL 859523 (MD Fla 2008); Benjamin Tyson Duranske, 'Eros v Leatherwood Update - Default Entered' (*Virtually Blind,* 29 November 2007) <http://virtuallyblind .com/2007/11/29/eros-leatherwood-default/> accessed 17 November 2018.

[1480] In this author's own experience it can be rather frustrating to try to talk to unused characters in *SL*.

[1481] Ronald H Coase, 'The Problem of Social Cost' (1960) 3 JL & Econ 1, 15ff; Cooter and Ulen, *Law and Economics* (n1474) 85ff.

[1482] n1466.

[1483] Demsetz, *Ownership, Control, and the Firm: The Organization of Economic Activity* (n1473) 108 ('Because of the lack of control over hunting by others, it is in no person's interest to invest in increasing or maintaining the stock of game. Overly intensive hunting takes place.')

[1484] ibid 106 ('If the main allocative function of property rights is the internalization of beneficial and harmful effects, then the emergence of property rights can be understood best by their association with the emergence of new or different beneficial or harmful effects.')

[1485] ibid 107 ('Increased internalization [...] results from changes in economic values, changes which stem from the development of new technology [...].')

[1486] ibid 106-07 ('It is my thesis in this part that the emergence of new property rights take place in response to the desires of the interacting persons for adjustment to new cost-benefit possibilities.') (emphasis omitted).

[1487] n54.

[1488] Chapter 4.

[1489] Fairfield, 'Virtual Property' (n63) 1090 ('Failure to recognize virtual property raises both negotiation and search costs for third parties.')

threaten the success of the bargaining over VAs.[1490]

Idiosyncratic contractual burdens may indeed engage third parties in expensive searches of contractual limitations,[1491] but in regard to VWs only if a sub-licensee is required to review the terms of each sub-licence agreement to which the traded VA has been subjected.[1492]

At second glance, however, one might find that VAs often originate from the operator and that any sub-licence agreement—whether in regard to UGC or operator-generated content—will have to comply with the original licence agreement (eg, the *Second Life* the Contract).[1493]

Interestingly, an acknowledgement of a new property right (but not of a quasi-property right) might even increase the transaction costs because every *buyer* will have to determine where the new property right deviates from the Contract.[1494]

8.2.2 Normative Reasoning (Property Theories)

Considering the user's experience of VAs as property, property theories such as the Lockean labour theory, Hegel's personality theory or Bentham's utilitarian theory, that examine the allocation of scarce resources, may perhaps justify a new property right.

Even an analogous application of these property theories to the acquisition of the contractual *right to use* VAs may be possible.[1495] The relationship between the promisee (user) and the promisor (operator) 'bears a substantial resemblance to other contexts in which individuals are thought to rightfully acquire a property in a thing'.[1496]

8.2.2.1 John Locke—Labour Theory

The first of these property theories to consider is the Lockean labour theory, wherein Locke states that 'every man has property in his own person' and that he is therefore entitled to whatever he 'removes out of the state [of] nature' and 'mixe[s] his labour with'.[1497]

[1490] n1481.

[1491] Fairfield, 'Virtual Property' (n63) 1090; Thomas W Merrill and Henry E Smith, 'Optimal Standardization in the Law of Property: The Numerus Clausus Principle' (2000) 110 YaleLJPP 1.

[1492] Merrill and Smith, 'Optimal Standardization in the Law of Property: The Numerus Clausus Principle' (n1491) 26-27; Glen O Robinson, 'Personal Property Servitudes' (2004) 71 UChiLRev 1449, 1480 (fn112) (discussing the costs of subinfeudation).

[1493] Subch8.1.2.1.3; n1415. See generally John William Nelson, 'The Virtual Property Problem: What Property Rights in Virtual Resources Might Look Like, How They Might Work, and Why They Are a Bad Idea' (2010) 41 McGeorgeLRev 281, 304. Only if a sub-licensor individually amends the sub-licence agreement (and ignores the implicit provisions of the Contract), for example, by including an extra limitation of use, the transaction cost will increase. The prospective sub-licensee will know about the extra limitation, but as soon as he/she enters into the negotiations to the sub-licence agreement, his/her negotiation (rather than the search) costs will increase.

[1494] The Contract cannot include a restraint on alienation. Subch6.1.

[1495] See Stephen A Smith, 'Towards a Theory of Contract' in Jeremy Horder (ed), *Oxford Essays in Jurisprudence (Fourth Series)* (OUP 2000) 120-29 (discussing theories under which a property-like interest in contract performance could be created by drawing on an analogy to the property theories). Subch8.1.2.2 (contractual obligations and quasi-property right).

[1496] Gold, 'A Property Theory of Contract' (n1435) 34 ('The major differences in the contractual context are that the thing acquired is of an unusual type, and that it is neither unowned nor owned in common at the time of acquisition.')

[1497] Locke, *An Essay Concerning the True Original Extent and End of Civil Government: Of Property* (n315) ch26.

In contemporary VWs most users expend vast amounts of time, effort and money to acquire and develop characters, objects and items (labour), or to meet the promise's terms—performing his/her side of the bargain[1498]—to be granted the *right to use* them (labour),[1499] but does this mean that they remove resources 'out of the state [of] nature'?[1500]

According to the typical Contract, 'all rights, title and interest' to the VW resources (ie, the Software, the character database and the content) are usually owned by the operator.[1501] Whilst an unenforceable transfer/waiver of (future) (property) rights clause would allow the user to claim property rights in UGC,[1502] it has been shown earlier that most UGC—if not uploaded—is based on 'raw material' of the operator (ie, operator-generated content, VW building blocks and pre-defined changes to properties).[1503]

Whilst Locke cannot justify a new virtual property right in characters, objects and items because the user does not typically appropriate them from the commons;[1504] the labour theory would support a new quasi-property right because the Contract (and hence the *right to use*) is 'neither unowned nor owned in common at the time of acquisition',[1505] only drafted by the operator.

8.2.2.2 G.W.F. Hegel—Personality Theory

The second property theory to bear in mind, G.W.F. Hegel's personality theory,[1506] claims that property rights are related—either as necessary conditions for, or as connected to—human rights such as liberty, identity and privacy.

'[P]roperty rights are justified to the extent that objects are actually inseparably bound up with the personality and liberty of their owner (...), the person has the right to possess the [tangible or intangible] object as he has the right to possess himself.'[1507] Common examples might be, a

[1498] The user promises to comply with the terms of the Contract, and perhaps to pay a monthly subscription fee.

[1499] Gold, 'A Property Theory of Contract' (n1435) 34-35 ('Where a contract is binding, the promisee has acted to meet the promise's requirements, creating the conditions under which it has force as an obligation. Until the contract's conditions are met, the promisor has not bound himself. The conditional promise thus requires the promisee to labour in order to bring about the promised performance. [...]. One way of explaining that the promisee deserves the promised performance may be that the promisee's labour, aimed at attaining the promised act, merits recognition of ownership because his labour has been joined together with the acquired property.')

[1500] Locke, *An Essay Concerning the True Original Extent and End of Civil Government: Of Property* (n315) ch26. See Epstein, 'Possession as the Root of Title' (n315) 1228 ('The essence of any property right is a claim to bind the rest of the world; such cannot be obtained, contra Locke, by an unilateral conduct on the part of one person without the consent of the rest of the world whose rights are thereby violated or reduced.') Contra John A Simmons, 'Original-Acquisition Justifications of Private Property' (1994) 11 SocP & Pol 63, 83 (suggesting examples of the unilateral imposition of rights and obligations that are 'both familiar and widely accepted').

[1501] *EUEULA*, c2(para3); *BlzdEULA(US)*, c2(A); Vacca, 'Viewing Virtual Property Ownership Through the Lens of Innovation' (n205) 43. Subchs4.4; 5.2.3.

[1502] Subch6.4.

[1503] Subchs7.2.1.1; 7.2.3 (pre-defined changes to properties); 7.2.5. See Horowitz, 'Competing Lockean Claims to Virtual Property' (n63) 10.

[1504] Unless the user creates characters, objects and items with CAD programs, editors or other software tools of third party suppliers and uploads them to the VW.

[1505] Gold, 'A Property Theory of Contract' (n1435) 34.

[1506] Georg Wilhelm Friedrich Hegel, *Elements of the Philosophy of Right* (CUP 2003).

[1507] Westbrook, 'Owned: Finding a Place for Virtual World Property Rights' (n165) 798; Margaret Jane Radin,

'wedding ring, a portrait, an heirloom, or a house'.[1508]

Considering the often strong emotional connection between the user and *his/her* character, or to a lesser extent, between the user and the objects he/she created,[1509] one might argue that they are 'bound up' in the personhood of the user. Only crafted, bought, looted or otherwise accumulated (but not created) objects are different, they are commercially exchangeable, replaceable and tradable and not considered 'bound up with' personhood.[1510]

The personality theory would support property rights (including new virtual and quasi-property rights) in any created, modified, manipulated and developed characters, objects and items.[1511]

8.2.2.3 Jeremy Bentham—Utilitarian Theory

The third property theory to consider, Jeremy Bentham's *'felicific calculus'* or utilitarian theory of property,[1512] states that (tangible and intangible[1513]) property interests should be granted if it increases public utility and social good.[1514]

Bearing in mind that both, users and operators, might have potential property rights claims in characters, objects and items,[1515] the *felicific calculus* would be: 'Whatever method of protecting or not protecting the potential property rights at issue causes the greatest social utility is the appropriate method.'[1516]

Whilst a recognition of property rights (including new virtual and quasi-property rights) would acknowledge the users' investments of time, money and effort and reduce the ill effects of RMT,[1517] it would also limit the rights of the operator and increase its liabilities. The aggregated benefits of all the (millions of) users (ie, a 'society of aggregated individuals'[1518]), however, would easily outweigh those limitations and liabilities on the operator.

'Property and Personhood' (1982) 34 StanLRev 957, 957f; Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 48f.

[1508] Radin, 'Property and Personhood' (n1507) 959

[1509] Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 57.

[1510] Westbrook, 'Owned: Finding a Place for Virtual World Property Rights' (n165) 798 (fn115 [providing a definition of fungibles]);

[1511] Radin, 'Property and Personhood' (n1507) 1005 ('But the theory of personal property suggests that not all object-loss is equally important. Some objects may approach the fungible end of the continuum so that the justification for protecting them as specially related to persons disappears.'); ibid (fungibles).

[1512] Jeremy Bentham, *Theory of Legislations* (Trübner 1894).

[1513] The utilitarian theory has been applied by US scholars, courts and legislators to justify the grant of property rights in tangibles and intangibles. Eg, Tom G Palmer, 'Are Patents and Copyrights Morally Justified? The Philosophy of Property Rights and Ideal Objects' (1990) 13 HarvJL & PubP 817, 849ff. *Sinclair & Carroll Co Inc v Interchemical Corp* 325 US 327, 330f (1945) ('The primary purpose of our patent system is not reward of the individual but the advancement of the arts and sciences. Its inducement is directed to disclosure of advances in knowledge which will be beneficial to society[.]')

[1514] See Richard A Posner, *Frontiers of Legal Theory* (HarvUP 2004) 95-141.

[1515] Subchs4.2; 7.2.

[1516] Westbrook, 'Owned: Finding a Place for Virtual World Property Rights' (n165) 796.

[1517] In a system in which one user/player has no more rights to a piece of virtual property than any other user/player, an incentive to defraud other users of their virtual objects exists unabated.

[1518] Westbrook, 'Owned: Finding a Place for Virtual World Property Rights' (n165) 796 ('social good is equivalent to aggregated good'); Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 45.

The utilitarian theory would therefore support both, virtual and quasi-property rights.

8.2.2.4 Summary: Property Theories

Neither the labour theory, nor the personality theory or the utilitarian theory provide a compelling reason to exclude quasi-property rights from legal protection. However, the personality theory does not necessary justify property rights (neither virtual property rights nor quasi-property rights) in objects that are crafted, bought, looted or otherwise accumulated but not created.

Moreover, the labour theory cannot be used to justify virtual property rights because, similar to objects that are crafted, bought or looted, most UGC—insofar different to the contractual *right to use* that is 'neither unowned nor owned in common at the time of acquisition'[1519]—is not appropriated from the commons.[1520]

Apart from the initial *felicific calculus,* none of the normative theories balances or continues to balance the different interests of the parties and if the transfer/waiver of (future) (property) rights clause were enforceable, any property right that had been acknowledged because of the property theories would be lost.

The traditional property theories provide some normative ground for recognising a new property right in characters, objects and items. Similar to the economic arguments raised earlier, however, this normative ground is neither especially strong nor compelling.

8.2.3 Monetary Value of Virtual Assets

Although VAs exist whether or not the user attaches value to them, the need to examine property rights in VAs has become more pressing as users started to spend actual money in order to gain prestige or competitive advantage, or simply to have more fun playing.[1521]

With the value of property rights mostly relying on 'trust or faith in the [property] system [and] belief in the fair enforcement of the owner's rights',[1522] however, this argument of value for the recognition of a new property right in VAs becomes somehow circular.[1523]

[1519] Gold, 'A Property Theory of Contract' (n1435) 34.

[1520] n1504 (discussing possible exemptions).

[1521] Charles Blazer, 'The Five Indicia of Virtual Property' (2006) 5 PierceLRev 137, 146 ('where a free market cultivates value, courts should protect that value'); Jack M Balkin, 'Virtual Liberty: Freedom to Design and Freedom to Play in Virtual Worlds' (2004) 90 VaLRev 2043, 2044ff; see also Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 45; Sebastian Belcher, 'Intellectual Property: Real Law for a Virtual World' (2005) 7 ECL & Pol 7, 8.

[1522] Stephen Dooley and Harry Karaoulou, 'Unreal Property: Owning Binary Goods' (2006) 16 CaL 20, 21; Steven J Horowitz, 'Bragg v Linden's Second Life: A Primer in Virtual World Justice' (2008) 34 OhioNULRev 223, 234 ('the value of Second Life property reflects the users' confidence in the security of their property interests').

[1523] Felix S Cohen, 'Transcendental Nonsense and the Functional Approach' (1935) 35 ColumLRev 809, 815 ('The vicious circle inherent in this reasoning is plain. It purports to base legal protection upon economic value, when, as a matter of actual fact, the economic value of a sales device depends upon the extent to which it will be legally protected.'); Jessica Litman, 'Breakfast with Batman: The Public Interest in the Advertising Age' (1999) 108 YaleLJ 1717, 1725 ('There has been inexorable pressure to recognize as an axiom the principle that if something appears to have substantial value to someone, the law must and should protect it as property.')

The value argument seems to be nothing more than a red herring. The value of a property right cannot justify the property right, if the value itself depends on that very property right.

8.2.4 Summary: Reasoning for an Acknowledgement of a New Property Right

The need to efficiently allocate resources may not be sufficient to justify a new virtual property right any more than a quasi-property right (which is property like), property rights are neither necessary to prevent the tragedy of the commons nor to provide a reduction in transaction costs.

Whilst the analysis of the property theories does not conclude that a new property rights in VAs should exist,[1524] it suggests that the user's claim to property rights is sometimes stronger than the claim against them. The common law of property may not necessarily stretch out to VWs, but new legislation or judicial rulings could still extend the property rules to VAs.

In particular the Contract and hence the new quasi-property right may help to allocate property rights in a form that is acceptable not only to the operator but also to the user.

8.3 Reasoning for a Denial of a New Property Right

While there are reasons to acknowledge a new property right, there are presumably as many reasons to deny it. Nonetheless, this thesis focuses on the more prominent imminent danger of the tragedy of the anticommons and the numerus clausus principle of property rights.

8.3.1 Tragedy of the Anticommons

Once the tragedy of the commons has been established,[1525] one might as well discuss its mirror image—the tragedy of the anticommons. The tragedy of the anticommons may occur, if right holders—because of overlapping use rights in some property—can use their *right to use* to exclude each other from using that property.[1526]

An examination of (property) rights disputes in VWs has shown that there may be different (property) rights in VAs: (1) a bundle of copyrights owned by the operator in operator-generated content;[1527] (2) physical property rights of the operator in the server, the Software copy and any (reference) copy of the VA (server and) release versions;[1528] as well as, subject to the restrictions of the Contract[1529] (3) a bundle of copyrights owned by the user in some of *his/her* UGC[1530] and (4) a contractual *right to use his/her* character, objects and items (ie, the

[1524] Castronova, 'The Right to Play' (n5) 191.
[1525] Subch8.2.1.1.
[1526] Michael A Heller, 'The Tragedy of the Anticommons: Property in the Transition from Marx to Markets' (1998) 11 HarvLRev 621, 623 ('[A]nticommons property [is] a type of property regime that may result when initial endowments are created as disaggregated rights rather than as coherent bundles of rights in scarce resources.')
[1527] Subch4.3.1.
[1528] Subchs4.3.2; 4.3.2.3; 4.3.2.4; n121 (release version).
[1529] n1344.
[1530] Subch7.2.

copy of the client and server version).[1531]

A mere fragmentation of (property) rights does not necessarily create anticommons,[1532] but the examined overlap in rights between the Client Software copy and its programming code[1533] and between the physical property rights of the operator in the (reference) copy of the VA server version and the contractual right of the user to use it may create anticommons.[1534]

Whilst a virtual property right would worsen this tragedy of the anticommons, an enforceable Contract may help to avoid it. As soon as the user transfers or waives *his/her* (future) (property) rights, all possible property rights in current and future VAs (other than the contractually limited *right to use*) would be bundled in and belong to the operator.

Only if the courts agreed that the restriction-of-rights clauses in the Contract (including the transfer/waiver of [future] [property] rights) are unconscionable, unreasonable or anti-competitive and therefore unenforceable, the user's new quasi-property right (and any full-blown property right originating from it) would overlap with the operator's property rights.

Bearing in mind that a court would not lift these restriction unless they are held unconscionable, unreasonable or anti-competitive, one might assume that this court would also acknowledge that the user has better title/right in the particular case. Whilst the user's title/right, being the best according to the court decision, would be indefeasible, however, the operator's title/right (due to its possession and control of the copy of the server versions) is defeasible; subordinate to the title of the user, but effective against all others than the user.[1535]

After all, a recognition of quasi-property rights does not create a tragedy of the anticommons.

8.3.2 Numerus Clausus

Although property may have different forms, the law of property—in contrast to contract law (freedom of contract[1536])—'enforces as property only those interests that conform to a limited number of standard forms' (numerus clausus principle).[1537]

One might say that 'incidents of a novel kind' cannot 'be devised and attached to property at the

[1531] Subch4.4; 5.2.2.2; 5.3.2.2; 5.4.1.3; 5.4.2 (novation).

[1532] Heller, 'The Tragedy of the Anticommons: Property in the Transition from Marx to Markets' (n1526) 670 ('Private property usually breaks up the material world 'vertically,' with each owner controlling a core bundle of rights in a single object [...]. By contrast, anticommons property creates 'horizontal' relations among competing owners of overlapping rights in an object.')

[1533] *Vernor v Autodesk Inc* (9th Cir 2010) (n525) (subch5.2.3.2.3).

[1534] Notwithstanding the Contract, whilst the user may not obtain any physical property rights in the copy of the UGC as defined in the VW, Software, and database, the user still keeps his/her copyright in the programming code. Heller, 'The Tragedy of the Anticommons: Property in the Transition from Marx to Markets' (n1526) 674 ('[E]ven if the number of parties and transaction costs are low, the resource still may not be efficiently used because of bargaining failures generated by holdouts, as sometimes seems to happen with Moscow storefronts.')

[1535] See Goode and McKendrick, *Goode on Commercial Law* (n520) 34f.

[1536] See Atiyah, *The Rise and Fall of Freedom of Contract* (n1392).

[1537] Merrill and Smith, 'Optimal Standardization in the Law of Property: The Numerus Clausus Principle' (n1491) 3 ('On the one hand, courts and commentators behave as if we have a property system characterized by a limited number of forms not subject to contractual or judicial modification. On the other hand, there is no explicit recognition of the numerus clausus, which naturally renders the status of the doctrine somewhat insecure.')

fancy or caprice of any owner'.[1538] With respect to interests in land, for example, these standard forms are 'fee simple, defeasible fee simple, life estate, and lease', and every transfer of property in land will have to comply with these forms.[1539]

Considering virtual property rights and quasi-property rights, one might question whether the numerus clausus principle could, or indeed should be applied to intangible property. Common law systems recognise intellectual property interests such as patents, trademarks and copyright (providing stability[1540]), but the suggested new property rights in individual VAs are different.

Whilst Fairfield's 'code' is arguably not any different to the display, it would provide the user with a new virtual property right protecting the 'code' next to the copyright in the display. But the new quasi-property right is different. It is not a property right but only property like.

If the courts were to acknowledge 'a property system characterized by a limited number of forms not subject to contractual or judicial modification', this numerus clausus principle would therefore only exclude virtual property rights and the acknowledgment of a full-blown property right based on the contractual obligation.[1541] However, quasi-property rights have not yet been considered property but only a contractual right similar to a property right.

As long as quasi-property rights are only property like, they are not excluded by the numerus clausus principle. Value can attach to anything[1542] whether or not one chooses to call it property.[1543]

8.4 Summary: Property Theory and (Contractual) Obligation

Considering the value of VAs and the imbalance in rights, US legal scholars have begun to question the allocation of property rights and enforceability of the Contract.[1544] Convinced that the existing legal framework should be extended to protect the users' investment of time, money and effort,[1545] Fairfield, Meehan and others have eventually proposed a new virtual property right for rivalrous, persistent and interconnected 'code' or 'bits in context', meaning the displayed VA uncoupled from copy and programming code.

[1538] *Keppell v Bailey* [1834] 39 ER 1042, 1049 (Ch).

[1539] Merrill and Smith, 'Optimal Standardization in the Law of Property: The Numerus Clausus Principle' (n1491) 9ff (discussing the numerus clausus in the common law of property).

[1540] *Bonito Boats Inc v Thunder Craft Boats Inc* 489 US 141, 168 (1989) (state statute prohibiting the copying of boat hulls is pre-empted); *Compco Corp v Day-Brite Lighting Inc* 376 US 234, 238-39 (1964) (holding that a state unfair competition law preventing the copying of industrial designs is pre-empted). See generally Paul Heald, 'Federal Intellectual Property Law and the Economics of Preemption' (1991) 76 IowaLRev 959 (reviewing more cases).

[1541] See Juliet M Moringiello, 'Towards a System of Estates in Virtual Property' (2008) 1 IntlJPrivL 3; Juliet M Moringiello, 'What Virtual Worlds Can Do For Property Law' (2010) 62 FlaLRev 159 (supporting this author's view but advocating the use of standardisation to explain rights in virtual property and to fashion estates in VAs). See also Justin B Slaughter, 'Virtual Worlds: Between Contract and Property' (2008) YaleLSch LegalSRepoPa No62 <http://digitalcommons.law.yale.edu/student_papers/62> accessed 17 November 2018, 57ff.

[1542] Subch8.2.3.

[1543] n1378.

[1544] Subch6.4.1 (and accompanying footnotes).

[1545] Horowitz, 'Competing Lockean Claims to Virtual Property' (n63) 2.

Since Meehan's 'bits in context' are not 'definable, identifiable' and separable,[1546] however, they do not have the potential to become a new form of property. And not being rivalrous, persistent, or interconnected, virtual property rights in 'code' cannot and should not be compared to physical property rights (ie, a *right to use*, *to exclude* and *to transfer*) or grant the same or similar rights. Moreover, a new virtual property right cannot be justified, economically, normatively or otherwise.

Noting that the notion of property has changed over time from 'things that are owned by persons' to 'bundle[s] of rights' and an 'eliminat[ion of] any necessary connection between property rights and things', this author argues that property rights and contractual obligations are not so different anymore. In particular the common distinction between rights *in rem* and rights *in personam* may not be upheld, because this distinction is not based on intrinsic differences but rather on the scope of the respective rights.

This author therefore proposes a new quasi-property right that originates in the contractual obligation of the operator to grant the user a *right to use*, *to exclude* other users from exercising control and *to transfer his/her* VAs, which is good against the VW and other users. A quasi-property right that is unlikely to be ever treated as a full property right because of its restriction to the VW and its potential breach of the numerus clausus principle.[1547]

[1546] n802 (discussing new 'categor[ies] of property, [and] right[s] affecting property').

[1547] Property rights in contract have only been acknowledged once by US courts (n1422). Bearing mind that only multiple-separate user agreements but not contracts in general will have quasi-absolute effect (subch9.1), a general acknowledgement of personal property rights in contracts is rather unlikely.

Chapter 9 Quasi-Property Rights and Beyond?

9.1 A New Quasi-Property Right

Finding that VWs are best governed by contract law,[1548] one might not be surprised that operators have created 'pseudotort systems, (...) pseudoconstitutional and pseudocriminal systems out of a patchwork quilt of contracts'[1549] in order to control undesirable activities by users. In this Chapter it is finally examined whether a new quasi-property right may complete this 'patchwork quilt of contracts', to govern the VW, to help allocating property rights in a form acceptable to the operator and the user and perhaps to minimise state law effect.

This new quasi-property right is originated in the contractual obligation of the operator to grant the user a *right to use*, and *to exclude* other users from exercising control over, *his/her* VAs. One might say, that the *right to exclude* is essential to give effect to the *right to use*, which is a right given expressly to the user by the Contract.

Without a *right to exclude*, the user can hardly use *his/her* VAs in accordance with the VW idea and thrust, experience the metaverse economy, or compete and level-up in MMOGs.[1550] This *right to exclude* is also supported by the *rules of conduct*[1551] and the fact that the licensed *right to use* is typically non-transferable and non-sublicensable.[1552]

But does this mean that this new quasi-property right has quasi-absolute effect, ie, that it is effective to control the actions of other users who are not parties to the Contract between the user and the operator?

Whilst traditional property rights are rights *in rem*/absolute rights (good against the world),[1553] the Contract is, on the face of it, only applicable between the operator and the user. Only if the *right to use* and *to exclude* in the Contract were enforceable against all the people in the VW, would this new right be property like and have quasi-absolute effect.[1554]

This effect may result from (1) third party rights in the Contract;[1555] (2) simple common law

[1548] Subchs4.4; 4.4.2; 5.2.3; 5.3; 5.4; 6.3.
[1549] Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n171) 429.
[1550] nn18ff.
[1551] The protection of the user's *right to exclude* is indirect because it is only protected by the *rules of conduct* in Third Contracts. *SLToS*, 6.2(v) ('Attempt to gain unauthorized access to any other user's Account, password or Content.'); *EUEULA*, c8(3); *EUAToU*, c8(c) ('You cannot interfere with any other Participants ability to use and enjoy the Entropia Universe.'); are not entitled to use Entropia Universe in a manner that violates applicable law or infringes on any third parties' rights.'); *BlzdCoC(US/EU)* ('Exploiting other players is [a] serious offense. Scamming, account sharing, win-trading, and anything else that may degrade the gaming experience for other players will receive harsh penalties.')
[1552] nn346; 336 (If the licensed right is non-transferable and non-sublicensable, the licensee must have a right to exclude others from using the licensed right.)
[1553] Merrill and Smith, 'What Happened to Property in Law and Economics?' (n268) 360. Subch8.1.2.2.1 (rights *in rem* and rights *in personam*); Honoré, 'Rights of Exclusion and Immunities Against Divesting' (n1424) 453 (absolute and relative rights). See also n273 (intellectual property rights as rights *in rem*).
[1554] Subch8.1.2.2.
[1555] Subch9.2.1.

consent to community rules;[1556] or (3) a net of (implied) secondary contracts between the users subject to the *rules of conduct* that typically include non-interference,[1557] asset protection,[1558] anti-cheating,[1559] and legal compliance[1560] clauses.[1561]

Without quasi-absolute effect, only the parties to the Contract itself may sue or be sued upon the Contract (doctrine of privity).[1562] But if this new right does have quasi-absolute effect, the question will be whether the operator can change the rules, the VW advertisement and promotional material, or the way the VW works so as to overturn an already-acquired right.[1563] This requires discussion of constitutionality and the *rule of law*.[1564]

Only if the quasi-property right does have quasi-absolute effect, can it complement the quasi-tort, quasi-criminal and quasi constitutional system already established in VWs and support the identification of the contract (terms) as *new* default legal rules for VWs and similar online communities.

9.2 Quasi-Absolute Effect of the Contract

9.2.1 Third Party Rights: A Contract of Hub and Spoke

Imagining the operator as the hub and the users as the different spokes of a wheel,[1565] one finds

[1556] Subch9.2.2.

[1557] *SLToS*, 6.2(iii) ('You will not [...] [e]ngage in malicious or disruptive conduct that impedes or interferes with other users' normal use of or enjoyment of the Service;'); (v) ('You will not [...] [a]ttempt to gain unauthorized access to any other user's Account, password or Content.'); *EUEULA*, cc2(para5) ('You are not entitled to use Entropia Universe in a manner that violates applicable law or infringes on any third parties' rights.'); 8(3); *EUAToU*, c8(c) ('You cannot interfere with any other Participants ability to use and enjoy the Entropia Universe.'); *BlzdCoC(US/EU)* (n1551).

[1558] *SLToS*, c6.2(v); *BlzdCoC(US/EU)* (n1551).

[1559] *SLToS*, c6.2(iv) ('You will not [...] [u]se any cheats, mods, hacks, or any other unauthorized techniques or unauthorized third-party software to cheat in any competition or game that may be offered on the Service, or to otherwise disrupt or modify the Service or the experience of any users on the Service;'); *EUAToU*, c8(j) ('You must immediately report errors and bugs in the Entropia Universe to MindArk whenever You discover them. You may not "cheat" or otherwise neglect to report errors or bugs, use bugs, slow connection, Internet latency, or other "exploits" for own benefits or for the benefit of others.'); *BlzdEULA(US)/(EU)*, c1(C)(ii) ('You agree that you will not [...] [c]reate, use, offer, promote, advertise, make available and/or distribute [cheats, bots, hacks]'); *BlzdCoC(US/EU)*.

[1560] *SLToS*, cc6(para1) ('You agree to abide by certain rules of conduct, including any applicable community standards for the portion of the Service you are using) and other rules prohibiting illegal and other practices that Linden Lab deems harmful.'); 6.1(i) ('You agree that you will not [...] Post, display, or transmit Content that violates any law or the rights of any third party, including without limitation Intellectual Property Rights.'); *EUAToU*, c8(last para) ('YOU HEREBY ACKNOWLEDGE THESE RULES AND AGREE TO ABIDE BY THEM.'); cf *BlzdCoC(US/EU)*, para1 ('Blizzard games offer a fun and safe place to interact with one another across various game worlds. We encourage our players to cooperate and compete in our games, but crossing the line into abuse is never acceptable. If you come across a player violating the policies below, you should report them.')

[1561] Subch9.2.3.

[1562] See *Tweddle v Atkinson* [1861] 121 ER 762 (QB); *Exchange Bank of St Louis v George W Rice* 107 Mass 37, 41 (1871); Smith (ed), *Atiyah's Introduction to the Law of Contract* (n1391) 335ff. Privity has long been regarded as a distinguishing feature between the law of contract and the law of property (eg, Hohfeld, 'Fundamental Legal Conceptions as Applied in Judicial Reasoning' [n272] 72).

[1563] Subch9.2.5.

[1564] Subch9.3.3.

[1565] An illustration gratefully borrowed from Michael Risch, 'Virtual Third Parties' (2008) 25 StClaraComp & HighTechLJ 415, 416.

that the case law on service agreements,[1566] rarely contemplates the rights and obligations between those spokes.[1567] Discussing the Contract, some legal scholars therefore turned for guidance to the surprisingly similar discussion of covenants in residential sub-developments, or membership agreements.[1568]

Considering the rules established by sub-developers of land, for example, Fairfield compared the sub-developer with the operator, the covenant with the Contract, and the different house-owners with the users, to conclude that without virtual property or similar law to draw on, a bilateral contract cannot govern the VW.[1569] Indeed without a personal property interest[1570] in a benefitted VA to attach to, a negative servitude, restricting the use of a burdened VA, running horizontally between the users is rather difficult to justify.[1571]

One personal property interest may be copyright. Although unusual, it would not be the first time that intangible property interests are considered protected by an equitable servitude.[1572] But not every user will hold copyright in *his/her* VA.[1573] And finding quasi-absolute effect in the Contract only because the Contract is attached to a quasi-property right, that originates in the contractual obligation of the operator in the Contract to grant the user a *right to use*, *to exclude* and *to transfer* (which is only property like[1574]) appears to be nothing more than a circular argument, which can hardly justify horizontal rights between the users.

Similar to the members of a trade association, each VW user concludes a Contract with the operator but not (expressly) with any other user.[1575] Questioning which terms of the Contract might still be enforceable by one user against another, Risch, for example, examined the

[1566] See *Locke v Ozark City Board of Education* 910 So2d 1247 (Ala 2005) (holding umpires protected TPB by a league contract mandating police protection); *Stewart v City of Jackson* 804 So2d 1041, 1050 (Miss 2002); *Bush v Upper Valley Telecable Co* 96 Idaho 83 (1974); *New York Citizens Committee on Cable TV v Manhattan Cable TV Inc* 651 FSupp 802, 815-17 (SDNY 1986); contra *CDP Event Services Inc v Atcheson* 656 SE2d 537, 539 (Ga App 2008) (holding concert patrons not protected by the contract between the concert venue and the security company); *Joseph v Hospital Service District No 2 of the Parish of St Mary* 939 So2d 1206, 1213-14 (La 2006).

[1567] Risch, 'Virtual Third Parties' (n1565) 416.

[1568] See Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n171) 440; Lee Anne Fennell, 'Contracting Communities' (2004) UIllLRev 829, 835 (discussing servitudes as hybrid contract–property arrangements); Stephen E Barton and Carol J Silverman, *Common Interest Communities: Private Government and the Public Interest* (IGS 1994); David L Callies, Paula A Franzese and Heidi Kai Gutht, 'Ramapo Looking Forward: Gated Communities, Covenants, and Concerns' (2003) 35 UrbLaw 177; Risch, 'Virtual Third Parties' (n1565) 420.

[1569] Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n171) 440.

[1570] n273.

[1571] See Fennell, 'Contracting Communities' (n1568) 835-36 ('Servitudes differ from contracts in that they bind successors of the original parties [...]. Promissory servitudes restricting land use [...] came to enjoy recognition in the service of an expanded, modern market in which land-related contract obligations [alternatively conceived of as fractionated property rights] were recognized as transferable commodities' [quoting James L Winokur, 'The Mixed Blessings of Promissory Servitudes: Toward Optimizing Economic Utility, Individual Liberty, and Personal Identity' (1989) WisLRev 1, 13-14]); Fennell, 'Contracting Communities' (n1568) 839-41; Practical Law (US), 'Equitable Servitude' <http://us.practicallaw.com/6-581-7932?q=equitable+servitude> accessed 17 November 2018.

[1572] *Waterson, Berlin & Snyder Co v Irving Trust Co* 48 F2d 704, 708 (2d Cir 1931) (discussion of an equitable servitude as an restriction to a copyrighted article); generally Thomas W Bertz, 'Protecting Artistic Property with the Equitable Servitude Doctrine' (1963) 46 MarqLRev 430.

[1573] Subch7.2.

[1574] Quasi-property rights are only good against the VW and therefore not a full property right.

[1575] Risch, 'Virtual Third Parties' (n1565) 420.

findings in *MacGregor v Rutberg*,[1576] where one member sued another member for a violation of the membership rules.[1577] According to Judge Posner, all members are bound by these rules,[1578] but the question is 'whether each member is a [third-party beneficiary] of the [separate] contracts between the other members and the [association]'.[1579] Similar to the membership rules, not all terms of the contract between the operator and another user will be for the direct benefit of the user but the *rules of conduct* that typically include non-interference, asset protection, anti-cheating, and legal compliance clauses are certainly to consider.[1580]

9.2.1.1 Third Party Beneficiary Doctrine

Common law rules and techniques have been developed as exceptions to the rule of privity.[1581] In *Lawrence v Fox*,[1582] for example, the New York Court of Appeals, reasoning by analogy from the law of trusts, held that in the case of 'a promise made to one for the benefit of another, he for whose benefit it is made may bring an action for breach'.[1583] Whether enforceable third party rights have been created, is hereby a question of the parties' intention by reference to the construction of the contract.[1584]

But a contract does not purport to confer a benefit on a third party just because the third party's position will be improved if the contract is performed, the parties 'must intentionally bestow something of value, an affirmative benefit, or even a savings, on the third party'.[1585]

The benefit of the third party needs to be a purpose of the bargain, not just a remote or incidental effect.[1586] Only then that third party can sue for a contractual breach without being a

[1576] *MacGregor v Rutberg* 478 F3d 790 (7th Cir 2007).
[1577] ibid 791, 793-95.
[1578] ibid 794 ('Third-party beneficiaries are nonparties to a contract who are nevertheless allowed to sue to enforce it because the parties intended them to have that right.') (citing *AJ Maggio Co v Willis* 316 IllApp3d 1043 [2000]; *Swavely v Freeway Ford Truck Sales Inc* 298 IllApp3d 969 [1998]; *AEI Music Network Inc v Business Computers Inc* 290 F3d 952 [7th Cir 2002]).
[1579] ibid 794.
[1580] n1557ff; subch9.2.1.2 (discussion).
[1581] Eg, trusts of the promise, covenants concerning land, tort of negligence, agency, assignment, collateral contracts. Lawrence, 'It Really is Just a Game: The Impracticability of Common Law Property Rights in Virtual Property' (n1371) 530-32 (discussing the theory briefly in regard to VWs); Risch, 'Virtual Third Parties' (n1565) 415ff; Jennifer Sapp, 'Aging Out of Foster Care: Enforcing the Independent Living Program Through Contract Liability' (2008) 29 CardozoLRev 2861, 2891 ('In most jurisdictions, the intent of the parties may be proven by the surrounding circumstances rather than by relying on the express language of the contract.'); Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n171) 1047ff.
[1582] *Lawrence v Fox* 20 NY 268 (1859). In contrast to the US, the UK did not at first recognise TPBs ('the consideration must move from the promisee'). Effectively preventing TPBs, that rule was later abolished by the Contracts (Rights of Third Parties) Act 1999.
[1583] ibid 274.
[1584] R2K, ss302, 315; Samuel Williston and Richard A Lord, *A Treatise on the Law of Contracts*, vol 13 (4 edn, West 2000) §37:8; Edward Quinton Keasbey, 'The Right of a Third Person to Sue Upon a Contract Made for His Benefit' (1895) 8 HarvLRev 93, 96; RT Kimbrough, 'Comment Note: Right of Third Person to Enforce Contract Between Others for His Benefit' (1932) 81 AlaLRev 1271.
[1585] Risch, 'Virtual Third Parties' (n1565) 418; Williston and Lord, *A Treatise on the Law of Contracts* (n1584) §37:7.
[1586] R2K, s302(b); Williston and Lord, *A Treatise on the Law of Contracts* (n1584) §37:7; Kimbrough, 'Comment Note: Right of Third Person to Enforce Contract Between Others for His Benefit' (n1584) 1271.

party to the agreement (third-party beneficiary [**TPB**]). 'Intent is [thereby] construed objectively rather than subjectively'.[1587] A neighbour who might enjoy listening to the piano lessons given next door, for example, is not a TPB of the contract between the piano teacher and the student.[1588] Considering third party rights one might find that the user will not only be benefitted by the **Third Contract** between the operator and another user (**third user**) but also burdened by his/her Contract (that in turn benefits the third user).

According to an objective standard of reasonableness the intent of the user in VWs may be *prima facie* questionable. But whilst the user does not know at times whether he/she will be benefitted or burdened in future by a third party beneficiary clause (Rawl's 'veil of ignorance'),[1589] there will always be the potential that he/she will be the actual beneficiary. Intent of the user/other user may therefore be assumed.

Notably, the intended TPB—assuming for the sake of argument the intent of the operator—may even sue the breaching party for a contractual breach if the contracting party does not, only damages must still be proven.[1590]

9.2.1.2 Third Party Beneficiary Clauses: Intent of the Operator

Although the *rules of conduct* typically include non-interference, asset protection, anti-cheating, and legal compliance clauses,[1591] the user can only ever sue for a contractual breach of a Third Contract term if the operator intended to benefit him/her from its protection, and that benefit is not just a remote or incidental effect.[1592]

All of the aforementioned terms have the potential to create horizontal effect between users because by agreeing to these *rules of conduct* they mutually acknowledge and warrant each other's property rights, but only together they appear to support a *right to exclude* granted to the user necessary to establish a new quasi-property right.[1593]

While the user would obviously benefit from any of these clauses in the Third Contract, his/her protection may not be the main reason for their incorporation. Most operators will introduce *rules of conduct* to protect the integrity of the VW,[1594] allow for the use and the enjoyment of

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[1587] Risch, 'Virtual Third Parties' (n1565) 420. R2K, s302 reporter's note (1981) ('The new language in the preamble of Subsection [1] takes account of factors not dependent on intention as stated in Comment *d*'); Williston and Lord, *A Treatise on the Law of Contracts* (n1584) §37:8 (fn11).
[1588] Risch, 'Virtual Third Parties' (n1565) 418f.
[1589] John Rawls, *A Theory of Justice* (Belknap 1971) 12 ('The principles of justice are chosen behind a veil of ignorance').
[1590] Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n171) 450 (criticising the use of the TPB doctrine in VWs).
[1591] n1557ff.
[1592] n1586.
[1593] Subch8.1.2.2.1.
[1594] *Bragg v Linden Research Inc* (n56) 593ff (using exploits in *SL* to buy land); *Hernandez v Internet Gaming Entertainment (Ltd and IGE) US LLC* (n56) 22 ('[I]n order to ensure the integrity of World of Warcraft's® virtual world, Blizzard Entertainment's EULA and ToU expressly prohibit the sale of virtual assets for real money. This

the Services,[1595] to keep existing users happy and possibly to attract some new ones,[1596] all of which benefit the operator.

But even if the protection of the user and *his/her* VAs and enjoyment is not the primary reason of the *rules of conduct*, he/she may still be an intended TPB because the operator cannot protect the integrity of the VW without also protecting its individual users.[1597] An express identification of the TPB in the Contract or an express provision which grants him/her a right to sue under the Contract is not necessary.[1598]

Every user is a member of a class of persons (answering to the description in the *rules of conduct*) expressly entitled to receive the benefit of the Contract,[1599] even if the individual user was not a member of that class at the time the other user *agreed to* the Third Contract and the benefit was created.[1600]

Noteworthy, without any obligation on the operator to enforce the legal compliance clause (requesting the third user/user to comply with the *rules of conduct*),[1601] a TPB claim will often

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prohibition protects the integrity of World of Warcraft®, ensures that the competitive playing field within World of Warcraft® is level, and makes certain that the time, energy and effort expanded by Subscribers is not diminished by others who use real money to purchase scarce and limited virtual resources.') Unfortunately for this research, the final fate of the TPB contract claim will remain unknown because the parties have since settled (*Hernandez v Internet Gaming Entertainment US LLC* 1:07-CIV-21403-JIC [Joint Stipulation of Settlement] [SD Fla 2008]). See David Flint, 'There's Gold in Them There Mails!' (2007) 28 BusLRev 302.

[1595] n1557.

[1596] Eg, *Age of Empires* and *America's Army* have lost a considerable number of players due to cheating (Dave Spohn, 'Cheating in Online Games' [*Lifewire.com,* 28 August 2016] <www.lifewire.com/cheating-in-online-games-1983529> accessed 17 November 2018). See also Robert Stafford Hardy, 'Cheating in Multiplayer Video Games' (Virginia Polytechnic Institute and State University 2009) 4 (stating that one out of five people that participated in his poll have stopped playing or avoided a game due to cheating).

[1597] Risch, 'Virtual Third Parties' (n1565) 422 (noting that the improper creation of L$ causing inflation would deprive Linden Lab of income but the inflated prices may not justify a TPB claim in regard to the anti-cheating provisions). Among and between operators and users there is a great variety on what should count as cheating, what the repercussions should be, and how and when users may be allowed to use minor *cheats* (exchange of tips and tricks with other users). See generally, Mia Consalvo, *Cheating: Gaining Advantage in Videogames* (MITP 2009); Reed Stevens, Tom Satwicz and Laurie McCarthy, 'In-Game, In-Room, In-World: Reconnecting Video Game Play to the Rest of Kids' Lives' in Katie Salen (ed), *The Ecology of Games: Connecting Youth, Games, and Learning* (MITP 2008); Katie Salen and Eric Zimmerman, *Rules of Play: Game Design Fundamentals* (MITP 2004); QJ.net, 'Biggest Scam in EVE Online History' (22 August 2006) <www.qj.net/mmorpg/news/biggest-scam-in-eve-online-history.html> accessed 17 November 2018 (Ponzi scheme in *EO*).

[1598] *Bowhead Information Technology Services LLC v Catapult Technology Ltd* 377 FSupp2d 166, 171 (DDC 2005) (citing *Nortel Networks Inc v Gold & Appel Transfer SA* 298 FSupp2d 81, 90 [DDC 2004] [citing *Weaver and Associates Inc v Haas and Haynie Corp* 663 F2d 168, 175 (DC Cir 1980)]); see also R2K, s308 ('It is not essential to the creation of a right in an intended beneficiary that he be identified when a contract containing the promise is made.'); *County of Santa Clara v Astra USA Inc* 540 F3d 1094, 1101 (9th Cir 2008) (third parties need not point to 'a provision expressly granting the third party the right to sue'); *Heroth v Kingdom of Saudi Arabia* 565 FSupp2d 59, 65 (DDC 2008); *Fort Lincoln Civic Association Inc v Fort Lincoln New Town Corp* 944 A2d 1055, 1064 (DC App 2008).

[1599] *Flexfab LLC V US* 434 F3d 1254, 1260 (Fed Cir 2005) ('the intended beneficiary need not be specifically or individually identified in the contract, but must fall within a class clearly intended to be benefited thereby').

[1600] *Ogunde v Prison Health Services Inc* 645 SE2d 520, 526 (Va 2007) (stating that a third party contract right 'does not depend upon permanent membership in the class of persons entitled to receive the benefit of the contract').

[1601] n1587. Risch, 'Virtual Third Parties' (n1565) 417; 423. See *SLToS*, c1.4(para2) ('Linden Lab does not control and is not responsible or liable for the quality, safety, legality, truthfulness or accuracy of any such user conduct'); c6(para2) ('We reserve the right, but not the obligation, to monitor or become involved in disputes between you and other users.'); *EUAToU*, c8(last para) ('All and any behavior, utterance or action [...] that MindArk, at it [sic] sole and absolute discretion, FIND TO be a violation of the Rules of Conduct [...] WITHOUT ANY CLAIMS

be the only possibility for the aggrieved user to get satisfaction.[1602]

9.2.1.3 Summary: Third Party Rights

Considering the difficulties to establish a TPB status of the user,[1603] it seems also noteworthy that once established, that status might easily be overcome by an express provision in the Contract excluding third-party rights.[1604] For example, the Contract could state that 'This agreement does not give rise to any rights under the third party beneficiary doctrine to enforce any term of this agreement.'[1605]

Whilst some operators might presumably still support TPB claims to remove the tedious enforcement of constant but minor complaints from their list of obligations,[1606] one might only assume that most of them will not. Not because they would have to fear to be sued by its users for not protecting the integrity of the VW (47 USC, s 230),[1607] but because it would ultimately mean to invite the courts and state law into the VW and to lose control over their creation.

Therefore, a new quasi-property right solely based on the TPB doctrine might fail because the Contract (which may be rewritten quickly) may deny quasi-absolute effect; but of course, any such clause might still be considered unconscionable and unenforceable.[1608]

9.2.2 Consent to Community Rules (the Rules of the Game)

Considering the similarities between contract and tort law, Fairfield, who did not recognise the horizontal effect of the Contract,[1609] discusses community rules (eg, the rules of sporting games)

WHATSOEVER.'); *BlzdCoC(US/EU)* (violations of the code of conduct are 'determined by player reports and Blizzard's decision[, Blizzard] reserve[s] the right to restrict offending accounts as much as necessary to keep Blizzard games a fun experience for all players').

[1602] Risch, 'Virtual Third Parties' (n1565) 423-24. See also *Noah v AOL Time Warner Inc* 261 FSupp2d 532, 545-46 (ED Va 2003) ('Under the Member Agreement, AOL no more owes a duty to other AOL members to enforce its Community Guidelines than it does with respect to plaintiff.'); *Jackson v American Plaza Corp* 2009 WL 1158829, *4 (SDNY 2009) ('By granting to Craigshst [sic] the right to enforce the TOU, this provision implicitly denies that right to third parties.')

[1603] Michael Trebilcock, 'The Doctrine of Privity of Contract: Judicial Activism in the Supreme Court of Canada' (2007) 57 UTorLJ 269.

[1604] *Anderson v District of Columbia Housing Authority* 923 A2d 853, 863 (DC App 2007); *Kirby v Richmond Redevelopment and Housing Authority* 2005 WL 5864797, *6 (ED Va 2005); *Dewakuku v Martinez* 271 F3d 1031 (Fed Cir 2001); *Moore v Gaither* 767 A2d 278 (DC App 2001); *Garreaux v US* 544 FSupp2d 885, 895 (DSD 2008).

[1605] See generally Farnsworth, *Contracts* (n341) §7.7.

[1606] *SLToS*, c6(para2). One constant source of complaint is griefing, which usually results in little action by the operator (eg, QJ.net, 'Biggest Scam in EVE Online History' [n1597] [noting the operator's inaction upon discovery of a vast Ponzi scheme in *EO*]; Ralphedelominius, 'CCP Speaks Out on the EIB Scam' [*TenTonHammer.com,* 26 September 2007] <www.tentonhammer.com/node/34217> accessed 17 November 2018).

[1607] 47 US Code, ch5, subchII, ptI, ss201ff on Protection for Private Blocking and Screening of Offensive Material (Communications Decency Act 1996), s230. The statute has been broadly interpreted to hold internet service providers immune to claims based on the actions of their users (eg, *Zeran v America Online Inc* 129 F3d 327 [4th Cir 1997]; *Doe v Sexsearch.com* 502 FSupp2d 719 [ND Ohio 2007]; *Doe v Friendfinder Network Inc* 540 FSupp2d 288 [DNH 2008]). Contra *Mazur v eBay Inc* 2008 WL 618999 (ND Cal 2008) (holding that where eBay represented live bidding was 'safe', the Communications Decency Act 1996 did not pre-empt the claim).

[1608] Without any obligation on the operator to enforce the legal compliance clause (requesting the [Third] user to comply with the rules of conduct) (n1601), a TPB claim will often be the only possibility for the aggrieved user to get satisfaction (n1602). See subch6.4.1 (unconscionability).

[1609] Subch9.2.1 (and accompanying footnotes).

and common law consent instead when examining the governance question.[1610]

Since common law consent is not a contract, Fairfield suggests applying this consent—without the need for the TPB doctrine—between all the members of the community.[1611] Within the game of rugby, for example, tackling that would be usually considered tortuous if done before or after the game is acceptable within the game.[1612]

The rugby rules on tackling may help to determine the 'extent of the consent that players offer merely by playing the game'.[1613] Similar to the rugby rules on tackling, one might find (un)written community rules in VWs. If these rules were to acknowledge property rights in VAs (eg, by supporting a *right to exclude*), for example, any action of another user that breaks these rules would hence not be consented to and may result in liability.[1614] But where are those unwritten rules of the VW and what content do they have?

9.2.2.1 Self-Governance in Online Communities

The most obvious examples of community rules in VW may be found in the self-governance experiments of *LambdaMOO*[1615] and *A Tale in the Desert (**ATITD**)*.[1616] Whilst the users of *LambdaMOO* failed to establish a self-governance system able to enforce their decisions,[1617] the users of *ATITD* have created 'their own rules',[1618] but 'within the constraints of the [metaverse]'s physics and the real world's laws'.[1619] Since both operators have always retained decisive control,[1620] however, the content of those community rules can change without

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[1610] Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n171) 460ff (discussing the community rules of sporting games).

[1611] ibid 460 ('A EULA only defines the scope of consent within a limited framework—that which exists between the consumer and the community service provider. Being a member of a community implicates a broader consent: the consent to the background, default rules of that community. This is the real social contract of a community.')

[1612] Paul H Robinson, 'Rules of Conduct and Principles of Adjudications' (1990) 57 UChiLRev 729, 753 ('One might take a similar view of a football player who tackles another player during a game. The rules of conduct are not violated; the consent of the other player brings the assault within the rules of acceptable conduct.')

[1613] Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n171) 460; C Antoinette Clarke, 'Law and Order on the Courts: The Application of Criminal Liability for Intentional Fouls During Sporting Events' (2000) 32 ArizStLJ 1149, 1168 ('Participants who engage in these sports have necessarily consented to a certain level of violence. [I]f the player's conduct was within the bounds of what one would reasonably foresee as a hazard of the game, the violent act is authorized, and will not expose the perpetrator to criminal liability [...].')

[1614] *Hackbart v Cincinnati Bengals Inc* 601 F2d 516 (10th Cir 1979) 460.

[1615] Mnookin, 'Virtual(ly) Law: The Emergence of Law in LambdaMOO ' (n16); Pavel Curtis, 'The Incredible Tale of LambdaMOO' (*TechTV,* 19 June 2002) <www.crayonbeam.com/links/articles/brain/pavelmoo.html> accessed 17 November 2018; n16; n18.

[1616] <www.desert-nomad.com>

[1617] Mayer-Schönberger and Crowley, 'Napster's Second Life? The Regulatory Challenges of Virtual Worlds' (n93) 1796; Curtis, 'The Incredible Tale of LambdaMOO' (n1616); Pavel Curtis, 'LambdaMOO Takes a New Direction' (*LambdaMOO,* 1992) <www.cc.gatech.edu/classes/AY2001/cs6470_fall/LTAND.html> accessed 17 November 2018.

[1618] Eg, ATITD Wiki, 'Anti-Griefers Act' (2012) <www.atitd.org/wiki/tale6/Anti-Griefers_Act> accessed 17 November 2018; ATITD Wiki, 'Hyksos Property Protection Act' (17 November 2018) <https://atitd.wiki/tale8/Hyksos_Property_Protection_Act> accessed 17 November 2018.

[1619] Richard A Bartle, 'Why Governments Aren't Gods and Gods Aren't Governments' (2006) FM <https://journals.uic.edu/ojs/index.php/fm/article/view/1612/1527> accessed 17 November 2018.

[1620] ibid. See also *ATITDT&Cs*, c3 ('Unless otherwise stated in these Terms of Use, Desert Nomad Studios is the owner or licensee of all rights including all copyright, trade marks and other intellectual property rights relating to or

community consent and their ability to bind the operator remains uncertain.

In contrast to *LambdaMOO* and *ATITD*, most users in *Second Life* have never shown any major interest in self-governance,[1621] only few users have created their own rules for private sims and groups.[1622] For instance, residential areas and groups had been created that did follow a certain set of laws and few of these projects still exist in some form. There are rather small gated communities such as 'dreamland',[1623] for example, that 'voted to ban certain PR agents from their virtual land',[1624] but also larger commercial operations that *purchase* entire sims from Linden Lab, develop and subdivide them to '*rent* or *sell* the plots to other users'.[1625] These 'land barons' may impose covenants on *their land* (eg, to use a virtual home only as a private dwelling).[1626] Using the group tools of *Second Life*, the Confederation of Democratic Simulators has even established a *government* to run *its* increasing number of sims with a few dozen residents based on *citizen* participation.[1627]

Similar to *LambdaMOO* and *ATITD*, however, these community rules are not enforceable against the operator and cannot justify a proprietary *right to exclude*. After all, Linden Lab keeps the sceptre firmly in its hands. 'Time after time, the [*Second Life*] Herald received reports from *Second Life* residents who had been banned from the [*Second Life*] or had had their accounts temporarily suspended without being given the slightest clue why. Nor can residents confront their accuser.'[1628] And 'the authorities of *Second Life* (...) wielded their power inconsistently at best, and often in an ad hoc manner that made it difficult for residents to know what the rules actually were at any given moment.'[1629]

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included within the Website, Materials and Services [including] all rights in respect of all graphics, logos, text, images and all other elements included in and deriving from the gameplay and virtual world featured in ATITD, including [...] in-game names, characters, locations and any virtual items [...] and their associated benefits or properties acquired or provided for use within ATITD.')

[1621] Eg, Wagner James Au, 'The Unwisdom of Crowds?' (*New World Notes,* 30 May 2007) <http://nwn.blogs.com/nwn/2007/05/the_unwisdom_of.html> accessed 17 November 2018; Second Life Wikia, 'Self-Government' (nd) <http://secondlife.wikia.com/wiki/Self-Government> accessed 17 November 2018.

[1622] *SL* is divided into 256 sqm 'sims' (ie, a region simulated by a sim process running on a sim node), which can be subdivided into smaller rectangular plots. See Linden Lab, 'Mainland Pricing and Fees: Land Use Fees' (*SecondLife.com,* nd) <https://secondlife.com/land/pricing.php> accessed 17 November 2018; Second Life Wikia, 'Self-Government' (n1621).

[1623] Linden Lab, 'Dreamland Sim Estate' (*SecondLife.com,* nd) <http://secondlife.com/destination/dreamland-sim-estate> accessed 17 November 2018.

[1624] Christopher Reed, 'Why Must You Be Mean to Me? Crime and the Online Persona' (2010) 13 NewCrLRev 485 (describing rule enforcement through the *SL* self-help tools [eg, freeze, eject, and ban]); Linden Lab, 'Second Life: Managing Your Parcel' (*SecondLife.com,* 26 February 2016) <https://community.secondlife.com/t5/English-Knowledge-Base/Managing-your-parcel/ta-p/700113#Section_.6> accessed 17 November 2018.

[1625] Grimmelmann, 'Virtual World Feudalism' (n1409) 128.

[1626] ibid.

[1627] CDS, 'CDS - The Oldest Democracy in Second Life' (2016) <http://portal.slcds.info/> accessed 17 November 2018; Second Life Wikia, 'Confederation of Democratic Simulators' (nd) <http://secondlife.wikia.com/wiki/Confederation_of_Democratic_Simulators> accessed 17 November 2018 (n1373) (describing the use of *SL* group tools for self-governance).

[1628] Peter Ludlow and Mark Wallace, *The Second Life Herald: The Virtual Tabloid that Witnesses the Dawn of the Metaverse* (MITP 2007) 237.

[1629] ibid 239-40 (describing Linden Lab's attempt to settle a dispute between two groups in *SL*, 'all he had done was

Another example of community rules may be guilds in MMOGs.[1630] Guilds are typically voluntary associations of three or more players coming together to share knowledge, resources, and manpower.[1631] Whilst MMOGs may allow guilds varying degrees of sovereignty, including the power to admit, to expel, or to promote members,[1632] they do not possess any far-reaching sovereignty over the players themselves beyond their membership to the guild.[1633] In regard to the VW, it will always be on the operator to have the last word.

Considering the difficulties to govern VWs growing in size and user numbers, there have been various attempts to introduce self-governance to the VW. As long as the resulting community rules are only applicable between participating users, however, they are incomplete and have only limited relevance for the acknowledgement or denial of property rights, a justification of the newly proposed quasi-property right, or the VW as a whole.

Even if those rules were acknowledged by all the other users in the VW (which they are not), bottom-up developed community rules will not necessarily receive the operator's blessing, or be effective without the operator itself complying with them. Community rules may provide the operator with an insight of the needs and wants of its users, but they will never justify property rights against the will of the operator.

9.2.2.2 Establishing Community Rules Outside Self-Governance Systems

In contrast to sporting games, establishing community rules in VWs or agreeing on their content without the (un)written laws of self-governance communities is almost impossible. Although some operators may openly state community rules in marketing,[1634] they will mostly be implemented (top-down) by code and ultimately shaped by the Contract.

For instance, to stop characters from teleporting from one part of the VW to another, the

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to sell group land, something the software tools of the world had enabled him to do. Within both the code and the laws of Second Life, he was perfectly within his rights. [...] But the company's response was utterly disconnected from its legal documents. Despite the fact that Xaphon hasn't contravened the terms of service, he was promptly suspended. The heisted land was seized, and a small proportion of it was returned. [...] It was simply the prerogative of the gods of the Gird to do as they pleased. They decided the land should belong neither to the Space Monkeys nor to XLS, but rather to the gods themselves.')

[1630] Dmitri Williams and others, 'From Tree House to Barracks: The Social Life of Guilds in World of Warcraft' (2006) 1 GaC 338 347 ('What is different in the larger guilds is the sudden need for formal organization, both for political and practical purposes. [...] Rules, probationary periods, and attendance policies become more common, as do formal sign-ups for activities.')

[1631] Timothy Burke, 'Play of State: Sovereignty and Governance in MMOGs' (2004) <https://blogs.swarthmore.edu/burke/scholarly-articles/play-of-state-sovereignty-and-governance-in-mmogs/> accessed 17 November 2018.

[1632] ibid.

[1633] In this sense, each guild can be regarded as having its own government, but there is no single player–tier government of the VW as a whole (n1619); Richard A Bartle, 'Guilds and Government' (*Terra Nova,* 5 June 2006) <http://terranova.blogs.com/terra_nova/2006/06/guilds_and_gove.html> accessed 17 November 2018).

[1634] Kjartan Pierre Emilsson, 'Stock Markets in Virtual Worlds' (State of Play III, New York, 7 October 2005) (stating in regard to *EO* a science fiction VW of fraud, trading and piracy that 'Fraud is fun.') But if deception is part of the VW (like being bluffed in a poker game) it will not be actionable behaviour. See Ralphedelominius, 'CCP Speaks Out on the EIB Scam' (n1606).

operator need only modify the Software that currently allows for teleporting.[1635] Unlike the actual world, VWs are 'creations of the mind that are modelled in software, and they are as such completely changeable'.[1636] Some might even say that 'code is law' in VWs.[1637]

But not all human behaviour can be controlled by programming code,[1638] or avoided through *ex ante* regulation,[1639] and if the rules are too restrictive, the VW may even lose users, or fail to attract new ones.[1640] Anything else will then be subject to the written rules of the Contract and its enforcement mechanism (eg, suspension and termination[1641]).

Suspension or termination, or even the threat of them, are effective means to enforce any prohibition of unwanted behaviour because they are costly to the user. If the user were forced to leave, he/she would not only lose the possibility to capitalise on his/her past investments of time, money and effort, and the chance to maintain his/her social connections within the VW, but he/she would also be 'forced to abandon the persistent narrative (...) constructed around [*his/her* character]' (eg, the story of the human paladin JonasJustus in *World of Warcraft*).[1642]

9.2.3 Secondary Multiparty Contract

Notwithstanding the Contract itself, enforceable rights may also result from a net of implied secondary agreements weaved between the different users subject to the *rules of conduct* mutually acknowledging/warranting each other's property rights.[1643] Separate from the Contract,

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[1635] Mayer-Schönberger and Crowley, 'Napster's Second Life? The Regulatory Challenges of Virtual Worlds' (n93) 1791.
[1636] ibid.
[1637] ibid; Lessig, *Code and Other Laws of Cyberspace* (n346).
[1638] Frederick Schauer, 'The Convergence of Rules and Standards' (2003) NZLRev 303.
[1639] Mayer-Schönberger and Crowley, 'Napster's Second Life? The Regulatory Challenges of Virtual Worlds' (n93) 1791 (discussing disguised threats made by one user of the VW to another that may not be recognised by the Software); Burke, 'Play of State: Sovereignty and Governance in MMOGs' (n1631) ('You can make a language filter that prohibits a player from saying "fuck", but such a filter is too crude an instrument to deal with the slipperiness of real-world language: a code that stops "fuck" cannot deal with "F U C K", "fock", "you mother-forker", "f*u*c*k" and so on.'); Hubert L Dreyfus, *What Computers Still Can't Do: A Critique of Artificial Reason* (Harper & Row 1992).
[1640] Raph Koster, 'The Man Behind the Curtain' (*Raph Koster's Website,* 11 May 1998) <www.raphkoster.com /gaming/essay5.shtml> accessed 17 November 2018; Balkin, 'Virtual Liberty: Freedom to Design and Freedom to Play in Virtual Worlds' (n1521); Burke, 'Play of State: Sovereignty and Governance in MMOGs' (n1631).
[1641] Subch4.4.4.
[1642] Mayer-Schönberger and Crowley, 'Napster's Second Life? The Regulatory Challenges of Virtual Worlds' (n93) 1793; Castronova, *Synthetic Worlds: The Business and Culture of Online Games* (n5) 261 ('If you disagree, and want to abandon the fruits of thousands of hours of work and effort, as well as all of your friendships, click "I Disagree" [to the Contract] and go spend some time as a lonely hobo in some other world.'); Balkin, 'Law and Liberty in Virtual Worlds' (n375) 2050f ('Although players can choose which game spaces to play in initially, over time they invest considerable time and effort in the game world and in their identities there, and this and various other network effects of virtual worlds may make exit more difficult over time.'); Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n171) 469f (discussing the problem of lock-in and high switching costs); Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 61f ('For many virtual-world participants who have already invested in these worlds, exit may not be a genuine choice. If one's social circle [which may include one's real-world family and friends] congregates exclusively within a given virtual world,[] the option of exile [...] may not seem like much of an option. Lives of cyborgs within particular virtual worlds are deeply meaningful to many of those who possess them.[] Is the option of virtual exit real if it entails giving up family, friends, property, society, and your very form?') (internal citations omitted).
[1643] Subch9.2.1.2 (on the *right to exclude* included in the *rules of conduct*).

but not serially negotiated between the users,[1644] an implied secondary multiparty contract may be concluded when the users *agree to* the Contract itself.

In the English case of *Clarke v Earl of Dunraven*,[1645] also cited by the (US) Fourth Circuit, for example,[1646] the parties were competitors in a regatta of the Mudhook Yacht Club, during which Clarke's boat ran into Dunraven's boat and the latter sued for damages.

Whilst there was no direct express contractual relationship between the different contestants of the regatta, it was held by both the Court of Appeal and the House of Lords that nonetheless a contract existed between them. In the view of Lord Herschell, 'The effect of their entering the race, and understanding to be bound by [the] rules to the knowledge of each other, is sufficient, (...), where those rules indicate a liability on the part of one to the other, to create a contractual obligation to discharge that liability.'[1647] Consequently, Clarke was held liable to compensate Dunraven for the damage arising from the breach of the multiparty contract.[1648]

While the court's analysis avoids any problems of privity,[1649] however, it creates difficulties as regard to offer and acceptance. How should it be possible that one particular entry to the race constitutes an offer, an acceptance, or both by one competitor to the other, if the relation were with the Mudhook Yacht Club and not with each other?

Simultaneous offer and acceptance may not be possible, because their content is different;[1650] and if they are considered cross offers, they will not even create a contract.[1651] Assuming that the Mudhook Yacht Club acted as an agent for the receipt of offer and acceptance may also be a bit far-fetched, but one might certainly say that the first competitor offers to all others who may enter the regatta to comply with the rules of the regatta if they comply as well. The second competitor would then accept that offer by entering the regatta subject to the rules of the regatta and make a similar offer to all future competitors and so forth.[1652]

[1644] See Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n171) 449 ('To secure [...] a right—for example, a serially negotiated agreement that would mimic the common law rule against fraud—you would need to ask all the people you met whether they would agree not to defraud you in return for your promise not to defraud them.')

[1645] *Clarke v Earl of Dunraven* [1895] P 248 (CA); *Clarke v Earl of Dunraven* [1897] AC 59 (HL).

[1646] *De Sole v US* 947 F2d 1169, 1176 (fn11) (4th Cir 1991) ('In particular, in the area of negligence in collisions, the decisive British role in formulating the law of the sea has been crucial to American admiralty law. [...] It, therefore, is instructive to take a lesson from the law described by Gilbert and Sullivan as that of the monarch of the sea. That law is to be found in a leading United Kingdom decision [citing *Clarke v Dunraven*]').

[1647] *Clarke v Earl of Dunraven* (n1645) 62.

[1648] See *Artistic Upholstery Ltd v Art Forma (Furniture) Ltd* [2000] FSR 311, 321 (Ch); *Anderton & Rowland v Rowland* 1999 WL 852670 (QB).

[1649] Subch9.2.1.1.

[1650] Clarke offers that Clarke complies with the rules and that Clarke accepts Dunraven's offer to comply himself with the rules. In contrast to Clarke, Dunraven offers that Dunraven complies with the rules and that Dunraven accepts Clarke's offer to comply himself with the rules.

[1651] *Tinn v Hoffman & Co* [1873] 29 LT 271, 278 (NS) ('where the contract is to be made by the letters themselves, you cannot make it by cross offers'); Beale and others (eds), *Chitty on Contracts* (n1392), pt2, ch2, s3, subs(a), 2-044; Farnsworth, *Contracts* (n341) §2.10 (discussing cross offers under US law).

[1652] Eg, *Carlill v Carbolic Smoke Ball Co* [1893] 1 QB 256 (CA) (discussing offer and acceptance).

Similar to the secondary contracts between the competitors of the regatta weaved subject to the rules of the regatta, the secondary contracts between the users weaved subject to the *rules of conduct* cannot be neatly analysed into offer and acceptance but they are nonetheless a binding secondary contract between the users of the VW that supports the identification of a *right to exclude* necessary for establishing the quasi-property right.[1653]

9.2.4 Third Parties / Non-Signatories to the Contract

A new quasi-property right will be good against the VW, if the Contract itself confers benefits on TPB, or the *rules of conduct* help to weave a net of implied secondary contracts between the users. But does this mean that non-signatories to the Contract (**third parties**) cannot be bound by quasi-property rights?[1654] Bearing in mind that most third parties that hack VAs, or phish for user account details, will have some contact to the VW,[1655] and that—unless passporting of VAs becomes reality[1656]—the VAs value will only ever materialise in the VW itself, however, this question does not have to be answered because a binding effect in the actual world may not even be necessary for its protection.

9.2.5 Retroactivity of Contract Law

Noting that unenforceable restriction-of-rights clauses (and enforceable *granting-of-rights* clauses[1657]) may justify a quasi-property right, one might ask whether subsequent Contract variations or changes to the operator's advertisement and promotional material that render previously unenforceable restriction-of-rights clauses enforceable (or enforceable *granting-of-rights clauses* unenforceable), may affect this newly proposed quasi-property right.

In regard to new legislation, for example, the US Constitution denied Congress and the states the right to pass *ex post* facto laws,[1658] and the Fifth Amendment increased the protection of property including that no one should be 'deprived of (...) property, without due process of law'; requiring compensation when 'private property [is] taken for public use'.[1659]

Whilst the Constitution cannot protect against actions by private persons or entities and quasi-property rights are only property like, any retroactivity of variations or changes might deprive the user of his/her quasi-property rights resulting in an *unconstitutional* taking of quasi-

[1653] See Farnsworth, *Contracts* (n341) §2.10; R2K, s23, illus4, cmt d (suggesting that 'theoretically, just as the offeror may assent in advance to an acceptance, so each of two offerors could assent in advance to a cross-offer' and the cross offers would then make a contract).
[1654] Barnett, 'A Consent Theory of Contract' (n1471) 270 (contracts are void without consent of the contracting parties); Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n171) 449.
[1655] Some phisher might be able to phish account details in the actual world and sell them to someone without entering the VW but the buyer will still have to use the user account in the VW.
[1656] n1372 (passporting).
[1657] To the best knowledge of this author, no operator has ever granted (property) rights in characters, objects and items to the exclusion of the operator itself. See also subch4.4.3 (n356ff); 6.4.1.
[1658] US Constitution, Art1, s9, c3 ('No Bill of Attainder or ex post facto Law shall be passed.'); Art1, s10.
[1659] Fifth Amendment to the US Constitution, second half.

property—contrary to the *rule of law*.[1660]

However, before discussing the possibility of taking away a quasi-property right, one might want to consider first the moment at which the quasi-property right comes into existence. Similar to copyright in the programming code and physical property rights in the copy (if any), quasi-property rights need not to be registered or acknowledged in court to come into effect.[1661] Indeed delivery and possession should be sufficient.[1662]

Because the tangible server version is kept on the server,[1663] one might ask whether *delivery* and *possession* will always require a physical transfer of the copy. But even if the operator does not intend to *transfer* quasi-property rights in VAs to the user, the operator has certainly given 'some objective manifestation of intent' with the Contract allowing the user the *right to use*, *to exclude* others from and *to transfer* VAs within the rules of the game.[1664]

As mentioned earlier, Contract variations may render previously unenforceable restriction-of-rights clauses enforceable (or enforceable *granting-of-rights clauses* unenforceable). But does this mean that those variations might take away from the user quasi-property rights? Whilst the *rule of law* should prohibit a contract variation if it affects quasi-property rights acquired before the variation, it cannot prohibit a contract variation if that contract variation affects only quasi-property rights established after the variation.[1665] A contract variation that may also be unconscionable and unenforceable.[1666]

But what if the user agrees to the Contract variation (eg, *expressis verbis* or by continuous use[1667]), does this mean that he/she will lose any quasi-property rights previously accumulated? Common understanding suggests that a promise must relate to the future.[1668] One might

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[1660] See generally James L Huffman, 'Retroactivity, the Rule of Law, and the Constitution' (2000) 51 AlaLRev 1095. Subch9.3.3 (*rule of law*).

[1661] Art5[2] of the Berne Convention for the Protection of Literary and Artistic Works of 9 September 1886 [in subsequent footnotes use: **Berne Convention**].

[1662] Laurence M Jones, 'Corroborating Evidence as a Substitute for Delivery in Gifts of Chattels' (1978) 17 SuffolkULRev 16, 16 (noting that 'Under the law, delivery of the chattel was necessary to transfer title from one person to another [but with the exception that] in the case of contracts for the sale of goods, title [may pass] prior to delivery of the chattel if the parties so intend.')

[1663] Subch2.2.

[1664] John E Cribbet, 'Chapter 2: Voluntary Transfer by Gift', *Principles of the Law of Property* (Principles of the Law of Property 2edn, Foundation Press 1962) 115-16 (discussing the voluntary transfer by gift).

[1665] Similar to copyright the Contract need not to be registered (Art5[2] of the Berne Convention) or acknowledged in court to be effective. Indeed possession and delivery should be sufficient to acquire quasi-property rights (n1662). Remembering that the copy of the server version is kept on the server, however, one might consider whether *delivery* should always have to require the handing over of the copy. The operator may not intend to transfer quasi-property rights in VAs to the user, but the operator has certainly given with the Contract 'some objective manifestation of [the] intent' to allow the user the *right to use*, *to exclude* others from and *to transfer* VAs within the rules of the game (Cribbet, 'Chapter 2: Voluntary Transfer by Gift' [n1664] 115-16 [discussing the voluntary transfer by gift]).

[1666] Subchs4.4.4. A unilateral change of the Contract without notice is unenforceable. See *Douglas v US District Court* 495 F3d 1062, 1066 (9th Cir 2007); Peter A Alces and Greenfield Michael M, 'They Can Do What!? Limitations on the Use of Change-of-Terms Clauses' (2010) 26 GaStULRev 1099.

[1667] A user agrees to the Contract and hence typically to the operator having a unilateral right to vary the terms of that Contract (nn368; 835).

[1668] Subch8.1.2.1.1 (nn1396ff).

therefore assume by inference, that even if the user agreed to the revised Contract terms the contract variation would not have retroactive effect.

And changes to the operator's advertisement and promotional material should not have any retroactive effect either. Even though the *rule of law* does not apply to those changes, quasi-property right originated in the previously unenforceable Contract cannot be taken away from the user only by changing the previously misleading advertisement. Because changes to the advertisement are not a legal act they cannot have legal effect.[1669]

For all these reasons, one might argue that quasi-property cannot be taken away from the user by subsequent Contract variation or changes in advertisement.

9.2.6 Contract Termination: A Retrospective Annihilation of Quasi-Property Rights?

But what would happen if the operator or the user terminated the Contract? If the Contract is terminated because of a breach, both parties will be relieved of their primary obligations and their primary right to demand performance.

Accordingly, the operator can withdraw access to the VW, Software and character database and stop the supply of the Services and the user can stop paying the subscription fees. By the act of termination the breaching party's duty to perform is then converted into an obligation to pay damages, while the injured party's right to demand performance is converted into a right to damages, but without any secondary obligation in substitution for its primary obligation.[1670]

But more importantly for quasi-property rights, termination operates only prospectively. It does not affect the accrued rights and liabilities of the parties.[1671] The accrued quasi-property rights continue to exist, they are not annihilated retrospectively, whether the Contract is terminated or not. The user may lose his/her *right to use* VAs in the VW, but to protect his/her quasi-property rights (usable wealth) that accrued before termination, he/she should still be able to capitalise.

If US courts were to acknowledge quasi-property rights, they should require exit provisions in the Contract allowing the user to transfer his/her quasi-property (rights) in the event of termination of the Contract. The operator should be obliged to co-operate and provide all assistance reasonably required (eg, limited in time) by the user to up-sell *his/her* VAs even after termination. Termination cannot and should not annihilate quasi-property rights retrospectively.

9.3 A Possible Exclusion / Minimisation of State Law Effect?

The widespread use of 'pseudotort systems, (...) pseudoconstitutional and pseudocriminal

[1669] USLegal, 'Legal Act' (*USLegal.com,* nd) <https://definitions.uslegal.com/l/legal-act/> accessed 17 November 2018

[1670] *Moschi v Lep Air Services Ltd* [1973] AC 331 (HL)

[1671] Goode and McKendrick, *Goode on Commercial Law* (n520) 137; Guenter H Treitel, 'Contracts in General: Remedies for Breach of Contract' in Arthur T von Mehren (ed), *International Encyclopedia of Comparative Law*, vol 7 (Mohr 1976) 141.

systems [created] out of a patchwork quilt of contracts',[1672] and the newly proposed quasi-property right further raises the question whether the Contract may offer more than a solution to property rights disputes in VWs, possibly some self-governance in a magic circle and a *new* law of the firm? Because 'the virtual is [not] opposed (...) to the real but to the actual[, and the] virtual is fully real in so far as it is virtual',[1673] there may not be a simple metaphorical line between the virtual and the real to the exclusion of state law effect. But does this mean that state law will always be applicable to VWs?

9.3.1 Just a Game?

The ongoing debate about property rights disputes in VWs has resulted in a confusion or loss of distinction whether state law should intervene to regulate VWs.

A number of leading theorists in this area argue that the possibility of an economic valuation of play and the applicability of state law will depend on whether VWs are granted the *legal status* of either a *game* or *not a game*.[1674] But what is the difference?

According to the Dutch humanist Huizinga only activities without moral consequences shall be regarded as games.[1675] To separate games from non-games Huizinga draws a **magic circle**, a spatiotemporal frame, to enclose the players.[1676] Or, as Castronova explains, 'whatever is happening, if it really matters in an ethical or moral sense, it cannot be a game. Rather, games are places where we only act as if something matters'.[1677] The mere fact that some VWs are advertised as *games* does not and should not exclude state law.[1678]

In *Securities and Exchange Commission* (**SEC**) *v SG*,[1679] for example, SG created, developed and operated an investment game for Internet users 'alleging that virtual shares in [a] fictional company sold as part of [the] game were "investment contracts" subject to [the] Securities Act [1933] and Securities Exchange Act [1934]'.[1680] SEC claimed that the game 'constituted a fraudulent scheme in violation of the registration and antifraud provisions of the federal securities laws',[1681] but the District Court hold that the 'virtual shares were a clearly marked and defined game' outside the scope of those federal securities laws.[1682] On appeal, the First Circuit

[1672] Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n171) 429.
[1673] Deleuze, *Difference and Repetition* (n76) 208-09.
[1674] Castronova, 'The Right to Play' (n5) 200-05; Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4), TL Taylor, 'Whose Game Is This Anyway? Negotiating Corporate Ownership in a Virtual World' (Proceedings of Computer Games and Digital Cultures Conference, Tampere Finland 2002) 227ff.
[1675] Johan Huizinga, *Homo Ludens: A Study of the Play-Element in Culture* (Temple Smith 1970) 26-46.
[1676] ibid 38-39; .
[1677] Castronova, 'The Right to Play' (n5) 188-89.
[1678] Erez Reuveni, 'On Virtual Worlds: Copyright and Contract at the Dawn of the Virtual Age' (2007) 82 IndLJ 261, 307.
[1679] *Securities and Exchange Commission v SG Ltd* 265 F3d 42 (1st Cir 2001).
[1680] ibid 42.
[1681] ibid 45.
[1682] ibid 47.

reversed, stating that,

> We do not gainsay the obvious correctness of the district court's observation that investment contracts lie within the commercial world. Contrary to the district court's view, however, this locution does not translate into a dichotomy between business dealings, on the one hand, and games, on the other hand, as a failsafe way for determining whether a particular financial arrangement should (or should not) be characterized as an investment contract. (...) [As long as the legal test for the classification of investment contracts is satisfied] "it is immaterial whether the enterprise is speculative or non-speculative or whether there is a sale of property with or without intrinsic value." It is equally immaterial whether the promoter depicts the enterprise as a serious commercial venture or dubs it a game.[1683]

Only VWs with a 'strict separation of [the VW] economy from the economy of the outside world',[1684] may perhaps claim that they are a *game*. But even so, other legal disputes might be pending (eg, defamation, harassment). And there will always be the Contract itself to litigate. An exclusion of state law because of a magic circle does not seem possible.

9.3.2 Cybersovereignty

Similar to the magic circle used to separate games from non-games, legal scholars have discussed the sovereignty of cyberspace to exclude state law from the Internet.

The two main arguments of the cyberseparatists in regard to VWs are that (1) the regulation of transactions in ubiquitous cyberspace 'by any particular national jurisdiction [would] illegitimately produce[] significant negative spillover effects in other jurisdictions',[1685] and (2) that 'the complexity of ascertaining a virtual world's emerging legal rules and balancing them' with the interests of the operator and the users would likely result in some bad decisions by the courts.[1686] According to Lastowka and Hunter, '[c]ourts will need to recognize that VWs are jurisdictions separate from our own, with their own distinctive community norms, laws, and rights' for self-governance to develop.[1687] But Lastowka and Hunter's arguments are mostly

[1683] ibid 47-48 (citations omitted).
[1684] ibid 204; Grimes, 'Online Multiplayer Games: A Virtual Space for Intellectual Property Debates?' (n63) 985.
[1685] Jack L Goldsmith, 'Against Cyberanarchy' (1998) 65 UChiLRev 1199, 1201); David R Johnson and David G Post, 'Law and Borders: The Rise of Law in Cyberspace' (1996) 48 StanLRev 1367, 1393 ('If the sysops and users who collectively inhabit and control a particular area of the Net want to establish special rules to govern conduct there, and if that rule set does not fundamentally impinge upon the vital interests of others who never visit this new space, then the law of sovereigns in the physical world should defer to this new form of self-government.'); Viktor Mayer-Schönberger, 'The Shape of Governance: Analyzing the World of Internet Regulation' (2003) 43 VaJIntlL 605, 618.
[1686] Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 71; Nicolas Suzor, 'The Role of the Rule of Law in Virtual Communities' (2010) BerkeleyTechLJ 1817 1824; Richard A Epstein, 'Intellectual Property: Old Boundaries and New Frontiers' (2001) 76 IndLRev 803, 819 ('private voluntary arrangements will outperform forced interactions in the long run').
[1687] Lastowka and Hunter, 'The Laws of the Virtual Worlds' (n4) 73 ('If these attempts by cyborg communities to formulate the laws of virtual worlds go well, there may be no need for real-world courts to participate in this process. Instead, the residents of virtual worlds will live and love and law for themselves.')

based upon ideal VWs which do not seem to exist.[1688]

People are people who defame, harass and defraud one another, steal from and destroy each other's objects, and generally quarrel over property rights, making a regulatory framework increasingly important.[1689]

In contrast to the cyberseparatists, the cybernationalists point out the conflict of laws but inadequately address the consequences of national regulation on online communities.[1690] Considering that the fundamental issue of VW governance is not the balance between different state laws but the balance between state law and the Contract (or rather the **law of the firm**),[1691] it will ultimately be the responsibility of every state government, and common law court to decide how much regulation of VWs is necessary.[1692]

Similar to the *lex mercatoria*, perhaps 'the most successful example of global law without a state',[1693] VWs do not have their own enforcement system.[1694] Community rules and Contract constitute the 'standard[s] [of the VW] with which conformity is required and against which people's conduct can be assessed' that form the 'touchstone for guiding and appraising human conduct',[1695] but without enforcement structures these standards cannot be considered an autonomous self-contained legal system.[1696] The question of whether two *different* legal systems, the (Contract or) law of the firm and state law, can regulate the VW (legal pluralism) is

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[1688] Suzor, 'The Role of the Rule of Law in Virtual Communities' (n1686) 1825 ('Many of these arguments for self-governance are based upon ideal world assumptions where there is little to no scarcity, where participants can come and go without friction, where new communities can quickly and cheaply be established when existing rule sets are no longer appropriate, and where participants are empowered to choose communities whose rules suit their needs and desires.')

[1689] Niva Elkin-Koren, 'Copyrights in Cyberspace: Rights Without Laws?' (1998) 73 ChiKentLRev 1155, 1166.

[1690] Goldsmith, 'Against Cyberanarchy' (n1685) 1201 ('It does not argue that cyberspace regulation is a good idea, and it does not take a position on the merits of particular regulations beyond their jurisdictional legitimacy.')

[1691] See subch6.2; n403 (applicable law).

[1692] See Simon Roberts, 'After Government: On Representing Law without the State' (2005) 68 ModLRev 1 18; Thomas Schultz, 'Private Legal Systems: What Cyberspace Might Teach Legal Theorists' (2007) 10 YaleJL &Tech 151, 154 (regarding the *lex mercatoria*).

[1693] Gunther Teubner, *Global Bukowina: Legal Pluralism in the World Society* (Dartmouth 1997) 3. See Stephan W Schill, 'Lex Mercatoria' (*Oxford Public International Law,* nd) <http://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1534> accessed 17 November 2018 (describing the *lex mercatoria* as 'the concept of an a-national body of legal rules and principles, which are developed primarily by the international business community itself based on custom, industry practice, and general principles of law').

[1694] Eg, eBay. Schultz, 'Private Legal Systems: What Cyberspace Might Teach Legal Theorists' (n1692) 181 ('eBay's jurisdictional power is constituted by its online dispute resolution mechanism, which I have discussed above. It may be recalled that the parties' submission to this mechanism is ensured by the threat of damage to their reputation. If a party refuses to participate, he is likely to be given negative feedback, which will attach to his profile, or, if the negative feedback has already been given, he will lose his best chance to have it removed. In addition, if the party in question displays the dispute resolution icon, which increases her competitiveness as a seller, her refusal to participate in the dispute resolution procedure will lead to the removal of the trustmark. This will harm her reputation, as the trustmark testifies to the fact that the seller previously has agreed to participate in all dispute resolution procedures initiated against her, which is itself a form of reputation.'); Joseph Raz, *Practical Reason and Norms* (OUP 1999), 154 ('There can be human societies which are not governed by law at all. But if a society is subjected to a legal system then that system is the most important institutionalized system to which it is subjected.')

[1695] Matthew H Kramer, *In Defense of Legal Positivism: Law Without Trimmings* (OUP 2003) 80.

[1696] See Schultz, 'Private Legal Systems: What Cyberspace Might Teach Legal Theorists' (n1692) 186, 155(fn8) (discussing private legal systems on the Internet, contrasting them to mere social orderings and concluding that eBay, which formulates, applies and enforces its own rules, should be recognised as a true legal system).

therefore not to answer.[1697]

An exclusion of state law because of cybersovereignty does not seem possible.

9.3.3 Applicability of the *Rule of Law*?

VWs may not be protected by a magic circle or some cybersovereignty but they are (mostly) governed by contract law. An operator might therefore be able to limit the influence of state law (other than contract law) by changing and amending the Contract to make it acceptable and enforceable,[1698] to give the users less reason to litigate. But to what extent?[1699]

Contractual governance of online communities is private governance, where users 'are likely to be exposed to a lack of certainty and stability in their communities and will be potentially vulnerable to the arbitrary and malicious exercise of power by the [operator]'.[1700]

Noting that the Contract 'is not subject to democratic input and debate', or the 'continuing rebalancing and checking by the courts' one might ask whether this law of the firm may still be subject to the *rule of law*.[1701]

More often discussed in public law, the *rule of law doctrine* states that a nation should not be governed by arbitrary decisions of individuals but by law.[1702] The *rule of law* generally requires that governments announce and follow the laws of the land, which would enhance predictability, certainty and security for its people.[1703] Although the 'countervailing public interest in protecting people's constitutional freedom to define the terms of their own association as they see fit' must be acknowledged,[1704] the *rule of law* seems also applicable to private governance systems. It may not always offer a truly constitutional discourse,[1705] but 'the ideas and values of which the *rule of law* consists are reflected and embedded in the ordinary

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[1697] ibid 187ff.
[1698] Subchs6.4; 6.5.
[1699] n1696.
[1700] Suzor, 'The Role of the Rule of Law in Virtual Communities' (n1686) 1836; Jankowich, 'EULAw: The Complex Web of Corporate Rule-Making in Virtual Worlds' (n840) 20, 45 ('noting that three-quarters of Contracts surveyed 'allowed the proprietor to delete a player account at the proprietor's discretion'); Margaret Jane Radin, 'Regulation by Contract, Regulation by Machine' (2004) 160 JInstTheEcon 1.
[1701] Radin, 'Regulation by Contract, Regulation by Machine' (n1700) 7.
[1702] Aristotle, *Aristotle's Politics: Books I, III, IV, (VII)* (Longmans & Green 1877) bk3, ch16, 223 ('We should therefore choose that law should rule rather than one single citizen. According to this same train of reasoning, even if it is best that there should be some persons in authority, these persons ought to be constituted merely guardians and servants of the laws.') See generally Suzor, 'The Role of the Rule of Law in Virtual Communities' (n1686) 1817ff.
[1703] Risch, 'Virtual Rule of Law' (n1466) 1; Rawls, *A Theory of Justice* (n1589) 235 ('A legal system is a coercive order of public rules addressed to rational persons for the purpose of regulating their conduct and providing the framework for social cooperation. When these rules are just they establish a basis for legitimate expectations.')
[1704] Trevor RS Allan, *Constitutional Justice: A Liberal Theory of the Rule of Law* (OUP 2001) 11. Eg, Kevin Kolben, 'Integrative Linkage: Combining Public and Private Regulatory Approaches in the Design of Trade and Labor Regimes' (2007) 48 HarvIntlLJ 203, 243 ('Traditional dichotomies between hard and soft law, informal and formal, public and private, and even law and non-law begin to break down leading to a form of legal hybridity. Law-making and enforcement are created by a diverse range of private and public actors including governments, NGOs, corporations, and private regulatory bodies that sometimes work together to formulate policies and regulate themselves, and each other, both within and without the framework of the state.') (emphasis in original).
[1705] Risch, 'Virtual Rule of Law' (n1466).

common law' including contract law and the doctrines of unconscionability, reasonable expectations and promissory estoppel.[1706]

The *rule of law* provides an important normative framework to conceptualise and evaluate the validity of private governance in VWs.[1707] An operator may change and amend the Contract to limit state law effect, but to comply with the *rule of law* the revised Contract should be '(1) non-arbitrary, (2) stable, (3) public, (4) non-discretionary, (5) comprehensible, (6) prospective, (7) attainable, (8) consistently enforced, (9) impartially applied, and (10) adjudicated in a factually neutral way.'[1708]

9.3.4 A New Default Legal Rule for Online Communities?

Noting that the operator has introduced a quasi-tort, quasi-criminal and quasi-constitutional system with the Contract,[1709] this author suggests completing this new virtual social contract (including the *rules of conduct*) with a new quasi-property right. But with the Contract being on the brink of setting the *new* default legal rules for VW and similar online communities, one might ask why the operator or the users should choose to rely on contract law?[1710]

The operator and the user each may have different reasons to prefer contract law over property, tort, criminal, and *constitutional* law. For instance, although VW do not have 'their own jurisdictional powers with regard to prescription, adjudication and enforcement',[1711] the operators have almost unlimited power to govern the VW and enforce their Contracts because they control the VW, the Software, the character database and the Services.

VW disputes are almost never litigated, because (1) they are often solved more effectively within the VW, unless the operator itself is party to the dispute,[1712] (2) the average claim is only of small value, and (3) litigation is often costly, lengthy, uncertain and difficult to enforce in

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[1706] Albert Venn Dicey, *Introduction to the Study of the Law of the Constitution* (3 edn, Macmillan 1889) 195; Allan, *Law, Liberty, and Justice: The Legal Foundations of British Constitutionalism* (n1704) 4; Allan, *Constitutional Justice: A Liberal Theory of the Rule of Law* 11 ('[T]he division between public and private law, though important, can never be safely invoked without reference to the specific context [...]. [T]here can be no clear-cut distinction between the state and other "quasi-public" bodies, or even private associations that exercise significant power over their own members. As the problems of abuse of power by non-governmental bodies becomes more clearly recognized, the common law is capable of generating appropriate requirements of fairness and rationality in private law.')

[1707] Suzor, 'The Role of the Rule of Law in Virtual Communities' (n1686) 1838; Dicey, *Introduction to the Study of the Law of the Constitution* (n1706) 171ff.

[1708] Risch, 'Virtual Rule of Law' (n1704) 14f (with further references on each listed element of the *rule of law*). See generally Suzor, 'The Role of the Rule of Law in Virtual Communities' (n1686).

[1709] Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n171) 429.

[1710] See Margaret Jane Radin and R Polk Wagner, 'The Myth of Private Ordering: Rediscovering Legal Realism in Cyberspace' (1999) 73 ChiKentLRev 1295 1295 ('[T]he "private" legal regimes of property and contract presuppose a "public" regime of enforcement and policing, a baseline of background rights.'); Francis Gregory Lastowka, 'Rules of Play' (2009) 4 GaC 379.

[1711] Schultz, 'Private Legal Systems: What Cyberspace Might Teach Legal Theorists' (n1692) 186; 155(fn8).

[1712] See Nicolas Suzor, 'Digital Constitutionalism and the Role of the Rule of Law in the Governance of Virtual Communities' (Queensland University of Technology 2010) 175 (quoting Robert C Ellickson, *Order Without Law: How Neighbours Settle Disputes* [HarvUP 1994]); *Bragg v Linden Research Inc* (n56).

cross border situations.[1713] Without the help of the operator, for example, it will be almost impossible for the user to find out the location or identity of the other user violating his/her rights, or to even prove a violation of his/her rights.[1714]

Civil litigation for the operator would not only be costly, lengthy and uncertain. But more importantly, it would mean to invite state law into the VW and submit its creation to the mercy of the courts. The Contract itself does not exclude state law, but it would limit state law effect, if both, the operator and the users accepted it. The operator could, for example, make minor changes to its Contract, its advertisement, or both to make the allocation of property rights just, reasonable and enforceable, limit its liability and *avoid* civil litigation without necessarily changing its business model.[1715]

9.4 Summary: Quasi-Property Rights and Beyond

This author's newly proposed quasi-property right originates in the contractual obligation of the operator to grant the user a *right to use*, *to exclude* other users from and *to transfer* VAs.

In contrast to a traditional physical property right this quasi-property right is only good against the VW. It is therefore property like. Its quasi-absolute effect results from the horizontal effect of the Contract and a net of implied secondary contracts between each and every other user subject to the *rules of conduct*.

Once established, quasi-property rights continue to exist regardless of subsequent Contract variations or changes to the operator's advertisement and promotional material used that renders previously unenforceable restriction-of-rights clauses enforceable (or previously enforceable *granting-of-rights* clauses unenforceable). A termination of the Contract cannot and should not annihilate quasi-property rights retrospectively.

Neither a magic circle, nor a claim for cybersovereignty may exclude state law. However, a conscionable, reasonable and enforceable Contract that generally complies with the *rule of law* principles could minimise state law effect, unless the operator is part of the dispute.

Similar to industry customs and practices,[1716] private contractual agreements can have the force of law (when evolving to a new virtual social contract). Operators will continue to amend the Contract in line with state law so that future Contracts may be less likely to be considered

[1713] An ubiquitous VW will attract consumer users from all over the actual world, any other claim is therefore likely to trigger different choice-of-law questions (eg, contract, tort, personal property, and copyright) and different choice-of-law rules making the legal analysis more difficult (subch6.2; n403). See also Katsh, 'Bringing Online Dispute Resolution to Virtual Worlds: Creating Processes through Code' (n199) 273f; 282.

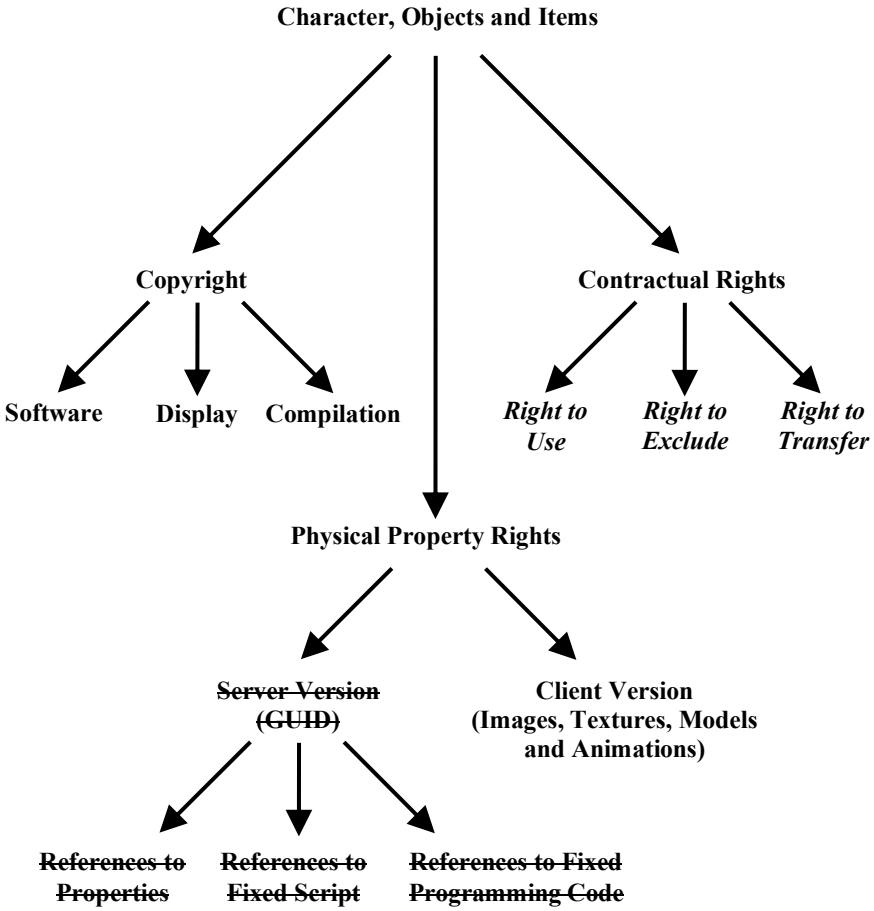
[1714] Julia Hörnle, *Cross-Border Internet Dispute Resolution* (CUP 2009) 21ff.

[1715] Subch6.4.

[1716] Eg, *Daitom Inc v Pennwalt Corp* 741 F2d 1569, 1579 (10th Cir 1984) (applying the rule that '[t]he ultimate contract [...] includes those nonconflicting terms and any other terms supplied by the [UCC], including terms incorporated by course of performance [§2-208], course of dealing [§1- 205], usage of trade [§1-205], and other "gap fillers" or "off-the-rack" terms').

unenforceable, but they will always be subject to the *rule of law*.

Figure 9-1 Possible Rights of the User in Accumulated Operator, Third User and User-Generated Content



Chapter 10 Conclusion

> There is nothing which so generally strikes the imagination and engages the affections of mankind, as the right of property; or that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe. And yet there are few, that will give themselves the trouble to consider the origin and foundation of this right.
>
> William Blackstone (1765-69)[1717]

This discussion of property rights disputes in VWs, from traditional property rights in VWs, Software, character databases and content to scholars' virtual property rights and quasi-property rights, is a complex one. It questions common notions of property, analyses property in terms of rights of control that result in usable wealth,[1718] and proposes a new quasi-property right to complement the (multiple-separate) virtual social contract that should provide the default legal rules for VWs and similar online communities.

Questioning the common concept of property rights and turning to contract law and quasi-property rights (which are only property like) may be surprising to the reader. It is therefore worth summarising the main findings of this thesis, to prove this author's hypotheses and provide commentary on their consequences and possible practical impact for lawyers, Internet scholars, operators (their legal advisers) and users.

Most property rights disputes in VWs are about rivalrous characters, objects and items. Investing considerable time, money and effort to create, develop and accumulate VAs to gain prestige or competitive advantage, or simply to have more fun playing, users often build strong emotional connections to *their* characters and place a high value on accumulated operator, third user and user-generated content. Only a few users may want to capitalise on their past investments but all of them would certainly want a *right to use* and *to exclude* other(s) (users) from exercising control over *their* VAs.

Considering the financial risks of the operator that invests up to hundreds of millions of US Dollars in the creation, upholding, and development of the VW to attract (paying) users, most operators would want to protect their interests in the VW, Software, character database and all the content against the users' claims to (property) rights in accumulated operator, third user and user-generated content and prohibit RMT. Therefore, according to most in-world property models, initial property rights belong to the operator, subsequent rights are delineated by

[1717] Blackstone, *Commentaries on the Law of England (1765-1769)*.
[1718] Chapter 1 (n2).

Contract, and emerging property rights are transferred to the operator or waived by the user.

But traditional intellectual and physical property rights cannot protect these in-world property models, because client/server system architecture does not operate by copying VAs, but rather by the transfer of reference(s) (copies). And whilst a trading user will be triggering the transfer of these reference(s) (copies), he/she will not be infringing any physical property rights that the owner has, because such a transfer is not a trespass to chattels.[1719]

To avoid uncertainty, only an enforceable contractual restriction of the users' rights in the Contract could fully protect the interests of the operator because it would provide the operator with *absolute* control over its creation and any operator, third user and user-generated content. This would allow the operator to make changes to the VW and terminate the Contract when deemed necessary without liability to the users for loss and damages arising out of, or in connection with the possible de-valuation, destruction or seizure of VAs.[1720]

But this restriction of rights would only be necessary if the users themselves had a claim to property rights. Sometimes users may claim copyright in UGC, but copyright only prohibits the copying of, or producing of similar, fixed expressions of ideas.[1721] This does not accord with the main interest of the user, who would want a *right to use* and *to exclude* other(s) (users) from exercising control over *his/her* characters, objects and items.[1722] And physical property rights cannot help the user to achieve this goal either, although at first sight they appear rather helpful.

Similar to software and data, characters, objects and items in binary form cannot be touched or felt, but they still have physical properties of mass and volume and are as tangible as the typical tangible thing. Once we recognise the distinction between the tangible copy and the intangible programming code, for example, we see that—contrary to the typical EULA and ToS—*purchasers* of mass-market software, e-books and music files may claim physical ownership in *their* software, e-book or music file copy (as the case may be).[1723]

But this does not give the user in VWs the *right to use* and *to exclude* VAs, because VAs are different. The user may (1) own the Client Software copy and (2) possess (temporary) copies of VA client versions, (a) obtained with the Client Software, (b) through Software use and online

[1719] Subchs2.2; 4.3.1.4; 4.3.2.5.
[1720] Subch4.4.
[1721] n263.
[1722] n264.
[1723] Subch5.2.3.2.3 (discussion of *Vernor v Autodesk*). See for example, clause 1 of the Kindle Store Terms of Use (Amazon, 'Kindle Store Terms of Use' (5 October 2016) <www.amazon.com/gp/help/customer/display.html ?nodeId=201014950> accessed 17 November 2018) ('upon your payment of any applicable fees [...] [consideration] the Content Provider grants you a non-exclusive right to view, use, and display such Kindle Content an unlimited number of times [...] [unlimited use], solely through a Kindle Application or as otherwise permitted as part of the Service, solely on the number of Supported Devices specified in the Kindle Store [storage on user device], and solely for your personal, non-commercial use. Kindle Content is licensed, not sold, to you by the Content Provider.'); Fowler GA, 'Amazon Pays for Eating Student's Homework' (*Wall Street Journal,* 1 October 2009) <http://blogs.wsj .com/digits/2009/10/01/amazon-pays-for-eating-students-homework/> accessed 17 November 2018.

access, or (c) *purchased* in web-shops, market places, auction houses, from NPC vendors or on the grey market, but none of these copies are separable from the Client Software copy and they cannot therefore justify individual physical property rights. Even a separate copy of a VA client version would have little or no value to the user because it cannot be used offline or without the server version that references the properties, fixed script and programming code of the VA and ultimately confers value on it—but will never be transferred to the user.[1724]

Instead of making another helpless attempt to justify a new virtual property right that still cannot overcome an enforceable transfer/waiver of (future) (property) rights clause in the Contract, this author questions common concepts of property and proposes instead a new quasi-property right. Originated in the contractual obligation of the operator to grant the user a *right to use*, *to transfer* and *to exclude* other users from exercising control over *his/her* VAs, the *rules of conduct* in the Contract give quasi-absolute effect to that right.

This new quasi-property right cannot overcome an enforceable transfer/waiver clause either. But such a restriction in the Contract could and should be considered unenforceable by US courts on the basis of unreasonableness, unconscionability or antitrust violation. If so, a quasi-property right should be sufficient for the user to claim usable wealth. The same would apply if the Contract itself had already acknowledged the user's *right to use*, *to transfer* and *to exclude* others from exercising control over *his/her* VAs (though admittedly this is unlikely). Value can attach to anything whether or not one chooses to call it property.

Only good against the VW, quasi-property is unlikely to ever be treated as a full blown property right,[1725] but it is still 'definable, identifiable' and separable from the rest of the Contract, 'capable in its nature of assumption by third parties' and has 'some degree of permanence or stability'.[1726] Once established, quasi-property rights are not affected by the termination of the Contract, or by any variation of the Contract or any changes to the operator's advertisement that may render previously unenforceable restriction-of-rights clauses enforceable.

In contrast to traditional personal property rights and the newly proposed virtual property rights, this new quasi-property right not only meets users' expectations, but also protects the reasonable interests of the operator and allows the VW to flourish. Quasi-property thereby complements the quasi-tort, quasi-criminal and quasi-constitutional system already established by the (virtual social) Contract. Bearing in mind that disputes in VWs are almost never litigated, because (1) they are often solved more effectively within the VW, unless the operator itself is party to the dispute; (2) the average claim is only of small value and (3) litigation is often costly, lengthy, uncertain and difficult to enforce in cross border situations, these (multiple-separate)

[1724] n535.
[1725] n1547.
[1726] *National Provincial Bank Ltd v Ainsworth* (n802) 1248.

(virtual social) Contract (terms) have the potential to become the *new* default legal rules for VWs (and similar online communities).[1727]

Thus the operator has the power to decide whether to acknowledge the unenforceability of a transfer/waiver of quasi-property rights and whether to take any action to assist users to enforce them. This might make a new quasi-property right seem illusory. All is not lost though. Comparing the Contract (that excludes users' property rights) to some imperial clothing, as in Hans Christian Andersen's story of the Emperor's New Clothes, there may eventually come a child that says: 'But the Emperor has nothing at all on!'[1728]

With the new quasi-property right (and civil litigation) dangling over the operator's head, operators have a strong incentive to review their Contracts and streamline their business models to respect this quasi-property right. Minor changes to the Contract and the operator's advertisement and promotional material can limit its liability and the risk of costly, slow, formal and inflexible litigation without necessarily changing its business model.[1729] And, it should not be forgotten that it is also in the commercial interests of the operator to give effect to its (paying) users' expectations, thus rendering the VW world an attractive place.

Does this answer the research question: Could/should contract law govern property rights disputes in VWs, and multiple-separate user contract(s) (terms) provide the default legal rules for VWs and similar online communities? Not without jumping over a couple of obstacles, but this research has shown that property rights and contractual rights are of the same general character, and are only distinguished by the range of people to whom the respective right applies. Quasi-property rights may only be property like because they have no effect outside the VW, but they are good against the VW and apply within the VW itself.

This is a good thing for VW governance. Restricting quasi-property rights to VWs, gives the operator not only the opportunity to minimise state law effect, but also the well-needed flexibility to forge its own destiny to help the VW to flourish.

[1727] Eg, Facebook <www.facebook.com>; Facebook, 'Facebook Terms of Service' (*Internet Archive WayBackMachine,* 26 April 2011) <https://web.archive.org/web/20110727174811/www.facebook.com/terms.php?ref=pf> accessed 17 November 2018; Facebook, 'Payment Terms' (*Internet Archive WayBackMachine,* 28 June 2011) <https://web.archive.org/web/20110718111943/http://www.facebook.com/payments_terms/> accessed 17 November 2018 (Facebook credits discontinued in September 2013); Jacob Clifton, 'How Facebook Credits Work' (*HowStuffWorks.com,* nd) <https://computer.howstuffworks.com/internet/social-networking/information/facebook-credits.htm> accessed 17 November 2018.

[1728] Hans Christian Andersen, 'The Emperor's New Clothes' (*Project Gutenberg,* 2008) <www.gutenberg.org/files/1597/1597-h/1597-h.htm> accessed 17 November 2018.

[1729] n50.

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— — ‘Goblin Assassin’ (nd) <http://wowwiki.wikia.com/wiki/Goblin_Assassin> accessed 17 November 2018
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Appendix A. Glossary of Legal and Technical Terms

In the Glossary, explanations are given of various technical and legal terms used (or suggested for use) in the context of virtual worlds; the Glossary does not purport to be comprehensive.

actual world

The physical world of humankind.

algorithm

A set of instructions to manipulate data in **data structure**s.[1730]

array

An ordered list of variables or objects of the same type, which can be operated on by various **algorithm**s (ie, insertion into the array, deletion, searching, sorting).[1731]

avatar

The graphical, textual or digital representation of the **character** (**client version**) on display, depicted in human, animal or imaginary form.

browser world

A browser world is a **VW** that uses a **web-client** and is accessed through a web browser.[1732]

bug

An error in a *computer program* (typically a **syntax** or a logic error), that may cause the *computer program* to unexpectedly quit or behave in an unintended manner.[1733]

character

The character chosen by the **user** and tied to his/her **user account**.

character database

While most **VW** operate various different databases for **character**s, **item**s, **NPC**s, **mobs**, metrics logging, zone[1734] and client connection[1735] management.[1736] The character database contains all information regarding the name, profession and particular skills of the **character** as well as a list of *his/her* possessions (as described in **properties**, fixed **script** and **programming code**). Databases are typically implemented and arranged in-memory using **data structure**s.

character properties

Character properties typically include the **character**'s **GUID**, name, description,[1737] weight, size, speed, skin colour and **location data**, and may be complemented in MMOGs by the **character**'s agility, intellect, spirit, stamina and strength.

client version

[1730] Allen Sherrod, *Data Structures and Algorithms for Game Developers* (Charles River Media 2007) 3.
[1731] ibid 2.
[1732] Eg, *Realm of the Mad God* (<www.realmofthemadgod.com>); *OGame* (<https://us.ogame.gameforge.com>); Smeet (<www.smeet.com>).
[1733] Per Christensson, 'Bug' (*TechTerms.com,* nd) <https://techterms.com/definition/bug> accessed 17 November 2018. In this glossary the term *computer program* is used as a technical term and not as a legal term subject to copyright (17 USC, s101 ['computer program']).
[1734] Typically where the VW logic is executed.
[1735] An optimisation for handling message traffic as well as securing the entire system from misbehaving clients.
[1736] Not every VW operates each of these databases, and some VW may include other databases not mentioned here. Eg, sensitive account information may be kept in a separate database on a separate server for security purposes.
[1737] Eg, type number (usually a 32-bit or 64-bit number or enumerated type number) or class name. Mike Sellers ('[A]n object can look up its own type, which can be nested or inherited from super-classes – so an object of [the] type "rogue" would also be an instance of the larger type "human" which is itself part of the larger type "object"'.)

The client version includes any display related aspects of the **VA** (ie, images, **texture**s, models, animations and sounds, as well as the **copy** of the **programming code** or data describing visual [multiple] **texture**s and graphical effects), and its **location data**[1738] but not any **reference**s to the **VA**'s **properties**, fixed **script** and **programming code** describing its functionality.[1739]

client/client program/Client Software

The Client Software as described in sub-chapter 2.2 that runs on the **user**'s computer (**fat-client** or **thin-client**) or in the web browser (**web-client**).

client/server communication/keeping control

In order for the **operator** to keep control and to save memory space, every **VA** in possession requires two parts of a fragmented **copy** to be displayed on the **user**'s computer screen—the **server version** (in the **character database**[1740]) and the **client version** in the **Client Software**, **CDN** or on the **server** made available to the **user**.

Whilst the **server version** holds **reference**s to its **properties**, fixed **script** and **programming code** (defining its attributes and determining its value), the **client version** of the **VA** contains all its display related aspects (ie, images, **texture**s, models and animations); only its identifier and often its **location data** are stored in both to allow for client/server communication. Without the **server version** a **VA** cannot be used or displayed.[1741]

And the **operator**'s control does not stop with the control of the **server version**. Even though a **copy** of the **client version** is transferred once the **user** obtains, installs and/or uses the **Client Software**, the **operator** always controls the **release version** (or master copy[1742]). The **release version** of the **client version** is typically kept in the **development repository** and only edited under version control when desired/required by the **operator**.[1743]

For example, if Blizzard decides that all the Goblin Assassins in *World of Warcraft*[1744] should have a dagger instead of a scimitar, Blizzard must only change the **copy** of the weapon that the **release version** of the Goblin Assassins refers to, and the weapons of all the Goblin Assassins in *World of Warcraft* will change with the next **client program** (**installer**) or **CDN** update.

Typically only one **copy** of the **client version** is necessary to display more generic **object**s.[1745] For instance, instead of duplicating the graphic of the scimitar for every Goblin Assassin,[1746] only one **copy** is stored in the **client program** or **CDN**, and **reference**s are used in the **object** (ie, the Goblin Assassin) to point to the fixed **programming code** shared by all of them.

Sometimes even virtual **object**s created by the **user** of less complex ones, eg, a stool *built* in *Second Life* of four different prims, or a piano *built* in *Ultima Online* of wooden crates, chessboards, fish steaks and fancy shirts,[1747] are represented by a mere list of **reference**s.[1748] But it is rather questionable whether this use of lists saves space in memory. Soon after the stool created in *Second Life* has been tested for **Contract** violations and copyright infringement,[1749] for example, it will be

[1738] Spatial coordinates are included in both the client version and the server version to allow for client/server communication.

[1739] Eg, whilst the *flaming* ability of the Blade of Wizardry in *WoW* (as displayed on the computer screen) is part of the client version, the properties of the blade (18-35 damage, 1.80 speed, +114 intellect) are part of the server version (cf WoWHead, 'Blade of Wizardry' [nd] <www.wowhead.com/item=31336/blade-of-wizardry> accessed 17 November 2018).

[1740] nn110; 111; 112; 113.

[1741] Mike Sellers; subch2.2.

[1742] Mike Sellers.

[1743] The user will only receive a non-editable copy of the client version (Mike Sellers).

[1744] WoWWiki, 'Goblin Assassin' (nd) <http://wowwiki.wikia.com/wiki/Goblin_Assassin> accessed 17 November 2018.

[1745] 'The goal is to reduce RAM usage on the player's computer. There are other uses of multiple references to an in-memory object that can be used on the server computer, but these are often lower priority.' (Mike Sellers).

[1746] WoWWiki, 'Goblin Assassin' (n1744).

[1747] Ondrejka, 'Escaping the Gilded Cage: User Created Content and Building the Metaverse' (n21) 85; Pope, 'Piano Build in Ultima Online' (n1170).

[1748] Every object selected, arranged and locked down/linked by the user to *create* a four-prim stool, a piano or similar does have a GUID; additional references are used within the database entry to refer to the objects' properties (in particular location data), fixed script and programming code (nn110ff).

[1749] Chuck Clanton, Mike Sellers.

defined in the **Software** and added to the central **server** system. But since the prims of the stool (each having its own **properties**, fixed **script** and **programming code**) are not used to *build* any other **object**s in *Second Life*, a saving of memory space does not occur.
And the *creation* of a new piano in *Ultima Online* by selecting, arranging and locking down its components (bearing in mind that the **properties** of each **object** [crates, chessboards, fish steaks, fancy shirts] include its **location data**) is not any different either. The piano will not be *defined* in the **Software** and added to the central server system of *Ultima Online*,[1750] and whilst the **location data** of its components may change, the **reference**s to each of them have existed before and will exist after the *creation* of the piano.

content delivery network (CDN)

A form of pre-cache of anything required for the **online access** (excluding the **server version**). When the **VW** loads up on the **user**'s computer, the **thin-client** does not request client copies one-by-one but hauls down all client copies at once for efficiency reasons. 'It [is] then up to the [C]lient to ask the [S]erver, "what is this [C]haracter wearing?" The [S]erver returns a bunch of unique identifier numbers [**GUID**s] that the [C]lient looks up and then selects the correct things to display.'[1751] The CDN is typically kept on various different **server**s around the **actual world** (often only in leased **server** space) so that not all the **user**s have to access the central **server** and to reduce transit times.

Contract

The **Software Contract**, the **Services Contract**, or both, which allocate the rights and obligations between the **operator** and the **user** to the **VW**, **Software**, **character database**, **VA**s and beyond.[1752]

copy

The (intangible) **programming code** fixe/stored optically on DVD-ROM, magnetically on computer hard disk, or semiconductor in computer **RAM**.

data structure

A data structure defines how data is arranged in memory and can be operated on by using various **algorithm**s. One of the most basic data structures used in computer programming is the **array**, more sophisticated data structures are **dictionaries** and **hash table**s.

development repository

A central file storage location used in software development, that is not kept on the server.

dictionary

A dictionary is a fast **data structure** used to hold a database of information in memory. Almost any data type can be used as a unique identifier or key to access the dictionary, including **string**s, **integer**s, **GUID**s.

fat-client

The **copy** of the **VA client version** is installed in the **client program** on the **user**'s computer.

floating point number

A number that contains floating decimal points (eg, 5.5, 0.001, and -2,345.6789); numbers that do not have decimal places are called **integer**s.[1753]

function (or subroutine)

A named section of a *computer program* that performs a specific task. A function is a type of procedure or routine. Some **programming language**s make a distinction between a function, which returns a value, and a procedure, which performs some operation but does not return a value. Most

[1750] The operator did not make any provision for a new piano, or for the users to create new objects and name them (which would ultimately cause them to be added to the *UO* database so that others could reference them).
[1751] Mike Sellers.
[1752] Chapter 6.
[1753] PerPer Christensson, 'Floating Point' (*TechTerms.com,* nd) <http://techterms.com/definition/floatingpoint> accessed 17 November 2018.

programming languages come with a prewritten set of functions that are kept in a library.[1754]

Globally Unique Identifier (GUID)

Typically a 32-bit or 64-bit number that uniquely identifies a **VA** and may be used as a key to access a **hash table** or **dictionary**. Every independent **VA** will typically be assigned a GUID from the moment of creation that will only refer to that **VA**, and no other, for the lifespan of the **VA**.[1755] For instance, the *Second Life* **avatar** of the author with the name JonasJustus has the GUID fff94202-ca57-4084-882d-25192a8c25d9. Only utterly identical **object**s such as gold pieces where there is no way to track where a particular gold piece is gone in the **VW** do not have GUIDs. See also **virtual currency**.

hash table

A hash table is another fast **data structure** used to hold a database of information in memory.[1756] Almost any data type can be used as a unique identifier or key to access the hash table, including **string**s, **integer**s, **GUID**s. In contrast to the **dictionary**, the hash table is a not generic in nature; requires boxing/unboxing; is thread safe, and in general slower than the **dictionary**.

installer

The installer program installing or updating the **client program**.

integer

A whole number (not a fraction) that can be positive, negative, or zero; commonly used in computer programming, eg, to increment numbers, but also to determine the location of an item within an **array** (similar to a key).[1757] For instance, the 516th member of a particular weapons **array** may describe something like a broadsword and the 517th member may describe a mace.

intellectual property/intellectual property right

Intellectual property is **personal property**. In this thesis terms such as intellectual property or intellectual property right are used when referring to intangible choses in action or rights thereto.

item

An item is something that a **user** can carry, either in his/her inventory, represented by an inventory icon, or tracked on a page in the **character** sheet (*World of Warcraft*). An item is a conceptual **object**, not *per se* a virtual **object**, but often associated. For instance, whilst clothing gear items are equipped, clothing gear **object**s appear on the **avatar**.

location data

Every **character** and every movable **object** in the **VW** has location data (spatial coordinates, [x, y, z] tuples).[1758] The location data is typically stored on the **user**'s computer (**fat-client**) or in **RAM** (**thin-client** and **web-client**) and updated whenever the **VA** moves, usually with a frequency of between 4 times per second and once every ten seconds.[1759] The **server** will try to write out each **VA**'s location data that has changed every few seconds to a minute,[1760] until then the **server** holds the location data in its **RAM**.[1761]

mobs

Mobile **object** or Monster Or Beast (as a bacronym), a generic term for any **NPC** whose primary purpose is to be killed for experience, quest objective or loot. **NPC**s may be described as an overlap.

[1754] Vangie Beal, 'Function' (*Webopedia.com,* nd) <www.webopedia.com/TERM/F/function.html> accessed 17 November 2018.
[1755] GUIDs of NPCs/mobs with a short lifespan may be taken of a pool and can be recycled (Mike Sellers).
[1756] Allen Sherrod, *Data Structures and Algorithms for Game Developers* (Charles River Media 2007) (n1730) 210.
[1757] Eg, White, *Second Life: A Guide to Your Virtual World* (n1179) 241 (describing integers, floats, strings, keys, vectors, rotations and lists used in Linden Script Language).
[1758] Two or more numbers (long integers) in an ordered set; another example would be RGB values of the skin colour.
[1759] Mike Sellers.
[1760] Mike Sellers.
[1761] In regard to cloud-based servers such RAM storage becomes redundant, because if one server goes down another server will be there to take over (Mike Sellers).

multiple inheritance

Multiple inheritance is a feature in some object-oriented computer **programming language**s in which an **object** or class can inherit characteristics and features from more than one parent **object** or parent class. For instance, a **character** in the **VW** may have a pirate scimitar that inherits **properties** from the pirate and scimitar templates (**client version** and **server version**). Perhaps the scimitar template provides the weight, the mesh, the **texture**, and the value, while the pirate template provides a tint that's applied on top of the **texture**, as well as a verb that let the **character** swing the scimitar in a piratey style.

non-player-character (NPC)

Similar to **character**s AND **object**s, NPCs are sometimes described as 'active **object**s' because they move on their own and have their own internal state (eg, number of hit points) that the **server** manages. Active **object**s take up a lot more programming and **server** time than the usual **object** that just sits there and does not have any functionality of its own (eg, when a **character** wields a sword, it is the **character** and not the **object** that gains additional damage).

object

Objects are the building blocks of the **VW** and may be everything imaginable from armoury, weapons, tools, furniture and everyday commodities to *real estate*. **Item**s displayed in the **VW** are included in this definition. A counterpart of the object in the **actual world** is not necessary.

object properties/item properties

Object/item properties typically include its **GUID**, name, description, weight and size, as well as (sometimes) durability[1762] and value.[1763] The properties of every movable **object** will also include its **location data**. See also **properties**.

online access

The right of the **user** to access the **VW**, including his/her **user account**.

operator

The operator provides/operates the **Software**. Although more often than not the operator will be different from the developer of the **Software**; in this thesis the operator shall be regarded generally as the creator and author of the **VW**, **Software, character database** and **operator-generated content**.

operator-generated content (OGC)

A **character**, **object** or **item** created, modified or manipulated by the **operator**. In this thesis mostly referring to the initial content of the **VW**.

personal property/personal property right

The typical common law classification suggests that personal property is divided into tangible/physical (choses in possession/things) and intangible property (choses in action). See also **physical property**.

physical property/physical property right

Physical property is **personal property**. In this thesis terms such as physical property or physical property right are used when referring to tangible choses in possession/things or rights thereto.

player

Any subscriber to an MMOG who entered into a **Contract**.

[1762] n1795 (decay of objects in *EU*).
[1763] The value may be included if the objects are traded.

programming code (and script[1764])

The intangible (not fixed) programming instructions that allow a computer to function. In combination with the data from the **properties** at run-time, **properties**, fixed **script** and **programming code** become the **server version** that describes the **object** in memory.

programming language

A programming language is a set of commands, instructions, and other **syntax** use to create a *computer program*. Examples include, C, C++, Java, Perl and PHP.

properties

Properties is an umbrella term used for **character properties** and **object/item properties**. Properties are typically stored in an **XML file** (or similar file structure, ie, CouchDB, CSV, JSON, or MongoDB) for development and offline storage,[1765] but read in when the **server** starts, or later if the XML file is updated by the **operator**. In the **character database** numeric properties (other than the **object**'s name, **GUID**[1766], skill-class, type etc) are typically stored as (long) **integer**s,[1767] **floating point number**s or doubles[1768]. For instance, the properties of a Glass Sword in memory may look similar to:

- **GUID**: the unique **GUID** for this Glass Sword
- Type number: The number of the Glass Sword type[1769]
- English Name: Glass Sword
- Weight: 30
- Cost: 50
- Durability: 1

property, property right, thing

Property is an ambiguous term, being used for property objects or things, property rights (eg, ownership) or anyone's assets in general. This thesis will use the term **thing** (or chattel where appropriate) when referring to an object, the term **property right** when referring to a right (including **personal property rights**, **physical property right**s, **intellectual property right**s/copyrights, **virtual property right**s and **quasi-property right**s), and only if the term is supposed to denote assets in general without **reference** to any specific item within such assets, the word **property**.[1770]

quasi-property right

Quasi-property rights are **property** like. Originated in the contractual obligation of the **operator** to grant the **user** a *right to use*, *to exclude* **other user**s from exercising control over and *to transfer* **VA**s, the *rules of conduct* included in the multiple-separate **user** contract complete its quasi-absolute effect, **quasi-property** shall be construed accordingly.

[1764] In contrast to compiled languages (eg, C, C++, C# and Java) scripting languages (eg, Python, Lua) use interpreters to translate source code to machine executable programming code (ProgrammInterview.com, 'What's the Difference between a Compiled and Interpreted Language?' [nd] <www.programmerinterview.com/index.php/general-miscellaneous/whats-the-difference-between-a-compiled-and-an-interpreted-language/> accessed 17 November 2018). While one might use either one to achieve the same or similar results, '[s]cripting languages tend to be more special-purpose than programming languages and have more restrictions on them.' (Mike Sellers).

[1765] Most properties but GUIDs are stored in the XML file, GUIDs on the other hand are 'assigned by the program as each object was created' and only part of the database entry (Mike Sellers).

[1766] A GUID is technically a type of numeric Property, but GUIDs are not used numerically (no arithmetic operations are done on them). They are typically assigned by the program as each VA is created and used to uniquely identify a particular VA.

[1767] Often the 'only reason to use long integers is for a combination of calculation speed and being able to store a large number' (Mike Sellers).

[1768] A double precision 64-bit floating point number.

[1769] See n1737.

[1770] Eg, Garner and others (eds), *Black's Law Dictionary* 1335-36.

random access memory (RAM)

Computer main memory (working memory) in which specific contents can be accessed (read or written) directly by the CPU in a very short time regardless of the sequence (and hence location) in which they were recorded. Two types of memory are possible with random-access circuits, static RAM (SRAM) and dynamic RAM (DRAM). A single memory chip is made up of several million memory cells. In a SRAM chip, each memory cell stores a binary digit (1 or 0) for as long as power is supplied. In a DRAM chip, the charge on individual memory cells must be refreshed periodically in order to retain data. Because it has fewer components, DRAM requires less chip area than SRAM; hence a DRAM chip can hold more memory, though its access time is slower.[1771]

real money trade (RMT)

The *buying/selling* of **VA**s for actual money on eBay and other online auction sites, or on the grey market.

reference

While **GUID**s typically refer to the **VA** itself, additional references are used within the **character database** entry to refer to its **properties**, fixed **script** and **programming code**. Common internal references are **GUID**s, type numbers,[1772] long **integer**s, memory pointers (or pointers to **function**),[1773] and **function** names.[1774] From most general to most specific, references may hence be used as follows: **user account** > **character** (**GUID**) > **character properties**, fixed **script** and **programming code** and/or **user account** > **character** (**GUID**) > **item** (**GUID**) > **item properties**, fixed **script** and **programming code**.

release version

The dominant and editable **copy** of the images, models, animations and sounds stored in the **development repository** used as a template to update the very same information on the release **server** and ultimately the **copy** of the **VA client version** in the **client program** (**installer**), **CDN**, or **server** (in case of a **web-client**) when required.

server version

The server version of the **VA** includes **reference**s to its **properties**, fixed **script** and **programming code**, and allows the **VA** to function.

server/server program

The actual server is no longer a single existing physical entity but has been replaced by a control software (master server coordinator), which distributes the sum of data and the load of required calculations and memory processes to different computers in a cluster. The exact distribution of computing tasks can take very different practical forms, different computers in the cluster may manage different virtual areas or take over various technical tasks across areas, such as login authentication, permanent storage and database management.

Services

Next to the supply of the **Software** necessary for the **online access**, the hosting, maintenance and update of the **VW**, **Software** and **character database** as well as any customer support.

[1771] Encyclopedia Britannica Web, 'random-access memory' (19 September 2013) <www.britannica.com/EBchecked /topic/491033/RAM> accessed 17 November 2018.

[1772] An object may have a number that describes its type that would be part of the XML file and/or database. 'For example a game might have zebras, and they might have a type number (138404 or whatever). All zebras would carry that number to show that they are zebras. But if in this game it was important to refer to individual zebras, each one would have its own GUID. [...] The GUID would typically be assigned by the program as each object was created.' (Mike Sellers). See n1737 (class names)

[1773] cf Roberts, *The Art and Science of C: A Library Based Introduction to Computer Science* (n303) 395 (discussing the use of pointers in C to refer to large data structures). Some textures may not exist as a file. If they are programmatically created, the object points to a particular function that is run by the display portion of the client that constructs the apparent texture on the fly (pointer to function).

[1774] Used to refer to scripts.

Services Contract

Any Account Terms of Use (**AToU**), Terms of Use (**ToU**), Terms of Service (**ToS**), Terms and Conditions (**T&Cs**) or other agreement which regulate the use of the **Services** (including **online access**).[1775]

Software

The software that generates the **VW** and all its content. See also **client**/**client program**/**Client Software** and **server**/**server program**.

Software Contract

Any End User Licence Agreement (**EULA**), Terms of Service (**ToS**), Terms and Conditions (**T&Cs**) or other agreement which regulate(s) the use of the **Software**.[1776]

state law

The law of the **actual world** including national legislation/common law, international codes in the form of treaties, pacts and conventions as well as any relevant secondary legislation.

string

A data type used in programming, such as an **integer** and **floating point number**, but which represents text rather than numbers.[1777] It is comprised of a set of characters that can also contain spaces and numbers (eg, 'WEAPON_GLASSWORD' or 'WEAPON_MACE').

syntax

A general set of rules of the **programming language** for how declarations, **function**s, commands, and other statements have to be arranged and structured in source code in order to compile the object code correctly. Many **programming language**s share similar syntax rules.[1778]

texture

A texture or image is a two-dimensional piece of visual art used to cover the surfaces of **object**s (eg, visual representation of the material and look of an **object**, clothes and tattoos).

thin-client

The **copy** of the **VA client version** is not installed in the **Client Software** (insofar different to a **fat-client**) but in a **CDN**, readily available for the **client program** to download and then loaded into **RAM** or sometimes cached on the **user**'s computer hard disk, to reduce download bandwidth and disk I/O.

Third Contract

The contract between the **operator** and the **third user**.

third user or **other user**

Any subscriber to the **VW** who entered into a **Third Contract** with the **operator** and is not a party to the **Contract** between the **user** and the **operator**.

user

Any subscriber to the **VW** who entered into a **Contract**.

user account

The right to control the **user**'s **character** and his/her possessions within the **VW** in accordance with the terms of the **Contract** and the contractual obligation.

[1775] n62f.
[1776] n61ff.
[1777] Per Christensson, 'String' (*TechTerms.com,* nd) <http://techterms.com/definition/string> accessed 17 November 2018.
[1778] Per Christensson, 'Syntax' (*TechTerms.com,* nd) <https://techterms.com/definition/syntax> accessed 17 November 2018.

user-generated content (UGC)

An **object** created, modified or manipulated by the **user** using editors or other software tools. Uploaded to the **server**, UGC will typically be tested in a holding area for **Contract** violations and copyright infringement before being *defined* in the Software and added to the central server system.

virtual asset (VA)

An umbrella term used in this thesis to refer to **characters**, **objects** and **items**.

virtual currency

Virtual currency in **VW**s is not a separate **object**.[1779] The **user** may see a graphic for gold pieces, but that graphic will usually be the same no matter how many gold pieces there are. The graphic will be tied to the **object** type 'gold pieces', not to an individual gold piece. The gold pieces themselves are typically a number in the **character properties** (eg, an **integer** '2304' for a **character** who has 2304 gold pieces), but some **VW** may also provide vaults or bank accounts. To transfer gold pieces from one **user** to another, the balance of the transferor's account will be decremented by a certain number, to increment the balance of the transferee's account by the same number.

virtual property right

Virtual property right shall have the meaning given in sub-chapter 4.4.2, **virtual property** shall be construed accordingly.

virtual world (VW)

Computer-generated, self-contained, controlled, spatial, persistent and interactive environments which may be accessed by a large number of people, represented as **avatar**s, simultaneously.

virus

A small computer program introduced into a system deliberately (and invariably with malicious or imbecilic intent) which carries out a useless and/or destructive **function** such as displaying an irritating message or systematically over-writing the information on the user's hard disk.[1780]

web-client

The **client program** of the web-client resides in the web browser. Similar to a **thin-client**, the web-client does not install **copies** of the **client version** in the **client program**. All the display related aspects are stored online and retrieved at run-time by the **client program**. from the **server** or **CDN** and then temporarily loaded into **RAM** or sometimes cached on the **user**'s computer hard disk.

XML file

Extensible mark-up language is used in programming to define a set of rules for encoding documents in a standard format that can be read by any XML-compatible application. XML files are often used in **VW** programming to define the **properties** of **VA**s.

[1779] Eg, *WoW* gold pieces, *SL* Linden Dollars (L$); *EU* Project Entropia Dollars (PED); *Fortnite* V-Bucks.
[1780] Practical Law (UK), 'Virus' (*Thomson Reuters: Practical Law,* nd) <https://uk.practicallaw.thomsonreuters.com> accessed 30 October 2018.

Appendix B. Character Customisation

In most VWs, a user may choose *his/her* character from a selection of character types and then customise its attributes and appearance.

B1. 'Choose This Avatar' in Second Life

In *Second Life*, for example, you may choose between:

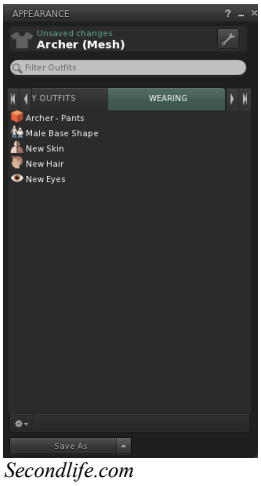
- 8 New Avatars (4 male and 4 female);
- 16 Classic Avatars (8 male and 8 female); and
- 10 Fantasy Avatars (5 male and 5 female).

The following carousel shows how your character may initially appear in *Second Life*.

Secondlife.com

Later in *Second Life*, you may change *your* character's appearance even further:

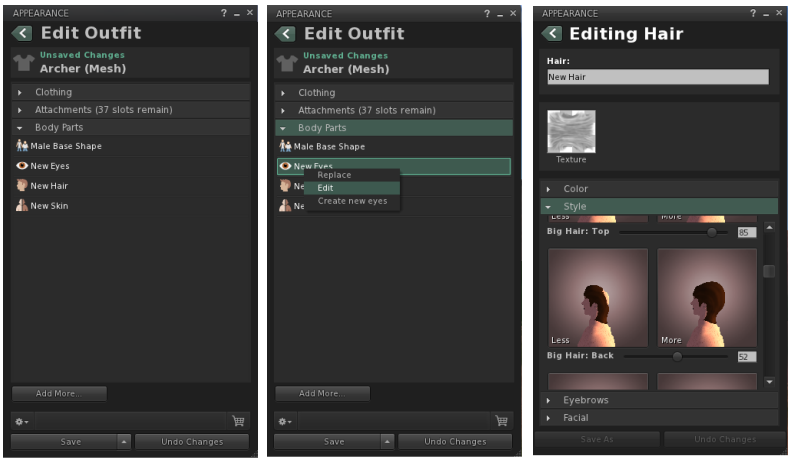
- Right-click on your character and choose *My Appearance* on the window that pops up. This will present you with the *Appearance* window setting out the *Outfit*, *My Outfits* and *Wearing* submenus.



Secondlife.com

- In the *Wearing* submenu you can then right-click on either *Male/Female Base Shape*, *New Skin*, *New Hair* and *New Eyes* and choose *Edit Outfit* to finally open the *Edit Outfit* submenu, where you can select *Clothing*, *Attachments*, and *Body Parts* and between

Male/Female Base Shape, *New Skin*, *New Hair* and *New Eyes* and click *Edit*, *Replace*, *Create New Skin/Hair Eyes*:



Secondlife.com

NEW SKIN

- Skin Colour (3) - Pigment (light/dark); Ruddiness (pale/ruddy); Rainbow Colour (none/wild)
- Face Detail (4) - Facial Definition (less/more); Freckles (less/more); Rosy Complexion (less rosy/more rosy); Lip Pinkness (darker/pinker)
- Make Up (16) - Lipstick (no lipstick/more lipstick); Lipstick Colour (pink/black); Lipgloss (no lipgloss/glossy); Blush (no blush/more blush); Blush Colour (pink/orange); Blush Opacity (clear/opaque); Inner Shadow (no eyeshadow/more eyeshadow); Inner Shadow Colour (light/dark); Inner Shadow Opacity (clear/opaque); Outer Shadow (no eyeshadow/more eyeshadow); Outer Shadow Colour (light/dark); Outer Shadow Opacity (clear/opaque); Eyeliner (no eyeliner/full eyeliner); Eyeliner Colour (dark green/black); Nail Polish (no polish/painted nails); Nail Polish Colour (pink/black);
- Body Detail (2) - Body Definition (less/more); Body Freckles (less freckles/more freckles)

NEW HAIR

- **Colour (4)** - White Hair (no white/all white); Rainbow Colour (none/wild); Blonde Hair (black/blonde); Red Hair (no red/very red
- **Style (24) -** Hair Volume (less volume/more volume); Hair Front (short/long); Hair Sides (short/long); Hair Back (short/long); Big Hair Front (less/more); Big Hair Top (less/more); Big Hair Back: (less/more); Front Fringe (short/long); Side Fringe (short/long); Back Fringe (short-long); Full Hair Sides (Mowhawk/full side); Hair Sweep (sweep forward/sweep back); Shear Front (full front/sheared front); Shear Back (full back/sheared back); Taper Front (wide front/narrow front); Rumpled Hair (smooth hair/rumpled hair); Pigtails (short pigtails/long pigtails); Ponytail (short ponytail/long ponytail); Spiked Hair (no spikes/big spikes); Hair Tilt (hair tilted left/hair tilted right); Middle Part (no part/part); Right Part (no part/part); Left Part (no part/part); Part Bangs (no part/part bangs)
- **Eyebrows (5) -** Eyebrow Size (thin eyebrows/bushy eyebrows); Eyebrow Density (sparse/dense); Eyebrow Height (higher/lower); Eyebrow Arc (flat/arced); Eyebrow Points (smooth/pointy)
- **Facial (5) -** Hair Thickness (5 o'clock shadow/bushy hair); Sideburns (short

sideburns/mutton chops); Moustache (Chaplin/Handlebars); Chin Curtains (less curtains/more curtains); Soulpatch (less soul/more soul)

NEW EYES

- **Eyes (2)** - Eye Colour (natural/unnatural); Eye Lightness (darker/lighter)

UPLOADING OF TEXTURES (POSSIBLE COMBINATIONS)

The Appearance window will further allow you to upload different textures for *your* character's hair, eyes, head, upper and lower body. Considering that every slider does have 100 different settings, there are at least 65^100 possible combinations to shape the appearance of your male/female character, and if you upload textures you will have (almost) unlimited choice.

B2. 'Create New Character' in *World of Warcraft*

In *World of Warcraft*, for example, you may select your character as follows:

- male or female (gender);
- Human, Draenei, Dwarf, Gnome, Night Elf, Pandaren and Worgen (race) of the Alliance (faction); or Blood Elf, Goblin, Forsaken/Undead, Orc, Pandaren, Tauren and Troll (race) of the Horde (faction); as
- Warrior, Paladin, Hunter, Rogue, Priest, Shaman, Mage, Warlock, Monk, Druid, Demon Hunter or under certain circumstances Death Knight (class). Not every race can choose every class.

Worldofwarcraft.com

You may then shape its appearance (skin colour, face (expression), hair style and hair colour, as well as facial hair for male characters and piercings for female characters, the number of possible shapes is subject to gender, race and class of your character). For a male human, for example, you may choose between:

- 10 different skin colours;
- 12 different face expressions;
- 12 different hair styles;
- 10 different hair colours; and
- 9 different facial hairs (beards) (or 7 different piercings for female human paladins).

Worldofwarcraft.com

The number of possible combinations to shape the appearance of:

- a male human paladin is 129,600 (10x12x12x10x9); and
- a female human paladin is 100,800 (10x12x12x10x7).

B3. 'Avatar Creation' in *Entropia Universe*

In comparison to the start of *Second Life* and *World of Warcraft*, *Entropia Universe* offers even more possibilities to shape the appearance of your character. You may not only choose between male or female characters and their basic appearance (11 presets per gender may give you a starting point for further customisation), but shape almost every part of the human face and body using sliders (allowing for various nuances in change):

- **Face/Face Effects (5)** - face forward/backward, fullness, jaw skew, face tilt, gauntness;
- **(Face) Hair (7 male, 6 female)** - hairstyle, hair colour, hair tips colour, eyebrow type (eyelash length for female characters only), eyebrow colour (beard designs, facial hair colour for male characters only);
- **Forehead (3)** - forehead type, forehead width, forehead depth;
- **Ears (3)** - ear shape, ear angle, ear scale;
- **Eyes (9)** - eye type, iris type, iris colour, eye scale, eye rotation, eye centre in/out, eye height, eye depth, eye squint;
- **Eyebrows (4)** - eyebrow tilt, eyebrow height, eyebrow type, eyebrow colour;
- **Nose (7)** - nose type, nose size, nose width, nose length, nose bridge, nostril size, nose point up/down;
- **Mouth (5)** - mouth type, mouth shape, upper lip size, lower lip size, mouth width;
- **Cheek (4)** - cheek type, cheek width, cheek strength, cheek fullness;
- **Jaw (6)** - jaw tone, jaw scale, jaw strength, jaw width, jaw forward/back, jaw height;
- **Chin (5)** - chin type, chin width, chin size, chin shape, chin strength;
- **(Face) Skin (4)** - skin brilliance, wrinkles, freckles, skin colour;
- **Head (4)** - head size, neck length, upper neck size, lower neck size (please note that all those variations are locked at the beginning);
- **Hair (1 male)** - body hair amount (for male characters only);
- **Torso (4 male, 7 female)** - torso size, shoulder size, shoulder position, shoulder width (chest size, breast length, breast height for female characters only);

- **Arms (4)** - arm length, upperarm size, forearm size, hand size;
- **Waist (2)** - upper waist size, lower waist size;
- **Legs (5)** - hip width, hip scale, thigh muscle, calf scale, foot scale;
- **Fitness (4)** - weight, muscle tone, centre mass up/down, height (150-200cm); and
- **(Body) Skin (1)** - skin brilliance.

Entropiauniverse.com

Although it was impossible to determine the exact number of possible settings of each slider, one might soon find that the number of possible combinations must be enormous. If only assuming that each slider does have 10 different settings, there are already:

- 87^10 possible combinations to shape the appearance of a male character; and
- 88^10 possible combinations to shape the appearance of a female character.

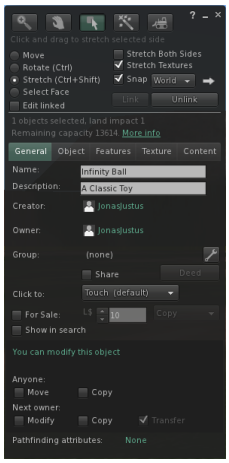
Appendix C. Creation of User-Generated Content

C1. An Infinity Ball in *Second Life*

Second Life users may use the Build tool within *Second Life* or CAD programs, editors and other third party software tools outside *Second Life* to create and modify objects.

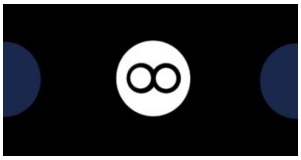
The following basic example describes the creation of an Infinity Ball using the Build tool,[1781] a common toy that randomly responds to questions asked (or here rather touched) by its user.

- First, go to a location on the map that has open *Build* permissions. This may be a public sandbox (there are many), or you can *purchase* land for this project.

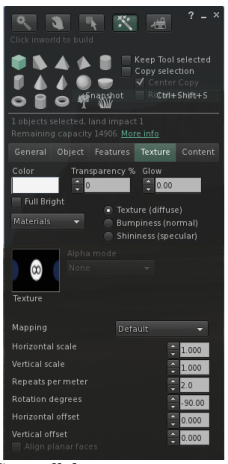


Secondlife.com

- Right-click on the terrain and choose the *Build* button on the window that pops up. This will present you with the *Build* window setting out a list primitive objects you can create. Primitive objects range from cubes to grass.
- Select *Sphere*, and the cursor will turn into a magic wand.
- Click on the terrain. This will create a *Sphere*.
- Now it is time to get a texture for the Infinity Ball. To do this click on Texture in the Texture sub-menu of the *Build* window opening a secondary *Pick Texture* window, select *Local*, *Add* and then *Upload Image* ... from the *File* menu.
- Find the Infinity_Ball_Texture.tga file

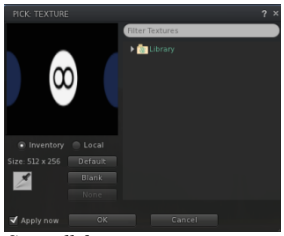


SecondLife.com



Secondlife.com

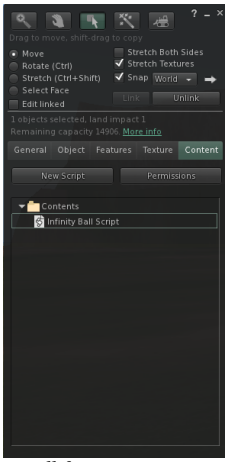
- on your hard drive (as previously downloaded from the Internet or created using a CAD program) and select it.
- Select *Inventory* from the *Pick Texture* window.



Secondlife.com

- Click on the *Textures* folder and then on the Infinity_Ball_Texture, and the *Sphere* should appear with the texture applied to it.
- Now, reposition the *Sphere* using the *Move* tool in the *Build* window.

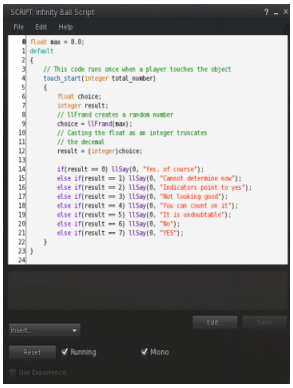
[1781] The Infinity Ball example, Infinity_Ball_Texture and Infinity Ball Script 1.0 is gratefully borrowed from Peter A. Smith (Peter A Smith, 'Massively Multiplayer Online Prototype Utilizing Second Life for Game Concept Prototyping' in Mike Dickheiser [ed], *Game Programming: Gems 6* [Charles River Media 2006]).



Secondlife.com

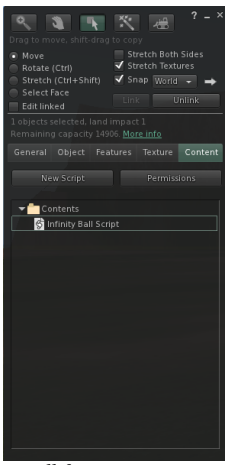
- Go back to the *Build* menu and select the *Content* sub-menu, and then *New Script*.
- Right-click on *New Script* and rename it Infinity Ball Script.
- Double-click Infinity Ball Script to open the *Script Editor* window.
- In the *Script Editor* window, paste the following code:

```
float max = 8.0;

default

{

    // This code runs once when a player touches the object

    touch_start(integer total_number)

    {

        float choice;

        integer result;

        // llFrand creates a random number

        choice = llFrand(max);

        // Casting the float as an integer truncates

        // the decemal

        result = (integer)choice;

        if(result == 0) llSay(0, “Yes, of course”);

        else if(result == 1) llSay(0, “Cannot determine now”);

        else if(result == 2) llSay(0, “Indicators point to yes”);

        else if(result == 3) llSay(0, “Not looking good”);

        else if(result == 4) llSay(0, “You can count on it”);

        else if(result == 5) llSay(0, “It is undoubtable”);

        else if(result == 6) llSay(0, “No”);

        else if(result == 7) llSay(0, “YES”);

    }

}
```



Secondlife.com

- and click save.



Secondlife.com

- Go back to the *Build* menu and select the *Content* sub-menu, and then *Permissions*
- Left-click *Permissions* to open the *Adjust Content Permissions* window.

Secondlife.com

- In the *Adjust Content Permissions* window, you can set the permissions on the Infinity Ball to *Share with Group*, *Anyone to Copy*, *Next owner to Modify*, *Copy* and/or *Transfer* (if the Infinity Ball permits copying, the *Next Owner* can *sell* copies, if not he/she can only *sell* the original Infinity Ball).

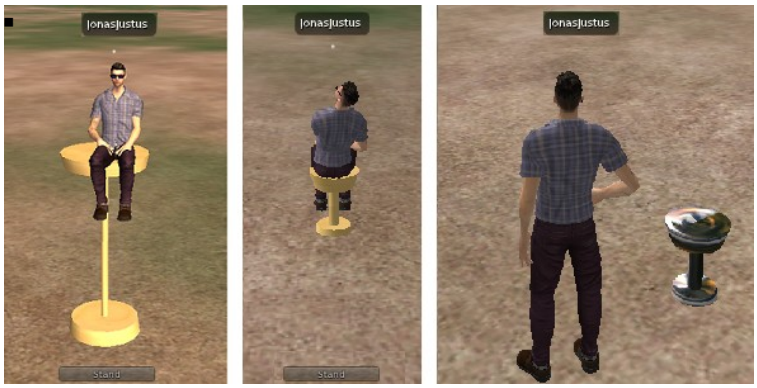
- Et voilà:

Secondlife.com

C2. One-Prim and Four-Prim Footstools in *Second Life*

The following graphics show my one-prim and a four-prim bar stools created within *Second Life* according to the building guide described in **Example 5-2** Building Stools from Prims in *Second Life*.

- My progress made in regard to the creation of a one-prim stool:



Secondlife.com

- My four-prim stool:

Secondlife.com

C3. A Mekgineer's Chopper in *World of Warcraft*

In contrast to *Second Life*, *World of Warcraft* does not provide a *Build* tool to create, modify, or upload

UGC. However, players may use recipes in *World of Warcraft* to make objects depending on the profession or class and character level. This is a basic guide to create a Mekgineer's Chopper in *World of Warcraft*.[1782]

C3.1 Information about the Mekgineer's Chopper

The Mekgineer's Chopper is a motorbike mount with tall handlebars and a long front end that:

- is only available to the Alliance faction (Humans, Draenei, Dwarves, Gnomes, Night Elves, Pandaren and Worgen); requires character level 40 (used to be character level 80), skill 450 Engineering; and Journeyman Riding[1783]
- can take up to two people, the extra seat folds up when not in use, the second person can be any level but must be of the rider's party to ride with him/her on the chopper;
- once created can be sold or given away to any other person to learn - even if they do not have any Engineering skills; and
- cannot fly.

C3.2 Costs of a Mekgineer's Chopper

Complete Mekgineer's Chopper may be bought from an Engineer or through the *WoW* Auction House[1784] for a price between 33,000 to 37,000 gold pieces depending on the server, the number of Engineers and the demand for Mekgineer's Chopper.[1785]

'If you wish to make the Mekgineer's Chopper yourself you are looking at a minimum of 12,500 gold [pieces] no matter whether you buy or create the rest of the materials, because you need to buy ten parts that are only sold by a vendor and those parts cost a total of 12,500 gold [pieces].'[1786]

C3.3 Recipe for the Mekgineer's Chopper

C3.3.1 Where to Find the Recipe for the Mekgineer's Chopper?

The recipe (Schematic: Mekgineer's Chopper) is sold by either Logistics Officer Brighton a human Alliance Vanguard Quartermaster at Valgarde in Howling Fjord, or Logistics Officer Silverstone a human Alliance Vanguard Quartermaster at Valiance Keep in the Borean Tundra.

The recipe is soulbound, costs 400 gold pieces and requires exalted reputation with Alliance Vanguard and Engineering skills of 450 to buy.[1787]

[1782] Blizzard, 'Schematic: Mekgineer's Chopper' (*US.Battle.net,* nd) <http://us.battle.net/wow/en/item/44503> accessed 17 November 2018; Susannah Birch, 'WoW - Building a Mekgineers Chopper for Dummies (Complete Guide)' (*HubPages.com,* 22 January 2012) <http://hubpages.com/games-hobbies/Building-a-Mekgineers-Chopper-for-Idiots-Mechano-hog> accessed 17 November 2018.

[1783] See WoWHead, 'Journeyman Riding' (nd) <www.wowhead.com/spell=33391/journeyman-riding> accessed 17 November 2018. Journeyman Riding grants the player Riding skills of 150, allowing the player to ride ground mounts at 100% speed; 'can be trained at character level 40 and at the cost of 50 [gold pieces] discounted based on reputation from any race's faction trainer to the maximum discounted cost of 40 [gold pieces] (at exalted reputation)'.

[1784] See WoWWiki, 'Auction House' (n32); Appendix D2.

[1785] Eg, the projected market price for Mekgineer's Choppers, US-Aegwynn Alliance on 22 October 2018 of 37,590.49 gold pieces +/-1,835.18 gold pieces (WoWAuction, '14 day prices and stats for Mekgineer's Chopper - US Aegwynn Alliance' [22 October 2018] <www.wowuction.com/us/aegwynn/items/stats/44413> accessed 22 October 2018).

[1786] Birch, 'WoW - Building a Mekgineers Chopper for Dummies (Complete Guide)' (n1782); Appendix D3.4.

[1787] See WoWWiki, 'Soulbound' (nd) <http://wowwiki.wikia.com/wiki/Soulbound> accessed 17 November 2018. Soulbound is the property of an item that prevents it from being traded or mailed to another character or sold in the *WoW* Auction House.

- A recipe item in book, parchment or scroll form[1788] will look as follows:

Worldofwarcraft.com

- A recipe item in World of Warcraft will mean:

Worldofwarcraft.com

C3.3.2 List of Ingredients

- 1x **Elementium-plated Exhaust Pipe** (1,500 gold pieces), 8x **Goblin-machined Piston** (1,000 gold pieces each), and 1x **Salvaged Iron Golem Parts** (3,000 gold pieces), *purchasable* from Roxi Ramrocket, the cold weather flying trainer at K3 in the Storm Peaks, or Big Keech, Rare Antiquities, in the Vale of Eternal Blossoms.[1789]
- 2 x **Arctic Fur**, sourceable by Skinning Northrend beasts or buyable through the World of Warcraft Auction House.
- 40 x **Handful of Cobalt Bolts**, makeable by Engineers using cobalt ore.
- 12 x **Titansteel Bars**, smeltable from 3 titanium bars, eternal fire, eternal shadow and eternal earth.

[1788] See WoWPedia, 'Recipe' (nd) <http://wow.gamepedia.com/Recipe> accessed 17 November 2018; WoWWiki, 'Recipe' (n1161).

[1789] WoWWiki, 'Elementium-Plated Exhaust Pipe' (nd) <http://wowwiki.wikia.com/wiki/Elementium-plated_Exhaust_Pipe> accessed 17 November 2018; WoWHead, 'Goblin-Machined Piston' (nd) <www.wowhead.com/item=44501/goblin-machined-piston> accessed 17 November 2018; WoWHead, 'Salvaged Iron Golem Parts' (nd) <www.wowhead.com/item=44499/salvaged-iron-golem-parts> accessed 17 November 2018.

C3.3.3 Exalted Reputation with Alliance Vanguard Necessary

You will need exalted reputation with Alliance Vanguard[1790] to buy the Mekgineer's Chopper recipe. The Alliance Vanguard is made up of four sub factions who you can quest with:

- **Explorers League** with quests in Howling Fjord and the Storm Peaks as well as one daily quest at Steel Gate in Howling Fjord.
- **The Frostborn** with quests in the Storm Peaks and one daily quest at Frosthold.
- **The Silver Covenant** with daily quests such as the Argent Tournament, Up To The Challenge and The Valiant's Charge.
- **Valiance Expedition** with many quests in Howling Fjord and Dragonblight.

Moreover, wrath heroics (as well as normal level 80 instances: Utgarde Pinnacle, The Culling of Stratholme, The Oculus, Halls of Lightning) will give spillover reputation with all the Alliance Vanguard forces concurrently without a tabard equipped.

- Et voilà:

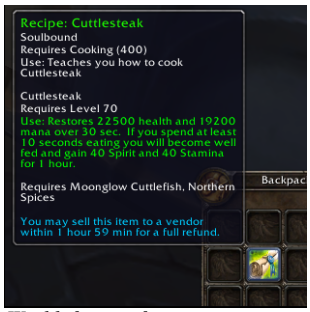
Worldofwarcraft.com

C3.4 Where to Find and How to Use Recipes in *World of Warcraft*?

A recipe may be looted from MOBs, rewarded from quests, *purchased* from vendors or found in containers in the VW, be part of the player's profession or be taught by profession trainers, all teaching the player in spell form how to make something.

C3.4.1 Using Recipe Items

- If you are to use recipe items (such as books, parchments or scrolls),[1791] you have first to fulfil the required conditions:



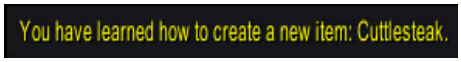
Worldofwarcraft.com

[1790] 'Alliance Vanguard is the combined forces of the alliance in Northrend, spearheaded by the Valiance Expedition.' (WoWHead, 'Alliance Vanguard' [nd] <www.wowhead.com/faction=1037/alliance-vanguard> accessed 17 November 2018).
[1791] This example is gratefully borrowed from WoWPedia, 'Recipe' (n1788).

- You must then click on the recipe to learn it:

Worldofwarcraft.com

- The recipe is automatically added to your profession:



Worldofwarcraft.com

- You now know the recipe as a spell:

Worldofwarcraft.com

C3.4.2 Learn a Recipe from a Profession Trainer

- You will have to browse the profession trainer's recipes first and select something which is available to you (the ones in grey are unavailable):[1792]

Worldofwarcraft.com

- You must click on the Train button to learn the recipe:

Worldofwarcraft.com

[1792] ibid.

- The recipe is automatically added to your profession:

Worldofwarcraft.com

- You now know the recipe as a spell.

Worldofwarcraft.com

C3.4.3 Knowing the Recipe as a Spell

- A recipe in spell form allows you to craft the described item if your character possesses the required quantity of required ingredients. Recipes as a spell may be regarded as the knowledge of a character to create something.
- Assuming that your character does have recipes in spell form to use, the recipes may be browsed in the Professions tab of the Spellbook & Abilities window.
- A recipe spell as part of the player's profession will look as follows:

Worldofwarcraft.com

- A recipe spell in *World of Warcraft* will mean[1793]:

Worldofwarcraft.com

[1793] ibid.

C4. Crafting in Entropia Universe

Similar to *World of Warcraft*, *Entropia Universe* does not provide a Build tool to create, modify, or upload[1794] UGC but players may still craft (limited[1795]) objects using:

- **Blueprints** (which include a list of necessary materials or resources and may be *purchased* through a terminal, auction house, or a trader)[1796];
- **Materials** or **Resources** necessary to craft the object as set out in the Blueprint[1797];
- a **Blueprint Book** to store your Blueprints; and
- **Residue** to craft limited objects on full Condition.[1798]

You can then start the Crafting process (for example, of some Brukite Stone Texture[1799]) at the Construction Machine, by opening the Construction Wizard, selecting the Blueprint and clicking on the Construct tab to open the Construct window.[1800]

Entropiauniverse.com

In the Construct window you may:

- select the number of crafting attempts;
- select whether crafting on Quantity or Condition or somewhere in between;[1801]

[1794] UGC, other than "Participant Content" consisting of images and videos that players can upload for a fee to display it them on specific items (signs, screens, displays) cannot be uploaded to *EU*. See EntropiaPlanets.com Wiki, 'Participant Content (PC) Guide' (nd) <www.entropiaplanets.com/wiki/Participant_Content_(PC)_guide> accessed 17 November 2018.

[1795] All objects in *EU* (other than resources) decay but in contrast to unlimited objects, limited objects cannot be repaired. See Thanatos, 'Noob Tutorial' (n1017).

[1796] Similar to objects, Blueprints may be limited offering the player only a limited number of attempts to craft an object. See BuLaDiFu, 'Entropia Universe (Part Nine)' (*All You Need to Know about Games - General Information for Games,* 4 October 2014) <http://buladifu.blogspot.com/2014/10/entropia-universe-part-nine.html#.V39oYqLItjk> accessed 8 June 2016.

[1797] EntropiaLife.com, 'Crafting Guide for the Entropia Universe' (nd) <http://universe.entropialife.com/Gamers/guides/crafting-guide.aspx> accessed 17 November 2018 (Materials and resources can be gathered from the hunting and mining professions in *EU*. 'Mining will allow your avatar to get Enmatter and Minerals and Hunting will allow for cloth, hides, extractors, wood, wools, animal/robot parts, sockets, oils, and various other items.')

[1798] See ibid; Goldbaron357, 'Crafting with Residue: When You Should and Shouldn't' (*Entropia Universe Guide: Experienced Advice on all Aspects of Entropia Universe,* 1 June 2011) <http://entropiauniverseguide.blogspot.co.uk/2011/06/crafting-with-residue-when-you-should.html> accessed 17 November 2018; Goldbaron357, 'Quantity vs Condition, Components or Items?' (*Entropia Universe Guide: Experienced Advice on all Aspects of Entropia Universe,* 25 May 2011) <http://entropiauniverseguide.blogspot.co.uk/2011/05/quantity-vs-condition-components-or.html> accessed 17 November 2018.

[1799] This example is gratefully borrowed from BuLaDiFu (BuLaDiFu, 'Entropia Universe [Part Nine]' [n1796]).

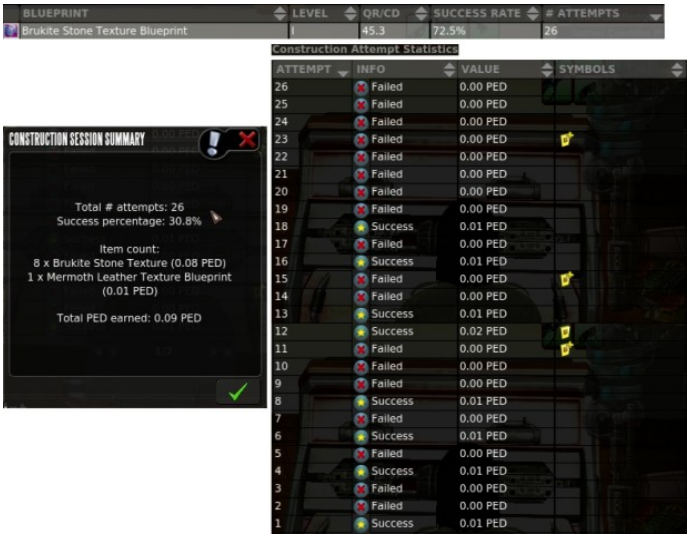
[1800] ibid.

- select whether or not using Residue in the final product; and
- click the Construct button to start the crafting process.

Entropiauniverse.com

Crafting in *Entropia Universe* may result in:

- **Success** - you receive the object you intended to craft, plus usually some Residue and occasionally a new Blueprint.
- **Near Success** - some items may be returned and more than likely some Residue.
- **Failure** - all materials will be lost and nothing returned.



Entropiauniverse.com

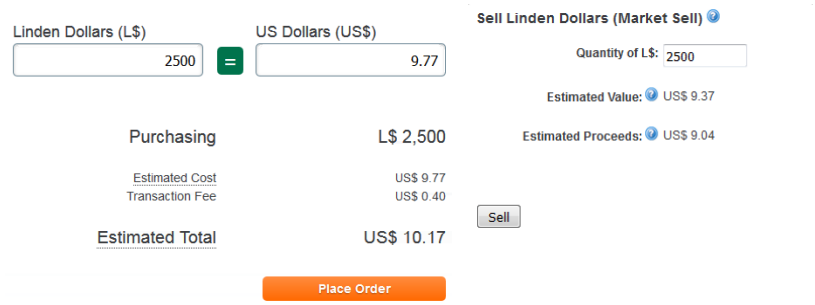
[1801] See n1798. While choosing Quantity will result in a higher number of crafted objects, moving the slider to Condition will reduce the number of crafted objects but will increase the value of them.

Appendix D. Where to Buy Virtual Assets?

Users in most VWs cannot only create, use recipes or craft objects but they may buy objects from the operator or other users.

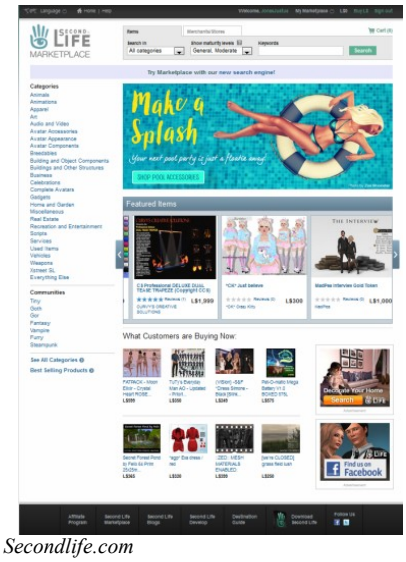
D1. *Second Life* Marketplace

While the *Second Life* currency Linden dollar may be bought within *Second Life* or bought and sold through the LindeX-Exchange,[1802]



Secondlife.com

Objects may be traded in the *Second Life* Marketplace.[1803]

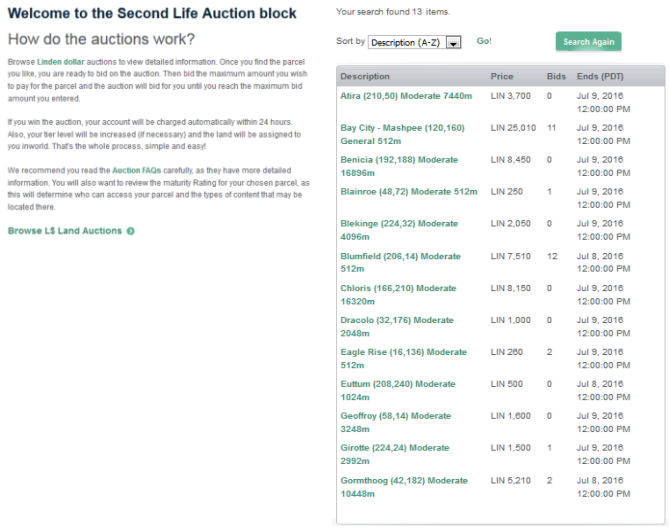


Secondlife.com

Upon upgrading to a Premium Membership, you may also acquire land from Linden Lab:

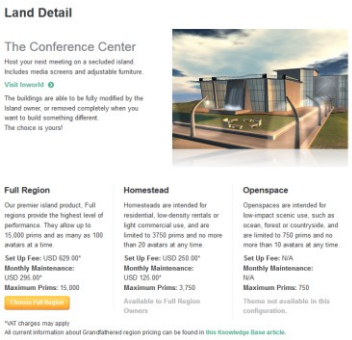
- Undeveloped land through auction;[1804]

[1802] Linden Lab, 'Lindex Exchange' (*SecondLife.com,* nd) <https://secondlife.com/my/lindex/index.php?> accessed 17 November 2018.
[1803] Linden Lab, 'Second Life: Marketplace' (n32).
[1804] Linden Lab, 'Welcome to the Second Life Auction Block: How Do the Auctions Work?' (*SecondLife.com,* nd) <http://usd.auctions.secondlife.com/> accessed 17 November 2018.



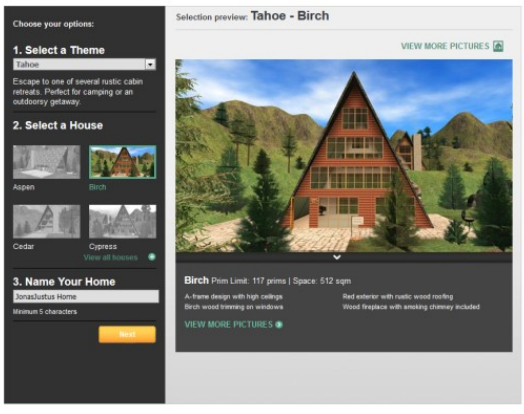
Secondlife.com

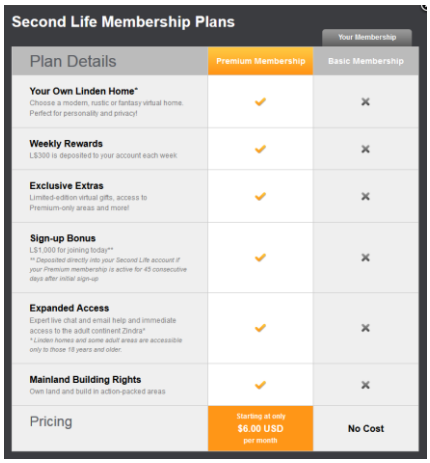
- Developed land;[1805] and



Secondlife.com

- *Houses.*[1806]





Secondlife.com

[1805] Linden Lab, 'Buy Land: Find Your Place in the Virtual World' (*SecondLife.com,* nd) <https://land.secondlife.com/en-US/> accessed 17 November 2018.

[1806] Linden Lab, 'Premium Membership Now Includes a Home at No Additional Cost!' (*SecondLife.com,* nd) <https://secondlife.com/land/lindenhomes/?lang=en-US> accessed 17 November 2018.

D2. World of Warcraft

D2.1 NPC Vendors, Auction House, Blizzard Shop

Objects in *World of Warcraft* may be:

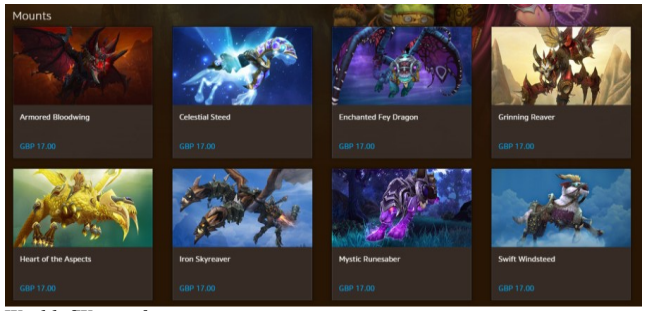
- *bought from and sold to NPC* vendors (eg, *the Garrison Trading Post Vendor*);

WorldofWarcraft.com

- *bought and sold through the WoW Auction House (including gold pieces for WoW Token*[1807]*); and/or*

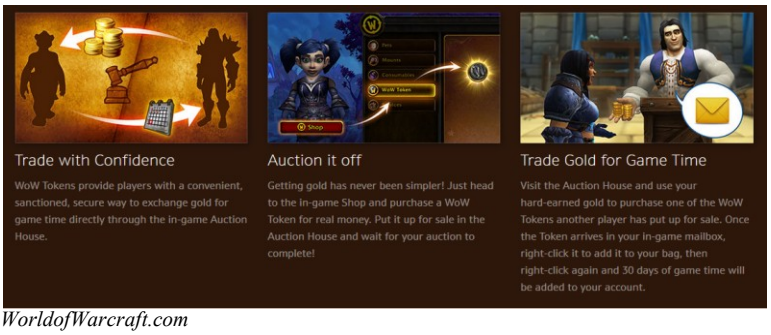
WorldofWarcraft.com

- *bought from the Blizzard Shop (eg, mounts and WoW Token*[1808]*).*



WorldofWarcraft.com

[1807] WoWWiki, 'Auction House' (n32).
[1808] Blizzard, 'Blizzard Shop: WoW Token' (n32); .



WorldofWarcraft.com

D2.2 Grey Market Vendors

Non-empirical spot-checks[1809] of major grey market vendors in March 2015, 2016, 2017 and 2018 illustrate the continued vitality of the *World of Warcraft* economy.

- *Grey Market Prices for World of Warcraft Gold Pieces*

Vendor	*March 2015*	*March 2016*	*March 2017*	*March 2018*
Epictoon[1810]	50,000/ $41.95	50,000/ $19,89	---	---
Epic4Game[1811]	52,500/ $44.96	---	---	---
Guy4Game[1812]	50,000/ $40.49	48,000/ $20	50,000/ $8.79	50,000/ $7.29
Gold4Power[1813]	50,000/ $41.50	---	---	---
Blizzard[1814]	---	37,060/ $20	90,267/ $20	182,165/ $20

[1809] 'Without a broad survey of participants, it is impossible to estimate the gross volume of this trade' (Castronova, 'Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier' [n39] 31).
[1810] Epictoon.com, 'Buy World of Warcraft Gold here!' 18 March 2015) <www.epictoon.com/wow-gold> accessed 18 March 2015; Epictoon.com, 'Buy World of Warcraft Gold here!' (1 March 2016) <www.epictoon.com/buy/wow-gold/us/aegwynn/alliance> accessed 1 March 2016.
[1811] Epic4Game.com, 'Buy World of Warcraft US Gold: Aegwynn Alliance' (18 March 2015) <www.epic4game .com/wow-gold-us/Aegwynn-Alliance.html> accessed 18 March 2015.
[1812] Guy4Game.com, 'Game Supply for Gamers by Gamers: World of Warcraft US Aegwynn Alliance' (18 March 2015) <www.guy4game.com/world-of-warcraft-us/wow-gold/catgory.php?cat=Aegwynn-Alliance> accessed 18 March 2015; Guy4Game.com, 'Game Supply for Gamers by Gamers: World of Warcraft US Aegwynn Alliance' (1 March 2016) <www.guy4game.com/world-of-warcraft-us/wow-gold/catgory.php?cat=Aegwynn-Alliance> accessed 1 March 2016; Guy4Game.com, 'Game Supply for Gamers by Gamers: World of Warcraft US Aegwynn Alliance' (3 March 2017) <www.guy4game.com/world-of-warcraft-us/wow-gold/catgory.php?cat=Aegwynn-Alliance> accessed 3 March 2017; Guy4Game.com, 'Game Supply for Gamers by Gamers: World of Warcraft US Aegwynn Alliance' (12 March 2018) <www.guy4game.com/world-of-warcraft-us/wow-gold/catgory.php?cat=Aegwynn-Alliance> accessed 12 March 2018.
[1813] Gold4Power.com, 'Buy World of Warcraft Gold at Aegwynn-Alliance' (18 March 2015) <www.gold4power.com /wow/aegwynn-alliance> accessed 18 March 2015.
[1814] WoW Token Info, 'WoW Token Prices and Historical Statistics from the Auction Houses of World of Warcraft - North American Realms' 1 March 2016) <https://wowtoken.info/> accessed 1 March 2016; WoW Token Info, 'WoW Token Prices and Historical Statistics from the Auction Houses of World of Warcraft - North American Realms' 3 March 2017) <https://wowtoken.info/> accessed 3 March 2017.

- *Grey Market Prices for Level Human (Class) Character*

Vendor	*March 2015*	*March 2016*	*March 2017*	*March 2018*
GameSupply[1815]	$399.99 (Mage)	---	$79.99 (Mage)	$99.99 (Death Knight)
	$169.99 (Paladin)	---	$149.99 (Monk)	---
	$399.99 (Paladin)	---	---	---
Guy4Game[1816]	$263.46 (Mage)	$849 (Mage)	$99.99 (Levelling services)	$135,00 (Levelling services)
	---	$1,299 (Paladin)	---	---
	---	$1,199 (Paladin)	---	---
Virtual Barrack[1817]	$99 (Mage)	---	---	---

D3. Entropia Universe Trade Terminal

Objects in *Entropia Universe* may be:

- *bought from and sold to other users;*

  After you have established contact with someone you would like to trade with, you can right-click on their avatar to bring up a menu. There you will find an option to trade. If another player wishes to trade with you, they will confirm on their side. A trade window will open divided horizontally into two halves. If you are buying something, go to your PED card found in the top tab in your inventory. Right-click on your PED card and extract the amount you are going to trade with the player. Drag the money or item you are trading to your half of the trade window, while the other player does the same. Press

[1815] TheGameSupply.net, 'GameSupply: For Gamers by Gamers' 20 March 2015) <www.thegamesupply.net/search/?q=human> accessed 20 March 2015; TheGameSupply.net, 'GameSupply: For Gamers by Gamers' 3 March 2017) <www.thegamesupply.net/search/?category=&q=human+lvl+100&order_by=&price=&ilvl=&gender=&level=&klass=&race=> accessed 3 March 2017; TheGameSupply.Net, 'GameSupply: For Gamers by Gamers' 12 March 2018) <www.thegamesupply.net/search/?category=&q=human+lvl+100&order_by=&price=&ilvl=&gender=&level=&klass=&race=> accessed 12 March 2018.

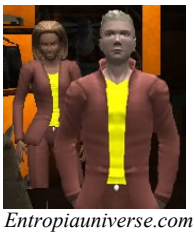
[1816] Guy4Game.com, 'Game Supply for Gamers by Gamers: World of Warcraft US' (18 March 2015) <www.thegamesupply.net/search/?q=human> accessed 18 March 2015; Guy4Game.com, 'Game Supply for Gamers by Gamers: World of Warcraft US' (1 March 2016) <www.guy4game.com/world-of-warcraft-us/wow-accounts/#Page=1&Level=100&Race=Human&Order=id&OrderMethod=asc&PageSize=10> accessed 1 March 2016; Guy4Game.com, 'World of Warcraft Level 1-100 Power Levelling' (3 March 2017) <www.guy4game.com/world-of-warcraft-us/wow-powerleveling/catgory.php?cat=level> accessed 3 March 2017; Guy4Game.com, 'World of Warcraft Level 1-110 Power Levelling' (12 March 2018) <www.guy4game.com/world-of-warcraft-us/wow-powerleveling/catgory.php?cat=level> accessed 12 March 2018.

[1817] VBarrack.com, 'Enchant Your Game Play: Warcraft Account' (*VBarrack.com,* 20 March 2015) <www.vbarrack.com/products?auto_suggest_item[title]=&price=&race=Human&character_class=&level=100-100&gender=&faction=&talent=&profession=&t=&pr=&x=99&y=17> accessed 20 March 2015.

the green check mark if you are satisfied and carefully check the confirmation trade window. Accept if you are happy with the trade. If you sold an item, the money will be found in the top tab of your inventory ready to be inserted into your PED card.[1818]

- *bought from and sold through the Trade Terminal*[1819] *for Terminal Value (TT*[1820]*);*
- *bought and sold through an Auctioneer (on Planet Calypso);*[1821] *and/or*

A brown-suited auctioneer NPC can usually be found near other game terminals. Here you can buy and sell almost any item found in the game. Be aware that putting an item into Auction will incur a minimum of a .50 PEC auction fee, regardless if the item sells or fails. The sell item option will open a window where you can drag the item you wish to sell. Once dropped into the window, you will see the TT value of the item, the auction fee for the default sell price, and the percentage of your item's mark up. On the bottom of the window you can choose how many days your auction will be available, up to one week. The auction fee will be the same regardless how many days the item is in auction. You can add a "Buy Out" price, giving the buyer the ability to buy the item immediately rather than waiting for the end of the auction. Finally, you can choose the price of your item. Note the TT value and auction fee. If your Buy Out price is less than those two values combined, you will lose money.[1822]



Entropiauniverse.com

- *bought from the Entropia Universe Webshop (for example starter packs)*

Entropiauniverse.com

[1818] SamusAran, 'Entropia Universe - A Guide for Newbs by a Newb' (n1016).
[1819] EntropiaDirectory.com, 'Trade Terminal' (n32).
[1820] See EntropiaDirectory.com, 'TT Value' (n1026) ('The TT value is represented by the nominal value carried by an item consisting of all component values included. This is the value that the game has attributed to an item. You can sell an item to a Trade Terminal and get the value the item carries.')
[1821] Other planets in *EU*, such as Planet Arkadia for example, may have auction houses instead. The auction system works as a standard English auction. See EntropiaDirectory.com, 'Auction' (n1015); MindArk, 'Entropia Universe: Auction & Trade' (n1015).
[1822] See n1818.

Appendix E. Selected Extracts of Examined Contracts

E1. Blizzard Code of Conduct (US/EU)

Blizzard games offer a fun and safe place to interact with one another across various game worlds. We encourage our players to cooperate and compete in our games, but crossing the line into abuse is never acceptable. If you come across a player violating the policies below, you should report them.

Communication

When participating in communication of any kind (chat, voice communication, group finder), you are responsible for how you express yourself. You may not use language that could be offensive or vulgar to others.

Hate speech and discriminatory language is inappropriate, as is any obscene or disruptive language. Threatening or harassing another player is always unacceptable, regardless of language used. Violating any of these expectations will result in account restrictions. More serious and repeated violations will result in greater restrictions.

Naming

Names are subject to the same rules established above. Any name the player has the ability to customize—such as player names, BattleTags, and guild names—must be appropriate and inoffensive. Any name that violates our standards or disrupts the community will be changed, and additional limitations may be placed on the offending account per our discretion.

Take note that acceptable names are determined by player reports and Blizzard's decision, and role-playing servers may have distinct standards for using game-appropriate names.

Cheating

You are responsible for how you and your account are represented in the game world. Cheating in any fashion will result in immediate action. Using third-party programs to automate any facet of the game, exploiting bugs, or engaging in any activity that grants an unfair advantage is considered cheating.

Exploiting other players is an equally serious offense. Scamming, account sharing, win-trading, and anything else that may degrade the gaming experience for other players will receive harsh penalties.

Behavio[u]r

Behavio[u]r that intentionally detracts from others' enjoyment (such as griefing, throwing, feeding, etc.) is unacceptable. We expect our players to treat each other with respect and promote an enjoyable environment. Acceptable behavio[u]r is determined by player reports and Blizzard's decision, and violating these guidelines will result in account and gameplay restrictions.

While we encourage you to report players that are behaving in a disrespectful manner, falsely reporting another player with the sole intent of restricting their gameplay is also unacceptable and will result in penalties to your account.

If you're unsure if your actions violate this code of conduct, reconsider them. We reserve the right to restrict offending accounts as much as necessary to keep Blizzard games a fun experience for all players.

E2. Blizzard End User Licence Agreement (EU)

YOU SHOULD CAREFULLY READ THE FOLLOWING AGREEMENT (THE "AGREEMENT") BEFORE INSTALLING OR USING BLIZZARD ENTERTAINMENT'S ONLINE GAMING PLATFORM. IF YOU DO NOT AGREE WITH ALL OF THE TERMS OF THIS AGREEMENT, YOU MAY NOT INSTALL THIS SOFTWARE.

Thank you for your interest in Blizzard Entertainment, Inc.'s Online Gaming Platform (formerly known as "Battle.net") and the interactive games (including, but not limited to, any game client) from Blizzard Entertainment, Inc., and interactive games (including, but not limited to, any game client) from other

developers ("Licensors") which are available for purchase and use on the Platform (collectively, "Games"). This Agreement sets forth the terms and conditions under which you are licensed to install and use the Platform. The term "Platform," as used in this Agreement, means and refers collectively, and at times individually, to (1) the Blizzard App Client software (formerly known as the "Battle.Net" Client), (2) the gaming services offered and administered by Blizzard in connection with the Blizzard App Client and the Games, (3) each of the Games (including any authorized mobile apps relating to the Games), (4) Blizzard's Game-related websites and their associated forums, and (5) all features and components of each of them, whether installed or used on a computer or mobile device. Except as otherwise provided below, if you reside within a member state of the European Union and are accessing the Platform on a personal computer, use of the Platform is licensed to you by Blizzard Entertainment S.A.S., a French company having its registered office at 145 rue Yves Le Coz, 78000 Versailles, France. In all other circumstances, use of the Platform is licensed to you by Activision Blizzard International B.V., Beechavenue 131 D, 1119 RB Schiphol-Rijk, the Netherlands (Blizzard Entertainment SAS and Activision Blizzard International B.V. are hereinafter referred to as "Blizzard", "we" or "us").

1. The Platform.

   A. The Blizzard Account.

      To use the Platform, you must register, or have previously registered, an account on the Platform (an "Account"). Creation and use of Accounts are subject to the following terms and conditions:

      i. You may establish an Account only if: (i) you are a "natural person" and an adult in your country of residence (Corporations, Limited Liability Companies, partnerships and other legal or business entities may not establish an Account); and (ii) you are not an individual specifically prohibited by Blizzard from using the Platform.

      ii. The maximum number of Accounts that a person may register on the Platform is limited to no more than three (3) Accounts.

      iii. When creating, or updating an Account, you are required to provide Blizzard with certain accurate and up to date personal information such as, but not limited to, your name, address, phone number, email address and such other information requested by Blizzard. Additionally, Blizzard may require you to provide payment information to play certain Games or use certain features of the Platform. Blizzard's retention of your personal information is subject to Blizzard's Privacy Policy, located at http://eu.blizzard.com/en-gb/company/about/privacy.html. Blizzard shall also have the right to obtain non-personal data from your connection to the Platform. Certain Games playable on the Platform include a tool that will allow your computer system to forward information to Blizzard in the event that the Game crashes, including system and driver data.

      iv. To add a Game license to an Account, an authentication key generated by Blizzard is required. The authentication code will be included in the packaging materials for Games purchased physically at Retail, and for Games purchased digitally from Blizzard or at Retail, the authentication code will either be assigned to the Account or sent to you via electronic means when the Game is purchased. A Game license must be added to your Account before you can play that Game.

      v. During the Account creation process, you may be required to select a unique username and/or a password (collectively referred to hereunder as "Login Information"). You may not use your real name as the password for the Account, and you cannot share the Account or the Login Information with anyone other than as expressly set forth in this Agreement.

      vi. You are responsible for maintaining the confidentiality of the Login Information, and you will be responsible for all uses of the Login Information and the Account, including purchases, whether or not authorized by you. In the event you become aware of or reasonably suspect any breach of security, including without limitation any loss, theft, or unauthorized disclosure of the Login Information, you must immediately notify Blizzard at http://support.blizzard.com/en-gb.

      vii. Subject to the laws of your country of residence, minor children may utilize an Account established by their parent or legal guardian. In the event that you permit your minor child

or legal ward (collectively, your "Child") to use an Account on the Platform, you hereby agree to this Agreement on behalf of yourself and your Child, and you understand and agree that you will be responsible for all uses of the Account by your Child whether or not such uses were authorized by you.

viii. Your use of the Platform to interact with Blizzard and other players is governed by Blizzard's Code of Conduct ("Code of Conduct") and applicable in-game policies (the "In-game Policies"). The Code of Conduct and In-Game Policies are not meant to be exhaustive. The Code of Conduct and In-Game Policies are incorporated into this Agreement by this reference, and are available on Blizzard's Customer Support database, located at: https://us.support.blizzard.com/en-gb/.

B. Grant of License. If you accept and comply with the terms of this Agreement, Blizzard will grant and you will receive a limited (as to the limitations, see Section 1.C. below), non-sublicensable, and non-exclusive license to use the Platform subject to the "License Limitations" set forth below, as follows:

i. You may install applicable components or features of the Platform (including the Games) on one or more computers or mobile devices under your legitimate control.

ii. You may use the Platform for your personal and non-commercial entertainment purposes during the term of this Agreement, unless otherwise the Agreement is terminated as set forth herein.

iii. You may not transfer your rights and obligations to use the Platform.

iv. Certain Games playable on the Platform may be subject to specific license terms that may include the following:

1. Trial or "Starter" versions of Games allow you to play a limited version of the Game before you will be required to purchase a Game license. Licenses to use the full version of these Games can be purchased through the Platform.

2. In certain cases, the "full version" of Games can only be played after you purchase and add a license to play the Game to the Platform. You will be informed of any requirement to purchase a license before you can use a Game, and of any time limitations that would affect how long you can play a Game.

3. Certain Games may be obtained through the Platform, but may not be playable on the Platform. In such an event, the Game will be provided with a separate End User License Agreement that will govern your installation and use of the Game post purchase.

4. Games which are produced by Blizzard's Licensors and distributed through, and/or played upon, the Platform will require that you agree to the Licensor's End User License Agreement prior to being able to play the Game on the Platform, and the terms and conditions of Licensor's End User License Agreement are hereby incorporated into this Agreement by this reference. In the event of a conflict between the terms of this Agreement and the Licensor's End User License Agreement pertaining to the use of the Licensor's Game, the Licensor's End User License Agreement shall supersede and govern your use of the Licensor's Game. However, in the event of a conflict between the terms of this Agreement and the Licensor's End User License Agreement pertaining to any other aspect of the Platform, this Agreement shall supersede and govern your use of the Platform.

5. You may play the Game(s) you have licensed at publicly-available authorized cyber cafés or computer gaming centers on the Platform through an Account registered to you on the Platform.

C. License Limitations. Blizzard may suspend or terminate your license to use the Platform or one or more parts, components and/or single features thereof if you violate, or assist others in violating, the license limitations set forth below. You agree that you will not, in whole or in part or under any circumstances, do the following:

i. Derivative Works: Copy or reproduce (except as provided in Section 1.B.), translate, reverse, engineer, derive source code from, modify, disassemble, decompile, or create derivative works based on or related to the Platform;

ii. Cheating: Create, use, offer, promote, advertise, make available and/or distribute the following or assist therein:

1. cheats; i.e. methods, not expressly authorized by Blizzard, influencing and/or facilitating the gameplay, including exploits of any in-game bugs, and thereby granting you and/or any other user an advantage over other players not using such methods;
2. bots; i.e. any code and/or software, not expressly authorized by Blizzard, that allows the automated control of a Game or any other feature of the Platform, e.g. the automated control of a character in a Game;
3. hacks; i.e. accessing or modifying the software of the Platform in any manner, not expressly authorized by Blizzard; and/or
4. any code and/or software, not expressly authorized by Blizzard, that can be used in connection with the Platform and/or any component or feature thereof which changes and/or facilitates the gameplay or other functionality.

iii. Prohibited Commercial Uses: Exploit, in its entirety or individual components, the Platform for any purpose not expressly authorized by Blizzard , including, without limitation (i) playing the Game(s) at commercial establishments (subject to Section 1.B.iv.5.); (ii) gathering in-game currency, items, or resources for sale outside of the Platform or the Game(s); (iii) performing in-game services, including, without limitation, account boosting or power-leveling, in exchange for payment outside of the Platform or the Game(s); (iv) communicating or facilitating (by text, live audio communications, or otherwise) any commercial advertisement, solicitation or offer through or within the Platform or the Game(s); or (v) organizing, promoting, facilitating, or participating in any event involving wagering on the outcome, or any other aspect of, Blizzard's Games, whether or not such conduct constitutes gambling under the laws of any applicable jurisdiction, without authorization.

iv. "esports": Use the Platform for any "esports" or group competition sponsored, promoted or facilitated by any commercial or non-profit entity without obtaining additional authorization from Blizzard or obtaining Blizzard's prior written consent. For more information on obtaining appropriate authorization, please visit Blizzard's website;

v. Data Mining: Use third-party software that intercepts, collects, reads, or "mines" information generated or stored by or within the Platform; provided, however, that Blizzard may, at its sole and absolute discretion, allow the use of certain third-party user interfaces;

vi. "Duplicated Items": Create, utilize or transact in any in-game item created or copied by exploiting a design flaw, undocumented problem, or program bug in the Platform;

vii. Matchmaking: Host, provide or develop matchmaking services for the Game(s) or intercept, emulate or redirect the communication protocols used by Blizzard in any way, for any purpose, including without limitation unauthorized play over the internet, network play (except as expressly authorized by Blizzard), or as part of content aggregation networks;

viii. Unauthorized Connections: Facilitate, create or maintain any unauthorized connection to the Platform including without limitation (i) any connection to any unauthorized server that emulates, or attempts to emulate, the Platform; and (ii) any connection using third-party programs or tools not expressly authorized by Blizzard;

ix. Transfers: Attempt to sell, sublicense, rent, lease, grant a security interest, in or otherwise transfer any copy of the Platform or components thereof, or your rights to the Platform to any other party in any way not expressly authorized herein;

x. Disruption / Harassment: Engage in any conduct designed or intended to disrupt or diminish the game experience for other players, or to disrupt operation of Blizzard's Platform in any way, including the following:

1. Disrupting or assisting in the disruption of (i) any computer used to support the Platform or any Game environment; or (ii) any other player's Game experience. ANY ATTEMPT BY YOU TO DISRUPT THE PLATFORM OR UNDERMINE THE LEGITIMATE OPERATION OF ANY GAME MAY BE A VIOLATION OF CRIMINAL AND CIVIL LAWS.
2. Harassing, griefing, abusive behavior or chat, deliberately poor teamwork intended to undermine other players' experiences, deliberate inactivity or disconnecting, and/or any other activity which violates Blizzard's Code of Conduct or In-Game Policies.

D. Game and Platform Features.

i. Platform Features:

1. Global Play: Games that are playable on the Platform which feature "Global Play", allow you to play with players who are outside of the region associated with the creation of your Account. The Global Play feature requires that some or all of your personal information related to the Account be transferred to servers operated by Blizzard in the regions where you wish to play the Game. By agreeing to participate in Global Play, you agree that Blizzard can transfer your data to Blizzard's servers in each of the regions that you select to participate in using the Global Play feature. For more information, please review Blizzard's Privacy Policy located at http://eu.blizzard.com /en-gb/company/about/privacy.html.
2. Blizzard Balance:

a. As an active Account holder, you may participate in Blizzard's Blizzard Balance service (formerly known as "Battle.net Balance," and referred to herein as "Blizzard Balance"). Blizzard Balance can only be used to obtain certain products and services offered by Blizzard; it has no cash value. Blizzard grants you a limited license to acquire, use, and redeem Blizzard Balance pursuant to the terms of this Agreement. Regardless of how it is acquired, Blizzard Balance is non-transferable to another person or Account, does not accrue interest, is not insured by any government entity, and, unless otherwise required by law or permitted by this Agreement, is not redeemable or refundable for any sum of money or monetary value from Blizzard at any time. Blizzard Balance does not constitute a personal property right. Blizzard Balance is not a bank account.

b. To add to your Account Blizzard Balance, go to https://eu.blizzard.com/account/ management/ebalance-purchase.html and follow the instructions provided to you on the page. Transactions to add Blizzard Balance or redeem Blizzard Balance are governed by the Terms of Sale, which can be viewed at http://eu.blizzard.com/en-gb/company/about/termsofsale. html. It may take up to five (5) days before purchases of Blizzard Balance are made available on your Account for your use. Certain minimums may apply to purchases when adding Blizzard Balance to your Account, and the maximum value of your Blizzard Balance is limited as is the maximum value of all transactions using Blizzard Balance per day. In order to check the applicable maximum values for your currency, go to https://eu.support.blizzard .com/en-gb/article/battle-net-balance-faq. Blizzard reserves the right to change the maximum and minimum amounts at any time.

c. You may choose to add Blizzard Balance in different currencies that are applicable to your country of residence, in order to redeem Blizzard Balance for certain goods and/or services offered on the Platform. TO HAVE A BLIZZARD BALANCE OF MORE THAN A CERTAIN VALUE, YOU MUST HAVE ATTACHED AN AUTHENTICATOR TO YOUR BLIZZARD ACCOUNT. In order to check the applicable value for your currency, go to https://eu.blizzard.com/support/en/article /battle-net-balance-faq. Blizzard reserves the right to change the value limitation at any time. You can download the Blizzard Authenticator for mobile devices at https://eu.blizzard.com/account/support/mobile-auth-download.html. Blizzard will not send you a statement of itemized transactions on the Account. In order to check

the Blizzard Balance loaded on the Account, or review recent transactions on the Account, go to https://eu.account.blizzard.com/en-gb/transaction-history.html.

d. You are responsible for all Blizzard Balance transactions, including unauthorized transactions.

e. You are responsible for all uses of your Blizzard Balance. If you suspect that the Account has been compromised, you should contact Blizzard customer service immediately at http://eu.blizzard.com/support/webform.xml. Blizzard Balance will only be protected from the point that Blizzard issues a message to you indicating that Blizzard has received your notice that the Account may have been compromised. You are solely responsible for verifying that the proper amount of Blizzard Balance has been added to or deducted from your Account. You can view your Blizzard Balance from your account management page. Note that we may require additional information and/or documentation to verify your claim. From that point forward, Blizzard will take actions to freeze your Blizzard Balance, and will unfreeze your Blizzard Balance once Blizzard has returned control of your Blizzard Balance to you.

f. Blizzard reserves the right to reduce, liquidate, deactivate, suspend or terminate any Blizzard Balance added to the Account or access to Blizzard Balance or other Platform features if Blizzard determines, after investigation and in accordance with Section 9.B.ii. below, that you have violated this Agreement, including the license limitations set forth in Section 1.C., misused Blizzard Balance, or have otherwise used Blizzard Balance to conduct any fraudulent or illegal activity.

g. In the event that you are in any way responsible for compromising Accounts, Blizzard retains the right to remove Blizzard Balance from the Account gained through compromising other Accounts, suspending access to any services provided to you by Blizzard, such as access to in-Game auction houses and/or terminating the Account, subject to the terms of Section 9.B.ii. below.

3. Advertising: The Platform may incorporate third-party technology that enables advertising on the Platform and/or in certain Games playable on the Platform, which may be downloaded temporarily to your personal computer and replaced during online game play. As part of this process, Blizzard and/or its authorized third party advertisers may collect standard information that is sent when your personal computer connects to the Internet including your Internet protocol (IP) address.

4. User Created or Uploaded Content: The Platform may provide you an opportunity to upload and display content on the Platform, such as on the Blizzard forums, and/or as part of a Game, including the compilation, and/or arrangement of such content (collectively, the "User Content"). User Content specifically does not include a Custom Game, as defined in Section 1.D.ii.1. below. You hereby grant Blizzard a perpetual, irrevocable, worldwide, fully paid up, non-exclusive, sub-licensable right and license to exploit the User Content and all elements thereof, in any and all media, formats and forms, known now or hereafter devised. Blizzard shall have the unlimited right to copy, reproduce, fix, modify, adapt, change, process, translate, reformat, prepare derivatives, add to and delete from, rearrange and transpose, manufacture, publish, distribute, sell, market, license, sublicense, transfer, rent, lease, transmit, make publicly available, publicly display, publicly perform, provide access to, broadcast, and practice the User Content as well as all modified and derivative works thereof and any and all elements contained therein, and use or incorporate a portion or portions of the User Content or the elements thereof in conjunction with or into any other material. You represent and warrant that the User Content which you upload to the Platform, does not infringe upon the copyright, trademark, patent, trade secret or other rights of any third party. You further represent and warrant that you will not use or contribute User Content that is unlawful, tortious, defamatory, obscene, invasive of the privacy of another person, threatening, harassing, abusive, hateful, racist or otherwise objectionable or inappropriate. Blizzard may remove any User Content and related content or elements

from the Platform at its sole discretion. You hereby waive the right to be identified as the author of the User Content.

5. Real ID Feature and Identity Disclosure:

   (...)

6. Blizzard Television Service:

   (...)

ii. Game Features:

1. Game Editors: Certain Games include software that will allow you to create custom games, levels, maps, scenarios or other content ("Custom Games") for use in connection with the Game (hereafter referred to as "Game Editor(s)"). For purposes of this Agreement and any agreements referenced herein, "Custom Games" includes the digital files associated with such custom games, levels, maps, scenarios, and other content, as well as (1) all content contained within such files, including but not limited to player and non-player characters, audio and video elements, environments, objects, items, skins, and textures, (2) all titles, trademarks, trade names, character names, or other names and phrases included within the Custom Game, and (3) any other intellectual property rights contained within the Custom Game, including any and all content, game concepts, methods or ideas. A Custom Game may only be used with the Game's engine that is associated with a particular Game Editor. The manner in which Custom Games can be used or exploited is set forth in the StarCraft II Custom Game Acceptable Use Policy, the terms of which are incorporated into this Agreement by this reference, and which can be found at http://eu.blizzard.com/en-gb/company/legal/acceptable-use.html. Blizzard may modify, remove, disable, or delete Custom Games at any time in its sole and absolute discretion.

2. Community Tournaments: In order to support local esports tournament activities, Blizzard provides a license program for organizers of community tournaments under its Community Competition license, which can be found at http://eu.blizzard.com/en-gb/company/legal/ community-competition-license.html.

3. Beta Testing of Pre-Release Versions of Games. Certain pre-release versions of Games ("Betas") may be made available to you through the Platform for testing ("Beta Test"). Your participation in a Beta Test through the Platform will be governed by the following:

   (...)

2. Blizzard's Ownership.

With the sole exception of the Licensors' Games, Blizzard is the owner or licensee of all right, title, and interest in and to the Platform, including the Games that are produced and developed by Blizzard Entertainment, Inc. ("Blizzard Games"), Custom Games derived from a Blizzard Game, Accounts, and all of the features and components thereof. The Platform may contain materials licensed by third-parties to Blizzard, and these third-parties may enforce their ownership rights against you in the event that you violate this Agreement. The following components of the Platform (which do not include content or components of the Licensors' Games), without limitation, are owned or licensed by Blizzard:

A. All virtual content appearing within the Platform, including the Blizzard Games, such as:

i. Visual Components: Locations, artwork, structural or landscape designs, animations, and audio-visual effects;

ii. Narrations: Themes, concepts, stories, and storylines;

iii. Characters: The names, likenesses, inventories, and catch phrases of Game characters;

iv. Items: Virtual goods, such as digital cards, currency, potions, weapons, armor, wearable items, skins, sprays, pets, mounts, etc.;

B. All data and communications generated by, or occurring through, the Platform;

C. All sounds, musical compositions and recordings, and sound effects originating in the Platform;

D. All recordings, Game replays, or reenactments of in-game matches, battles, duels, etc.;

E. Computer Code, including but not limited to "Applets" and source code;

F. Titles, methods of operation, software, related documentation, and all other original works of authorship contained in the Platform;

G. All Accounts, including the name of the Account and any Battle Tags associated with an Account. All use of an Account shall inure to Blizzard's benefit. Blizzard does not recognize the transfer of Accounts. You may not purchase, sell, gift or trade any Account, or offer to purchase, sell, gift, or trade any Account, and any such attempt shall be null and void and may result in the forfeiture of the Account;

H. All Moral Rights that relate to the Platform, including Custom Games derived from a Blizzard Game, such as the right of attribution, and the right to the integrity of certain original works of authorship; and

I. The right to create derivative works, and as part of this Agreement, you agree that you will not create any work based on the Platform, except as expressly set forth in this Agreement or otherwise by Blizzard in certain contest rules, Blizzard's Fan Policies, or addenda to this Agreement.

J. All right, title and interest in and to Blizzard's websites. The websites and all associated proprietary rights are owned by Blizzard or its licensors, and no ownership of any of the foregoing items is transferred to you by virtue of this Agreement or Blizzard's permitting you to use the websites.

3. Pre-Loaded Software.

The Platform may contain additional software that requires you to agree to additional terms prior to your use ("Additional Software").

A. Installation: You agree that Blizzard may install Additional Software on your hard drive as part of the installation of the Platform, and from time to time during the term of this Agreement.

B. Use: Unless Blizzard grants you a valid license and alphanumeric key to use and activate the Additional Software, you may not access, use, distribute, copy, or create derivative works based on the Additional Software.

C. Copies: You may make one (1) copy of the Additional Software for archival purposes only.

4. Consent to Monitor.

WHILE RUNNING, THE PLATFORM AND/OR A GAME MAY MONITOR YOUR COMPUTER'S MEMORY FOR UNAUTHORIZED THIRD PARTY PROGRAMS RUNNING EITHER CONCURRENTLY WITH THE GAME OR OUT OF PROCESS. AN "UNAUTHORIZED THIRD PARTY PROGRAM" AS USED HEREIN SHALL BE DEFINED AS ANY THIRD PARTY SOFTWARE PROHIBITED BY SECTION 1.C.ii. ABOVE. IN THE EVENT THAT THE GAME DETECTS AN UNAUTHORIZED THIRD PARTY PROGRAM, (A) THE GAME MAY COMMUNICATE INFORMATION BACK TO BLIZZARD, INCLUDING WITHOUT LIMITATION YOUR ACCOUNT NAME, DETAILS ABOUT THE UNAUTHORIZED THIRD PARTY PROGRAM DETECTED, AND THE TIME AND DATE; AND/OR (B) BLIZZARD MAY EXERCISE ANY OR ALL OF ITS RIGHTS UNDER THIS AGREEMENT, WITH OR WITHOUT PRIOR NOTICE TO YOU.

5. Limited Warranty.

FOR RESIDENTS OF THE EUROPEAN UNION THE WARRANTIES APPLY AS PER APPLICABLE STATUTARY LAW. FOR ANY RESIDENTS OUTSIDE THE EUROPEAN UNION THE FOLLOWING APPLIES: THE PLATFORM IS PROVIDED ON AN "AS IS" AND "AS AVAILABLE" BASIS FOR YOUR USE, WITHOUT WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF

MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, AND THOSE ARISING FROM COURSE OF DEALING OR USAGE OF TRADE. BLIZZARD DOES NOT WARRANT THAT YOU WILL BE ABLE TO ACCESS OR USE THE PLATFORM AT THE TIMES OR LOCATIONS OF YOUR CHOOSING; THAT THE PLATFORM WILL BE UNINTERRUPTED OR ERROR-FREE; THAT DEFECTS WILL BE CORRECTED; OR THAT THE GAME CLIENT OR THE PLATFORM ARE FREE OF VIRUSES OR OTHER HARMFUL COMPONENTS.

6. Limitations of Liability.

   A. Blizzard may be liable in accordance with statutory law (i) in case of intentional breach, (ii) in case of gross negligence, (iii) for damages arising as result of any injury to life, limb or health or (iv) under any applicable product liability act. Gross negligence refers to an action or omission of significant carelessness, demonstrating a clear disregard of one's basic duties.

   B. Without limiting the foregoing, you agree and acknowledge that Blizzard may be liable for slight negligence only in case of a breach of a material contractual obligation. Material contractual obligation means any obligation (i) which is necessary for the fulfillment of the Agreement, (ii) the breach of which would jeopardize the purpose of the Agreement and (iii) the compliance with which one may generally trust in. In such cases, the liability will be limited to the typical and foreseeable damages. Slight negligence means any negligence which is not gross negligence.

7. Indemnity.

   You agree to indemnify, defend and hold Blizzard harmless from any claim, demand, damages or other losses, including reasonable attorneys' fees, asserted by any third-party resulting from or arising out of your use of the Platform, or any breach by you of this Agreement, or any Game-specific Terms of Use; however, the foregoing does not apply if the infringement of rights is not attributable to your intentional or negligent behavior.

8. Alterations.

   Blizzard may, from time to time, change or modify this Agreement as its business and the law evolves. In this case, Blizzard will notify you of any such changes or modifications by providing special notice. If you do not object to the amended Agreement within six (6) weeks following the special notice, your continued use of the Platform will mean that you accept the amended Agreement. With the special notice, Blizzard will remind you that your continued use after the expiration of six (6) weeks following the special notice means that you accept any and all changes. Those changes or modifications will not affect essential characteristics of the Platform. Should you have any questions or concerns, please contact Blizzard Customer Service.

9. Term and Termination.

   A. Term.

      This Agreement is effective upon your creation of an Account, and shall remain in effect until it is terminated or superseded by a New Agreement, or, if neither of the foregoing events occur, as long as you continue using the Platform. In the event that Blizzard chooses to cease providing the Platform or a portion thereof, or license to a third party the right to provide the Platform, Blizzard shall provide you with no less than three (3) months prior notice.

   B. Termination.

      You are entitled to terminate this Agreement for any legitimate reason as may be specified by applicable law or relevant court decision, subject to prior written notice by mail Blizzard Entertainment, Attn: Law Department, 145, rue Yves Le Coz, 78000 Versailles, France.

      i. If you fail to comply with any terms contained in this Agreement and/or the In-Game Policies or Code of Conduct, Blizzard will provide you with a warning of your non-compliance. In case of a serious violation of this Agreement, the In-Game Policies, or the Code of Conduct, Blizzard will be entitled to immediately terminate this Agreement, the Platform and/or any Game license without any prior warning. Serious violations are violations of important provisions which include Sections 1.A.v., 1.A.vi., 1.B.iii., 1.C., 1.D.i.2.g., 2 and 3.B. of this Agreement or repeated violations of other provisions of this

Agreement or the In-Game Policies, including further non-compliance where you already have received a prior warning.

ii. In the event of any termination of this Agreement, your right to access and play Games will be revoked.

10. Governing Law.

This Agreement shall be governed by and construed in accordance with the laws of France. If you are resident in a member state of the European Union, you also enjoy the protection of the mandatory provisions of the consumer protection laws in your member state.

11. General.

(...)

B. Assignment. Blizzard may assign this Agreement, in whole or in part, to any person or entity at any time with or without your consent, as long as the assignment does not reduce your rights under this Agreement. You may not assign this Agreement without Blizzard's prior written consent, and any unauthorized assignment by you shall be null and void.

C. Severability. If any part of this Agreement is determined to be invalid or unenforceable, then that portion shall be severed, and the remainder of this Agreement shall be given full force and effect.

(...)

H. Notices:

If to Blizzard. All notices given by you under this Agreement shall be in writing and addressed to: Blizzard Entertainment, Attn. Law Department, 145, rue Yves Le Coz, 78000 Versailles.

If to You. All notices given by Blizzard under this Agreement shall be given to you either through written notice, email, or website blog post. These notice forms and instances are specified in our Privacy Policy, which can be reviewed at http://eu.blizzard.com/en-gb/company /about/privacy.html.

(...)

E3. Blizzard End User Licence Agreement (US)

YOU SHOULD CAREFULLY READ THIS AGREEMENT (THE "AGREEMENT") BEFORE INSTALLING OR USING BLIZZARD'S ONLINE GAMING PLATFORM. IF YOU DO NOT AGREE WITH ALL OF THE TERMS OF THIS AGREEMENT, YOU MAY NOT INSTALL OR OTHERWISE ACCESS THE PLATFORM.

Thank you for your interest in Blizzard's online gaming services and interactive games, and the interactive games from other developers ("Licensors") who make their games available through Blizzard's Platform. (Blizzard's and the Licensors' games are collectively referred to herein as the "Games"). This Agreement sets forth the terms and conditions under which you are licensed to install and use the Platform. As used herein, the term "Platform" refers collectively, and at times individually, to (1) the Blizzard Battle.net App software, (2) the Blizzard Battle.net gaming services, (3) each of the Games, (4) authorized Mobile Apps relating to the Games and the Blizzard Battle.net service, and (5) all features and components of each of them, whether installed or used on a computer or mobile device. IF YOU DO NOT AGREE TO THE TERMS OF THIS AGREEMENT, YOU ARE NOT PERMITTED TO INSTALL, COPY, OR USE THE BLIZZARD PLATFORM. IF YOU REJECT THE TERMS OF THIS AGREEMENT WITHIN FOURTEEN (14) DAYS AFTER YOUR PURCHASE OF A GAME FROM BLIZZARD, YOU MAY CONTACT BLIZZARD THROUGH https://us.battle.net/support/en/ TO INQUIRE ABOUT A FULL REFUND OF THE PURCHASE PRICE OF THAT GAME. IF YOU PURCHASED A GAME AT RETAIL, YOUR RIGHT TO RETURN THE GAME IS SUBJECT TO THE RETAILER'S RETURN POLICY.

PLEASE NOTE THAT THE SECTION BELOW TITLED DISPUTE RESOLUTION CONTAINS A BINDING ARBITRATION AGREEMENT AND CLASS ACTION WAIVER. THEY AFFECT YOUR LEGAL RIGHTS. PLEASE READ THEM.

Except as otherwise provided below, if you reside in the United States, Canada, or Mexico, use of the Platform is licensed to you by Blizzard Entertainment, Inc., a Delaware corporation, 1 Blizzard Way, Irvine, CA 92618, and if you are not a resident of the United States, Canada, or Mexico, use of the Platform is licensed to you by Activision Blizzard International B.V., Stroombaan 16, 1181 VX Amstelveen, the Netherlands (Blizzard Entertainment, Inc., and Activision Blizzard International B.V. are referred to herein as "Blizzard", "we," or "us").

1. The Platform.

   A. The Blizzard Account. To use the Platform, you must register, or have previously registered, a Blizzard account (an "Account"). Creation and use of Accounts are subject to the following terms and conditions:

      i. You may establish an Account only if: (i) you are a "natural person" and an adult in your country of residence (Corporations, Limited Liability Companies, partnerships and other legal or business entities may not establish an Account); and (ii) you are not an individual specifically prohibited by Blizzard from using the Platform.

      ii. When you create or update an Account, you must:

         1. provide Blizzard with accurate and up to date information that is personal to you, such as your name, address, phone number, and email address. Additionally, in order to play certain Games or use certain features offered on the Platform, you may also be required to provide Blizzard with payment information (such as credit card information). Blizzard's retention and/or use of your personal information is subject to Blizzard's Privacy Policy, located here. Blizzard shall also have the right to obtain non personal data from your connection to the Platform; and

         2. select a unique username and password (collectively referred to hereunder as "Login Information"). You may not use your real name as the password for the Account, and you cannot share the Account or the Login Information with anyone, unless the terms of this Agreement allow it.

      iii. To play Games on the Platform, you will need to add a Game license to an Account, which requires an authentication code generated by Blizzard. For Game licenses purchased at retail, the authentication code will either be included in the packaging materials or sent to you via electronic means. If you purchase a Game digitally from Blizzard, the authentication code will be assigned to the Account when you purchase the Game.

      iv. Please take a few moments to review Blizzard's Account Security information here. You must maintain the confidentiality of the Login Information, as you are responsible for all uses of the Login Information and the Account, including purchases, whether or not authorized by you. If you become aware of or reasonably suspect any breach of security, including without limitation any loss, theft, or unauthorized disclosure of the Login Information, you must immediately notify Blizzard at support@blizzard.com.

      v. Subject to the laws of your country of residence, minor children may utilize an Account established by their parent or legal guardian. In the event that you permit your minor child or legal ward (collectively, your "Child") to use an Account on the Platform, you hereby agree to this Agreement on behalf of yourself and your Child, and you understand and agree that you will be responsible for all uses of the Account by your Child whether or not such uses were authorized by you.

      vi. Your use of the Platform to interact with Blizzard and other players is governed by Blizzard's Code of Conduct (the "Code of Conduct") and applicable in-game policies (the "In-game Policies"). The Code of Conduct and In-Game Policies are not meant to be exhaustive. The Code of Conduct and In-Game Policies are incorporated into this Agreement by this reference, and are available on Blizzard's Customer Support database, located here.

vii. You agree to pay all fees and applicable taxes incurred by you or anyone using your Account. If you choose a recurring subscription for a Game, you acknowledge that payments will be processed automatically (e.g., debited from your Blizzard Balance or charged to your credit card) until you cancel the subscription or the Account. Blizzard may revise the pricing for the goods and services offered through the Platform at any time. YOU ACKNOWLEDGE THAT BLIZZARD IS NOT REQUIRED TO REFUND AMOUNTS YOU PAY TO BLIZZARD FOR USE OF THE PLATFORM, OR FOR DIGITAL PURCHASES MADE THROUGH THE PLATFORM, FOR ANY REASON.

ix. Blizzard shall have the right to monitor and/or record your communications when you use the Platform, and you acknowledge and agree that when you use the Platform, you have no expectation that your communications will be private. Blizzard shall have the right to disclose your communications for any reason, including: (a) to satisfy any applicable law, regulation, legal process or governmental request; (b) to enforce the terms of this Agreement or any other Blizzard policy; (c) to protect Blizzard's legal rights and remedies; (d) to protect the health or safety of anyone that Blizzard believes may be threatened; or (e) to report a crime or other offensive behavior.

B. Grant of License. If you accept and comply with the terms of this Agreement, Blizzard will grant, and you will receive, a limited, revocable, non-sub licensable, and non-exclusive license to use the Platform subject to the "License Limitations," set forth in Section 1.C below, as follows:

i. You may install applicable components or features of the Platform (including the Games) on one or more computers or mobile devices under your legitimate control.

ii. You may use the Platform for your personal and non-commercial entertainment purposes only, unless specifically allowed under the terms of this Agreement.

iii. You may not transfer your rights and obligations to use the Platform.

iv. With regards to Games purchased from retailers on original media (e.g., on CD-ROM, DVD, etc.) you may permanently transfer all of your rights and obligations related to the use of a Game under this Agreement to another person who agrees to the terms of this Agreement by physically transferring the original media, original packaging, and all manuals or other documentation distributed with the Game provided that you permanently delete all copies and installations of the Game in your possession or control. You agree to be solely responsible for any taxes, fees, charges, duties, withholdings, assessments, and the like, together with any interest, penalties, and additions imposed in connection with such transfer. Other than as set forth above, Blizzard does not recognize any purported transfer of the Games.

v. Some of the Games may be subject to specific license terms that may include the following:

1. Trial or "Starter" versions of Games allow you to play a limited version of the Game before you will be required to purchase a Game license from Blizzard. Licenses to use the full version of these Games can be purchased through the Platform.

2. In certain cases, the "full version," of Games can only be played after you purchase and add a Game license to your Account.

3. You may play the Game(s) you have licensed at authorized publicly-available cyber cafés or computer gaming centers on the Platform through an Account registered to you.

4. Certain Games may be obtained through the Platform, but may not be playable on the Platform. In such an event, the Game will be provided with a separate End User License Agreement that will govern your installation and use of the Game post purchase.

5. Games which are produced by Blizzard's Licensors and distributed through, and/or played upon, the Platform will require that you agree to the Licensor's End User License Agreement prior to your being able to play the Game on the Platform, and the terms and conditions of Licensor's End User License Agreement are hereby incorporated into this Agreement by this reference. In the event of a conflict between the terms between this Agreement and a Licensor's End User License Agreement

pertaining to the use of the Licensor's Game, the Licensor's End User License Agreement shall supersede and govern your use of the Licensor's Game. However, in the event of a conflict between the terms of this Agreement and the Licensor's End User License Agreement pertaining to any other aspect of the Platform, this Agreement shall supersede and govern your use of the Platform.

C. License Limitations. Blizzard may suspend or revoke your license to use the Platform, or parts, components and/or single features thereof, if you violate, or assist others in violating, the license limitations set forth below. You agree that you will not, in whole or in part or under any circumstances, do the following:

i. Derivative Works: Copy or reproduce (except as provided in Section 1.B.), translate, reverse engineer, derive source code from, modify, disassemble, decompile, or create derivative works based on or related to the Platform.

ii. Cheating: Create, use, offer, promote, advertise, make available and/or distribute the following or assist therein:

1. cheats; i.e. methods not expressly authorized by Blizzard, influencing and/or facilitating the gameplay, including exploits of any in-game bugs, and thereby granting you and/or any other user an advantage over other players not using such methods;

2. bots; i.e. any code and/or software, not expressly authorized by Blizzard, that allows the automated control of a Game, or any other feature of the Platform, e.g. the automated control of a character in a Game;

3. hacks; i.e. accessing or modifying the software of the Platform in any manner not expressly authorized by Blizzard; and/or

4. any code and/or software, not expressly authorized by Blizzard, that can be used in connection with the Platform and/or any component or feature thereof which changes and/or facilitates the gameplay or other functionality;

iii. Prohibited Commercial Uses: Exploit, in its entirety or individual components, the Platform for any purpose not expressly authorized by Blizzard, including, without limitation (i) playing the Game(s) at commercial establishments (subject to Section 1.B.v.3.); (ii) gathering in-game currency, items, or resources for sale outside of the Platform or the Game(s); (iii) performing in-game services including, without limitation, account boosting or power-leveling, in exchange for payment; (iv) communicating or facilitating (by text, live audio communications, or otherwise) any commercial advertisement, solicitation or offer through or within the Platform; or (v) organizing, promoting, facilitating, or participating in any event involving wagering on the outcome, or any other aspect of, Blizzard's Games, whether or not such conduct constitutes gambling under the laws of any applicable jurisdiction, without authorization.

iv. "esports": Use the Platform for any esports or group competition sponsored, promoted or facilitated by any commercial or non-profit entity without obtaining additional authorization from Blizzard or obtaining Blizzard's prior written consent. For more information on obtaining appropriate authorization, please visit Blizzard's website.

v. Cloud Computing: Use the Platform, including a Game, in connection with any unauthorized third-party "cloud computing" services, "cloud gaming" services, or any software or service designed to enable the unauthorized streaming or transmission of Game content from a third-party server to any device.

vi. Data Mining: Use any unauthorized process or software that intercepts, collects, reads, or "mines" information generated or stored by the Platform; provided, however, that Blizzard may, at its sole and absolute discretion, allow the use of certain third-party user interfaces.

vii. Duplicated Items: Create, utilize or transact in any in-game item created or copied by exploiting a design flaw, undocumented problem, or program bug in the Platform.

viii. Matchmaking: Host, provide or develop matchmaking services for the Game(s), or intercept, emulate or redirect the communication protocols used by Blizzard in any way, for

any purpose, including without limitation unauthorized play over the internet, network play (except as expressly authorized by Blizzard), or as part of content aggregation networks.

ix. Unauthorized Connections: Facilitate, create or maintain any unauthorized connection to the Platform including without limitation (i) any connection to any unauthorized server that emulates, or attempts to emulate, the Platform; and (ii) any connection using third-party programs or tools not expressly authorized by Blizzard.

x. Transfers: Attempt to sell, sublicense, rent, lease, grant a security interest in or otherwise transfer any copy of the Platform or component thereof, or your rights to the Platform to any other party in any way not expressly authorized herein.

xi. Disruption / Harassment: Engage in any conduct intended to disrupt or diminish the game experience for other players, or disrupt operation of Blizzard's Platform in any way, including:

1. Disrupting or assisting in the disruption of any computer used to support the Platform or any Game environment. ANY ATTEMPT BY YOU TO DISRUPT THE PLATFORM OR UNDERMINE THE LEGITIMATE OPERATION OF ANY GAME MAY BE A VIOLATION OF CRIMINAL AND CIVIL LAWS.

2. Harassment, "griefing," abusive behavior or chat, conduct intended to unreasonably undermine or disrupt the Game experiences of others, deliberate inactivity or disconnecting, and/or any other activity which violates Blizzard's Code of Conduct or In-Game Policies.

xii. Violation of Laws: use the Platform to violate any applicable law or regulation.

D. Platform and Game-Specific Features.

i. Platform Features:

1. Global Play. Certain Games feature "Global Play," which allows you to play with players who are outside of the region associated with the Account that you have registered. The Global Play feature requires that some or all of your personal information provided to Blizzard when you registered the Account be transferred to servers operated by Blizzard in the regions where you wish to play the Game. By agreeing to participate in Global Play, you agree that Blizzard can transfer your data to Blizzard's servers in each of the regions that you select to participate in using the Global Play feature. For more information, please review Blizzard's Privacy Policy located here.

2. Blizzard Balance.

a. As an active Account holder, you may participate in the Blizzard Balance service ("Blizzard Balance"). Blizzard Balance can only be used to obtain certain products and services offered by Blizzard; it has no cash value. Blizzard grants you a limited license to acquire, use, and redeem Blizzard Balance pursuant to the terms of this Agreement. Regardless of how it is acquired, Blizzard Balance is non-transferable to another person or Account, does not accrue interest, is not insured by the Federal Deposit Insurance Corporation (FDIC), and, unless otherwise required by law or permitted by this Agreement, is not redeemable or refundable for any sum of money or monetary value from Blizzard at any time. Blizzard Balance does not constitute or confer upon you any personal property right. Blizzard Balance is not a bank account. And, while you can register and play on multiple Accounts, you are not allowed to have more than three (3) Accounts with Blizzard Balance.

b. To purchase Blizzard Balance, go to the Blizzard Balance purchase page and follow the instructions provided to you on that page. You may choose to purchase Blizzard Balance in different currencies (e.g., US Dollars, Mexican Pesos, Chilean Pesos, and/or Argentinean Pesos) in order to redeem your Blizzard Balance for certain products or services offered on the Platform. It may take up to five (5) days before purchases of Blizzard Balance are made available for your use. Certain minimums

may apply to purchases of Blizzard Balance, and the maximum balance of your Blizzard Balance at any time is limited to the equivalent of $350.00 USD, and the maximum value of all transactions using Blizzard Balance is limited to $2,000.00 USD per day. The balance of your Blizzard Balance shall be determined by converting the Blizzard Balance across all of the various currencies in your Blizzard Balance on all Accounts registered to you to the equivalent of US Dollars using the currency conversion formulas posted on the WSJ Market Data Center. Blizzard reserves the right to change the maximum and minimum amounts applicable to Blizzard Balances at any time in accordance with Section 9.B. of this Agreement. Transactions to purchase Blizzard Balance, or redeem Blizzard Balance for certain goods and services from Blizzard, are governed by the terms of this Agreement and the Blizzard Terms of Sale, which can be viewed here. Purchases of Blizzard Balance are non-refundable, unless otherwise required by law. IN ORDER TO HAVE A BLIZZARD BALANCE OF MORE THAN $110.00 USD, YOU MUST ATTACH A BLIZZARD AUTHENTICATOR TO YOUR ACCOUNT. You can download the Blizzard Authenticator for mobile devices here.

c. Blizzard will not send you a statement of itemized transactions for your Blizzard Balance. In order to check the balance of your Blizzard Balance or review your recent Blizzard Balance transactions, visit the Account Management page for your Account. You are solely responsible for verifying that the proper amount of Blizzard Balance has been added to or deducted from your Blizzard Balance.

d. Sales tax may apply to your redemption of Blizzard Balance for products or services purchased through the Platform in some jurisdictions. The amount of tax charged depends upon many factors, including the type of product or service purchased.

f. Blizzard reserves the right to reduce, liquidate, deactivate, suspend or terminate your Blizzard Balance, or other Platform features if Blizzard determines, in its sole discretion, after investigation, that you have violated this Agreement, including the license limitations set forth in Section 1.C., misused Blizzard Balance, or have otherwise used Blizzard Balance to conduct any fraudulent or illegal activity.

g. You are responsible for all uses of your Blizzard Balance. If you suspect that your Blizzard Balance has been compromised, you should contact Blizzard Customer Service at support@blizzard.com so that the matter can be investigated. Blizzard, in its sole discretion, may require additional information and/or documentation to verify your claim, and once Blizzard has the information that Blizzard deems necessary to verify your claim, Blizzard will take actions to freeze your Account until Blizzard has returned control of your Account to you. Regardless of any actions Blizzard may take on your behalf, you acknowledge and agree that Blizzard has sole and absolute discretion in determining whether or not your claim is valid and, if so, the appropriate remedy.

3. Advertising: The Platform may incorporate third-party technology that enables advertising on the Platform and/or in certain Games playable on the Platform, which may be downloaded temporarily to your personal computer and replaced during online game play. As part of this process, Blizzard and/or its authorized third party advertisers may collect standard information that is sent when your personal computer connects to the Internet including your Internet protocol (IP) address.

4. User Created or Uploaded Content. The Platform may provide you an opportunity to upload and display content on the Platform, such as on the Blizzard forums, and/or as part of a Game, including the compilation, arrangement or display of such content (collectively, the "User Content"). User Content specifically does not include a Custom Game, as defined in Section 1.D.ii.1. below. You hereby grant Blizzard a perpetual, irrevocable, worldwide, fully paid up, non-exclusive, sub-licensable, right and license to exploit the User Content and all elements thereof, in any and all media, formats and forms, known now or hereafter devised. Blizzard shall have the unlimited right to copy, reproduce, fix, modify, adapt, translate, reformat, prepare derivatives, add to and delete

from, rearrange and transpose, manufacture, publish, distribute, sell, license, sublicense, transfer, rent, lease, transmit, publicly display, publicly perform, provide access to, broadcast, and practice the User Content as well as all modified and derivative works thereof and any and all elements contained therein, and use or incorporate a portion or portions of the User Content or the elements thereof in conjunction with or into any other material. In the event you upload or otherwise transmit to Blizzard any concepts, ideas, or feedback relating to the Platform, you shall not be entitled to any compensation for any such submission, unless expressly agreed between you and Blizzard, and Blizzard may freely use any such submission in any manner it deems appropriate. Any such submission by you shall not create any contractual relationship between you and Blizzard. Except to the extent that any such waiver is prohibited by law, you hereby waive the benefit of any provision of law known as "moral rights" or "droit moral" or any similar law in any country of the world. You represent and warrant that the User Content does not infringe upon the copyright, trademark, patent, trade secret or other intellectual property rights of any third party. You further represent and warrant that you will not use or contribute User Content that is unlawful, tortious, defamatory, obscene, invasive of the privacy of another person, threatening, harassing, abusive, hateful, racist or otherwise objectionable or inappropriate. Blizzard may remove any User Content and any related content or elements from the Platform at its sole discretion.

5. Real ID Feature and Identity Disclosure.

(...)

ii. Game Features.

1. Game Editors. Certain Games include editing software (hereafter referred as "Game Editor(s)") that will allow you to create custom games, levels, maps, scenarios or other content ("Custom Games"). For purposes of this Agreement and any agreements referenced herein, "Custom Games" includes all content created using the Game Editor(s), including but not limited to all digital files associated with such Custom Games, as well as (1) all content contained within such files, including but not limited to player and non-player characters, audio and video elements, environments, objects, items, skins, and textures, (2) all titles, trademarks, trade names, character names, or other names and phrases associated with or included within the Custom Game, and (3) any other intellectual property rights contained within the Custom Game, including any and all content, game concepts, methods or ideas. A Custom Game may only be used with the Game's engine that is associated with a particular Game Editor. The manner in which Custom Games can be used or exploited is set forth in the Custom Game Acceptable Use Policy, the terms of which are incorporated into this Agreement by this reference. Blizzard may modify, remove, disable, or delete Custom Games at any time in its sole and absolute discretion.

2. Community Tournaments. In order to support local esports tournament activities, Blizzard provides a license program for organizers of community tournaments under its Community Competition License.

3. Beta Testing Pre-Release Versions of Games. Certain pre-release versions of Games may be made available to you through the Platform for testing ("Beta Test"). Your participation in a Beta Test through the Platform will be governed by the following:

(...)

2. Blizzard's Ownership

A. With the sole exception of the Licensors' Games, Blizzard is the owner or licensee of all right, title, and interest in and to the Platform, including the Games that are produced and developed by Blizzard ("Blizzard Games"), Custom Games derived from a Blizzard Game, Accounts, and all of the features and components thereof. The Platform may contain materials licensed by third-parties to Blizzard, and these third-parties may enforce their ownership rights against you in the

event that you violate this Agreement. The following components of the Platform (which do not include content or components of the Licensors' Games), are owned or licensed by Blizzard:

i. All virtual content appearing within the Platform, including the Blizzard Games, such as:

1. Visual Components: Locations, artwork, structural or landscape designs, animations, and audio-visual effects;

2. Narrations: Themes, concepts, stories, and storylines;

3. Characters: The names, likenesses, inventories, and catch phrases of Game characters;

4. Items: Virtual goods, such as digital cards, currency, potions, weapons, armor, wearable items, skins, sprays, pets, mounts, etc.;

ii. All data and communications generated by, or occurring through, the Platform;

iii. All sounds, musical compositions, recordings, and sound effects originating in the Platform;

iv. All recordings, Game replays, or reenactments of in-game matches, battles, duels, etc.;

v. Computer code, including but not limited to "Applets" and source code;

vi. Titles, methods of operation, software, related documentation, and all other original works of authorship contained in the Platform;

vii. All Accounts, including the name of the Account and any Battle Tags associated with an Account. All use of an Account shall inure to Blizzard's benefit. Blizzard does not recognize the transfer of Accounts. You may not purchase, sell, gift or trade any Account, or offer to purchase, sell, gift, or trade any Account, and any such attempt shall be null and void and may result in the forfeiture of the Account;

viii. All Moral Rights that relate to the Platform, including Custom Games derived from a Blizzard Game, such as the right of attribution, and the right to the integrity of certain original works of authorship; and

ix. The right to create derivative works, and as part of this Agreement, you agree that you will not create any work based on the Platform, except as expressly set forth in this Agreement or otherwise by Blizzard in certain contest rules, Blizzard's Fan Policies, or addenda to this Agreement.

3. Pre-Loaded Software

The Platform may contain additional software that requires you to agree to additional terms prior to your use thereof ("Additional Software").

A. Installation: You agree that Blizzard may install Additional Software on your hard drive as part of the installation of the Platform, and from time to time during the term of this Agreement.

B. Use: Unless Blizzard grants you a valid license and alphanumeric key to use and activate the Additional Software, you may not access, use, distribute, copy, display, reverse engineer, derive source code from, modify, disassemble, decompile or create derivative works based on the Additional Software. In the event that Blizzard grants to you a valid license and alphanumeric key to use and activate the Additional Software, all use of the Additional Software shall be subject to the terms of this Agreement.

C. Copies: You may make one (1) copy of the Additional Software for archival purposes only.

4. Consent to Monitor. WHILE RUNNING, THE PLATFORM (INCLUDING A GAME) MAY MONITOR YOUR COMPUTER OR MOBILE DEVICE'S MEMORY FOR UNAUTHORIZED THIRD PARTY PROGRAMS RUNNING EITHER CONCURRENTLY WITH A GAME OR OUT OF PROCESS. AN "UNAUTHORIZED THIRD PARTY PROGRAM" AS USED HEREIN SHALL BE DEFINED AS ANY THIRD PARTY SOFTWARE PROHIBITED BY SECTION 1.C. ABOVE. IN THE EVENT THAT THE PLATFORM DETECTS AN UNAUTHORIZED THIRD PARTY PROGRAM, (a) THE PLATFORM MAY COMMUNICATE INFORMATION BACK TO BLIZZARD, INCLUDING WITHOUT LIMITATION YOUR ACCOUNT NAME, DETAILS

ABOUT THE UNAUTHORIZED THIRD PARTY PROGRAM DETECTED, AND THE TIME AND DATE; AND/OR (b) BLIZZARD MAY EXERCISE ANY OR ALL OF ITS RIGHTS UNDER THIS AGREEMENT, WITH OR WITHOUT PRIOR NOTICE TO THE USER. Additionally, certain Games include a tool that will allow your computer system to forward information to Blizzard in the event that the Game crashes, including system and driver data, and by agreeing hereto you consent to Blizzard receiving and/or using this data.

5. Limited Warranty. THE PLATFORM, ACCOUNTS, AND THE GAME(S) ARE PROVIDED ON AN "AS IS" AND "AS AVAILABLE," BASIS FOR USE, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF CONDITION, UNINTERRUPTED OR ERROR-FREE USE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, TITLE, AND THOSE ARISING FROM COURSE OF DEALING OR USAGE OF TRADE. The entire risk arising out of use or performance of the Platform and the Game(s) remains with the user. Notwithstanding the foregoing, Blizzard warrants up to and including ninety (90) days from the date of your purchase of a license to the Game, that the physical media on which the Game was distributed, if any, shall be free from defects in material and workmanship. In the event that such media proves to be defective during that time period, and upon presentation to Blizzard of proof of purchase of the defective media, Blizzard will at its option: (a) correct any defect, (b) provide you with a similar product of similar value, or (c) refund your money. THE FOREGOING IS YOUR SOLE AND EXCLUSIVE REMEDY FOR THE EXPRESS WARRANTY SET FORTH IN THIS SECTION. Some jurisdictions do not allow the exclusion or limitation of implied warranties so the above limitations may not apply to you.

   If you are a resident of Australia, the benefits provided to you by this Limited Warranty are in addition to other rights or remedies you may have under local laws related to the goods to which the warranty applies. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. The provisions of this clause containing the Limited Warranty and the clause containing the Limitation of Liability and Indemnity below apply only to the extent permitted by the Competition and Consumer Act 2010 (Cth).The entitlement to a replacement or a refund for a major failure is not subject to Blizzard's option. To submit a warranty claim to Blizzard, please call 1800 041 378 or send to PO Box 544, Pyrmont NSW 2009 Australia. The user is responsible for the costs of returning media to Blizzard.

6. Limitations of Liability. Blizzard, its parent, subsidiaries, Licensors and affiliates shall not be liable for any loss or damage arising out of your use of, or inability to access or use, the Platform or Account(s). Blizzard's liability shall never exceed the total fees paid by you to Blizzard during the six (6) months prior to your making a claim against Blizzard. Because some jurisdictions do not allow the exclusion or limitation of consequential or incidental damages, Blizzard's liability shall be limited to the fullest extent permitted by law.

7. Indemnity. You hereby agree to defend and indemnify Blizzard, its parent, subsidiaries, Licensors and affiliates against and from any third party claims, liabilities, losses, injuries, damages, costs or expenses incurred by Blizzard arising out of or from your use of the Platform or Account(s), or any specific services or features associated therewith, including but not limited to User Content, Custom Games, Game Editors, Blizzard Balance, and this Agreement.

8. Equitable Remedies. You agree that Blizzard would be irreparably damaged if the terms of this Agreement were not specifically followed and enforced. In such an event, you agree that Blizzard shall be entitled, without bond or other security, or proof of damages, to appropriate equitable relief in the event you breach this Agreement; and that the awarding of equitable relief to Blizzard will not limit its ability to receive remedies that are otherwise available to Blizzard under applicable laws.

9. Alterations.

   A. Alterations to the Agreement.

      i. Blizzard's Rights. Blizzard may create updated versions of this Agreement (each a "New

Agreement") as its business and the law evolve.

ii. New Agreements. This Agreement will terminate immediately upon the introduction of a New Agreement. New Agreements will not be applied retroactively. You will be given an opportunity to review the New Agreement before choosing to accept or reject its terms.

1. Acceptance. If you accept the New Agreement, and if the Account registered to you remains in good standing, you will be able to continue using the Platform and Account(s), subject to the terms of the New Agreement.

2. Rejection. If you decline to accept the New Agreement, or if you cannot comply with the terms of the New Agreement, you will no longer be permitted to use the Platform or Account(s).

B. Alterations to the Platform. Blizzard may change, modify, suspend, or discontinue any aspect of the Platform or Accounts at any time, including removing items, or revising the effectiveness of items in an effort to balance a Game. Blizzard may also impose limits on certain features or restrict your access to parts or all of the Platform or Accounts without notice or liability.

10. Term and Termination.

A. Term. This Agreement is effective upon your creation of an Account, and shall remain in effect until it is terminated or superseded by a New Agreement, or, if neither of the foregoing events occur, as long as you continue using the Platform. In the event that Blizzard chooses to cease providing the Platform, or license to a third party the right to provide the Platform, Blizzard shall provide you with no less than three (3) months prior notice. Neither the Platform nor Blizzard's agreement to provide access to the Platform shall be considered a rental or lease of time on the capacity of Blizzard's servers or other technology.

B. Termination.

i. You are entitled to terminate this Agreement at any time by notifying Blizzard by email at support@blizzard.com.

ii. Blizzard reserves the right to terminate this Agreement at any time for any reason, or for no reason, with or without notice to you. For purposes of explanation and not limitation, most Account suspensions and terminations are the result of violations of this Agreement. In case of minor violations of these rules, Blizzard may provide you with a prior warning and/or suspend your use of the Account due to your non-compliance prior to terminating the Agreement or modifying or deleting an Account.

iii. In the event of a termination of this Agreement, any right you may have had to any pre-purchased Game access or virtual goods, such as digital cards, currency, weapons, armor, wearable items, skins, sprays, pets, mounts, etc., are forfeit, and you agree and acknowledge that you are not entitled to any refund for any amounts which were pre-paid on your Account prior to any termination of this Agreement. In addition, you will not be able to use the Platform.

11. Dispute Resolution. Any and all disputes between you and Blizzard which arise out of this Agreement will be resolved in accordance with the Blizzard Entertainment Dispute Resolution Policy, which is available for your review here.

12. Governing Law.

A. This Agreement shall be governed by, and will be construed under, the laws of the United States of America and the law of the State of Delaware, without regard to choice of law principles.

(...)

D. Users who access the Platform from outside of the United States and Canada, are responsible for compliance with all applicable local laws.

13. General.

(...)

B. Blizzard may assign this Agreement, in whole or in part, to any person or entity at any time with or without your consent. You may not assign this Agreement without Blizzard's prior written consent. Your assignment of this Agreement without Blizzard's prior written consent shall be void.

(...)

D. Notices.

i. If to Blizzard.

1. If you are a resident of the United States, Canada, or Mexico, all notices given by you under this Agreement shall be in writing and addressed to: Blizzard Entertainment, Inc., 1 Blizzard Way, Irvine, CA 92618, Attn: Law Department.

2. If you are not a resident of the United States, Canada or Mexico, then all notices given by you under this Agreement shall be in writing and addressed to: Activision Blizzard International B.V., Stroombaan 16, 1181 VX Amstelveen, the Netherlands, Attn: Law Department.

ii. If to You. All notices given by Blizzard under this Agreement shall be given to you either through written notice, email, or website blog post.

(...)

F. If any part of this Agreement is determined to be invalid or unenforceable, then that portion shall be severed, and the remainder of this Agreement shall be given full force and effect.

(...)

E4. Entropia Universe Account Terms of Use

In order to operate Entropia Universe in secure manner, MindArk PE Aktiebolag (publ) ("we" or "MindArk") collects and stores certain personal information about you.

This is done in compliance with all applicable laws and regulations for the protection of personal data. You can find more details about how this is done in the Entropia Universe Privacy Policy.

MindArk takes customer privacy very seriously. Please take special notice of the following points in our Privacy Policy:

- All data is collected and stored as required by law, and/or for reasons that are deemed necessary to provide our services.
- Recorded data will be deleted by automated scheduled jobs, or by your explicit request.
- Please note that some personal data may be required by law to be stored for a certain period of time, even if you have requested deletion. In such cases your data will be immediately and automatically deleted when the required time has elapsed.

More details about how and why your personal information is stored, for how long, and how it is deleted can be found in the Entropia Universe Privacy Policy.

Please also read our End User License Agreement (EULA) that governs the End User's access to the Entropia Universe Services and use of the Entropia Universe System, including the client software and all digital information available through the Entropia Universe.

Entropia Universe is an online virtual environment consisting of a number of virtual planetary systems ("Entropia Universe Planets") where each one is created by and in collaboration between MindArk and third parties ("MindArk's Planet Partners").

As a newcomer You will be introduced to Entropia Universe via a starting area ("Entropia Universe Starting Area"). The Entropia Universe Starting Area allows You to explore some of the basic features of Entropia Universe but will not allow You full access to the Service. Once You have left the Entropia

Universe Starting Area You cannot return there, but You will continue to an Entropia Universe Planet in the Entropia Universe.

The condition for Your access to the Entropia Universe Starting Area and thereafter on one or several Entropia Universe Planets is that You have a registered and approved Entropia Universe Account. In order to apply for an Entropia Universe Account You must accept the following Entropia Universe Account Terms of Use ("ToU" or "Agreement").

Please notice that some of the terms in the paragraphs below will not apply on Your participation in the Entropia Universe Starting Area and will come into force once you enter the full Service via an Entropia Universe Planet, as applicable.

These ToU is an agreement between You (also known as "Participant"), who wish to register an Entropia Universe Account and MindArk PE AB ("MindArk" including its subsidiaries and affiliates), the developer, owner and provider of the Entropia Universe.

1. Age Requirements

(...)

2. Description of the Service

2.1. Entropia Universe Account

You can only join an Entropia Universe Planet by creating an Entropia Universe Account that is uniquely associated with Your participation ("Account"). When applying for an Entropia Universe Account You will be asked to fill in a simple form (see below under paragraph 3.1 Account Application and Registration).

To complete the Account registration process, You have to choose a password ("Password") and a username ("Username") (together referred to as "Login Details"), which, subject to MindArk's approval, will provide You with an access to the Entropia Universe Account that You have registered.

You may only register one Account.

An approved Account will allow You to use the Entropia Universe Starting Area.

An approved Account and a verified e-mail address (see below under paragraph 3.1 Account Application and Registration) will allow You to log into the Entropia Universe Planets. Here, You will be able to interact and exchange Virtual Items with other Participants and/or Non-Participant Character (a.k.a. NPC).

Within the Entropia Universe You will appear as an "Avatar", a virtual persona/alter-ego. Your use of the Entropia Universe Account and all Your activities within Entropia Universe through the Account are regulated by this ToU and related Policies.

2.2 Minimum System Requirements

(...)

2.3. Cooling-off period

(...)

3. Your Registered Account

3.1. Account Application and Registration

Please notice that different Account registration requirements may apply to different features of the service.

In order to register an Entropia Universe Account to enter the Entropia Universe Starting Area, You must provide "Login Details".

In order to register an Entropia Universe Account to enter Entropia Universe Planets You must provide MindArk with a valid e-mail address and verify that address by following the instructions in our verification e-mail sent to you in the Account creation process or when manually triggered by you.

To deposit or withdraw funds from the Entropia Universe (as described in paragraph 7), You must provide MindArk with current, complete and accurate information. Such information may include, without limitation, details such as Your full name, country of origin and e-mail address, as well as Your home address, telephone number and Your bank account and/or credit/debit card information ("Self-Registered Personal Information"). The protection of all of Your Personal Information is regulated under Paragraph 4 (Your Privacy) to this Agreement. You agree that You are responsible to update any of Your Self Registered Personal Information, whenever needed, so that MindArk's records are always correct. MindArk reserves the right to terminate Your Entropia Universe Account and/or to refuse a deposit or a withdrawal (see more in paragraph 7 – Virtual Currency Transfer and Fund Transactions) if You provide false, incomplete or misleading Self-Registered Personal Information.

MindArk reserves the right to, for any reason and at its sole discretion, refuse approval of an Account application, to refuse access to an Account, to Terminate, Ban or Lock an Account and to remove, edit or add Account information, with or without notice to You.

3.2 Responsibility for the Confidentiality and Security of Your Login Details and for the use of Your Account

Your Account and Login Details are uniquely associated with Your participation in Entropia Universe and use of the Entropia Universe System. You are solely responsible for preserving the confidentiality of Your Login Details, and for restricting access to Your Account and to the computer from which You access the Account. MindArk never asks You to provide us with the Login Details.

You agree to accept personal liability for all actions that occur through Your Account or through the use of Your Login Details, whether done by You or by someone else using Your Account and/or Login Details. You must notify MindArk immediately if You suspect a breach of security or unauthorized use of Your Account and/or Your Login Details. You agree to hold MindArk free from liability for any improper or illegal use of Your Account. This includes illegal or improper use by someone to whom You have given permission to use Your Account. The terms of this agreement shall extend to anyone else using Your Account.

If You should happen to willfully or otherwise reveal Your Login Details, You have relinquished Your right to any assistance regarding the possible outcomes or consequences of Your actions. Your Account may be Banned and/or Terminated if You let someone else use it inappropriately or not in compliance with this paragraph 3.

4. Privacy Protection

(...)

5. Account Inactivity, Account Ban and Account Termination

5.1. Definitions

The following terms referred to in this paragraph will have the following meaning:

Terminated Account (or "Account Termination") means that the Account is purged and that You will no longer be able to retrieve its contents or to re-activate it to access Entropia Universe. Purging the Account means that, when applicable, all skills will be deleted, any estate deeds will be transferred back to MindArk and/or MindArk's Partner and the virtual objects on the Account will be exchanged for their Trade Terminal (TT) value. The aggregated value will be added to the balance on the PED Card connected to Your Account for You to withdraw if exceeding the minimal withdrawal limit of 1 000 PED. Any pending transactions involving a Terminated Account will be revoked.

Locked Account (or "**Account Lockdown**") means that the Account is temporarily not accessible due to Your own request.

Banned Account (or "**Account Banning**") means that the Account is under investigation due to a suspected violation of the EULA, ToU and/or Rules of Conduct, or that the Account user was deemed to have violated one of the said agreements. This may be temporary for short or long periods, on MindArk's and/or MindArk's Partner sole and absolute discretion.

5.2. Locked Account

Please note that if Your Account has been Locked You are still obliged to comply with the EULA and the

ToU Agreement in their relevant parts.

5.3. Inactivated Account

You acknowledge and agree that Your Entropia Universe Account will be deemed inactive if it has not been logged into for a period of ninety (90) consecutive days.

5.4. Terminated Account

You acknowledge and agree that your Entropia Universe Account will be deemed to have been abandoned by You and consequently automatically Terminated if it has not been accessed for a period of three hundred and sixty-five (365) consecutive days (i.e. 275 days after an account becomes inactive as described in section 5.3 above).

You also agree to assign MindArk and/or MindArk's Partners all rights in Your Terminated Entropia Universe Account according to the procedures established in this paragraph 5. You hereby discharge MindArk, any of MindArk's Partners and their respective officers, directors and employees, from and against any and all claims, demands, liabilities, costs, and expenses to You arising out of, or relating to, Your Terminated Entropia Universe Account.

In the event that Your Account is Terminated and if applicable, no refund will be granted except for the balance on Your PED Card and the TT value of the objects on the Account, as set out above. Any delinquent or unresolved issues relating to former participation in the Entropia Universe must be resolved before MindArk will permit You to register a new Account.

5.5. Banned Account

If Your Entropia Universe Account has been temporarily Banned, MindArk and/or MindArk's Partner may, at their sole discretion and upon verification of Your identity or fulfillment of other conditions, reactivate Your Account.

You hereby expressly acknowledge that if MindArk and/or MindArk's Partner decide not to reactivate Your Account, it will eventually be Terminated, with or without Your right to withdraw any remaining PED Card value, on MindArk's and/or MindArk's Partner sole and absolute discretion.

6. Transactions with Virtual and Real Life Items

The terms in this paragraph 6 do not apply to Your participation within the Entropia Universe Starting Area.

6.1. Transactions between Avatars

The Entropia Universe provides You with trading administration services (including the Auction System service, the Shop Systems services, Avatar Direct Trade System services etc) that enables You to carry out secure transactions with others, in which participating parts can exchange Virtual Items and Real World Items (the "Approved Transaction").

Please notice that transactions concerning payment for Virtual Items, including PED, outside the Entropia Universe often involve fraudulent activities. You acknowledge that any transaction regarding Virtual Items, including PED, carried out using any service or system other than one of MindArk's Approved Transaction systems is at Your own risk. MindArk reserves the right to take any reasonably necessary measures for the purpose of preventing and acting against frauds and non-Approved Transactions, including, but not limited to, making a reservation against a suspected Transaction, and Banning and/or Terminating a directly or indirectly involved Account, if MindArk determines that the transaction was not performed in compliance to this Agreement.

MindArk acknowledges the responsibility to maintain records on all transactions with Virtual Items via MindArk's Approved Transaction systems. You agree that MindArk's transaction records shall be conclusive proof of the transaction carried out via Your Account.

You acknowledge Your responsibility to keep track of any and all transactions with Virtual Items involving Your Account. MindArk accepts no responsibility for misplaced or misused Virtual Items in any incidence, regardless of reason.

6.2. Transactions with Real World Items

Additional terms shall apply upon any transaction with non-virtual items ("Real World Items") between You and third parties or between You and MindArk. For further information see Third Party Items Purchase Agreement and General Real World Items Agreement, available when making transactions with Real World Items within the Entropia Universe.

7. Virtual Currency Transfers and Fund Transactions

The terms in this paragraph 7 do not apply to Your participation within the Entropia Universe Starting Area.

The Entropia Universe incorporates a PED Card System connected to each Account, through which MindArk administers the funds You transfer to and withdraw from the Entropia Universe (the "PED Card").

You may use MindArk's approved and secured fund transfer methods to increase by deposits and/or decrease by withdrawals the PED balance on Your PED Card. The deposited funds are converted by MindArk to PED that may be used by You as virtual currency in the Entropia Universe. If You choose to deposit or withdraw funds to or from the Entropia Universe You hereby agree to any costs and fees involved in all fund transfers. For further information please see here under the "Account" Section (Sub-sections "Deposits" and/or "Withdrawals") of the Entropia Universe website.

You acknowledge that MindArk may refuse, halt or reverse a withdrawal, and/or ask You to verify Your identity as condition to withdrawal if:

1. MindArk is unable to verify or authenticate any or some of the Self-Registered Information You provide; or
2. You did not provide MindArk with the full and comprehensive information needed to complete a withdrawal; or
3. MindArk is obliged by law or regulations to do so; or
4. it is suspected that the withdrawal may involve fraudulent and/or other unlawful activity; or
5. the PED balance on Your PED Card is less than 1 000 PED, the minimum amount for a withdrawal.

MindArk acknowledges the responsibility to maintain records of finance for all funds transactions in connection with Your use of the Entropia Universe. You agree that MindArk's transaction records shall be conclusive proof of the transaction carried out to or from Your PED Card.

MindArk will provide You with a fund transfer statement, showing Your deposits and withdrawals for the last 12 months (under the Account Section). Notwithstanding the forgoing, You acknowledge Your responsibility to keep track of any transactions with virtual currency within the Entropia Universe to or from Your PED Card. MindArk accepts no responsibility for funds and/or PED misplaced or misused in any incidence, regardless of reason.

8. MindArk's Rules of Conduct

AS A PARTICIPANT IN THE VIRTUAL UNIVERSE OF THE ENTROPIA UNIVERSE YOU ARE REQUIRED TO ABIDE THE GENERAL COMMUNITY PRINCIPLES AND RESPECT THE FEELINGS AND RIGHTS OF OTHER PARTICIPANTS TO USE THE ENTROPIA UNIVERSE. IT IS YOUR RESPONSIBILITY TO READ AND UNDERSTAND THESE RULES.

Please note that additional rules and policies may apply to each Entropia Universe Planet.

THE ENTROPIA UNIVERSE account RULES OF CONDUCT INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING REGULATIONS:

a. You may not impersonate any person, including a MindArk's employee, agent or affiliate or another Participant, or claim having association with MindArk if You do not really are/have one. You may not create any society in the Entropia Universe that would indicate such links.

b. You may not take any action, post, communicate, upload or otherwise use any content to threaten, harass, cause grief or distress to any of MindArk's employees or agents or MindArk's affiliate's

employees or agents in or outside the Entropia Universe, including, but not limited to, IRC channels or public web forums.

c. You cannot interfere with any other Participants ability to use and enjoy the Entropia Universe.

d. You may not take any action, post, communicate, upload or otherwise use any content, including text, images and sounds, that MindArk, at its sole and absolute discretion determines to be sexually explicit, racially, ethnically, religiously or sexually offensive, hateful, vulgar, defamatory, libelous, harassing or threatening to another person or organization or otherwise objectionable. This includes communications in the Entropia Universe and in any other website or forum with connection to the Entropia Universe.

e. You may not register details on an Avatar hosting an explicit or implicit racist, hateful, degrading, religious, sexual or other form of offensive, illegal or otherwise objectionable alias.

f. You may not use the Entropia Universe, including the Entropia Universe System, the Entropia Universe website or Forum to commit, attempt to commit, support or communicate about any illegal activity and/or infringe any local, national or international laws or regulation intentionally or unintentionally, including without limitation, copyright, trademark or other proprietary right infringement, invasion of privacy, fraud, contrabands, narcotics, defamation, harassment, hacking or other cyber-crime.

g. You may not use the Entropia Universe to engage in any misleading or deceptive activity.

h. You may not create and/or join a society or a team within the Entropia Universe that are based on any sexist, racist, degrading, hateful or otherwise objectionable philosophy directed towards companies, persons or organizations.

i. You may not use the official Entropia Universe website and/or the Entropia Universe, including the Entropia Universe System, to provide or to facilitate access to or to distribute illegal software or materials, including software or materials that infringes MindArk's or third party proprietary rights.

j. You must immediately report errors and bugs in the Entropia Universe to MindArk whenever You discover them. You may not "cheat" or otherwise neglect to report errors or bugs, use bugs, slow connection, Internet latency, or other 'exploits' for own benefits or for the benefit of others.

k. You may not spread any rumors, false or inaccurate information about MindArk, the Entropia Universe or MindArk's Partners, associates, staff or affiliates, which MindArk consider, at MindArk's sole discretion, to be potentially damaging, by using the Entropia Universe, IRC (chats) or any other public forums in any media, now known or not currently known, including but not limited to a web site.

l. You may not provide MindArk, MindArk's Partners or affiliates, in the context of Your participation in the Entropia Universe, with false or inaccurate information, including false reporting to MindArk's Support and false information during Account registration.

m. You may not post or convey any other Participants' Personal Information and/or Login Details, in, on or outside the Entropia Universe.

n. Gambling activities are expressly forbidden in the Entropia Universe.

o. You may not interfere in any way with the virtual economy of Entropia Universe and/or with other Participants' ability to use or enjoy the auction system or any other trading system in Entropia Universe. The foregoing includes, without limitations, the prohibition of manipulation or cause to manipulate statistical data, directly or indirectly. This prohibitions includes, without limitation, prohibition of price manipulation and/or price fixing regarding virtual items on the auction system.

You are solely responsible for any information that You publish and/or provide to MindArk or to another Entropia Universe Participant in any communication medium, in or outside Entropia Universe, including without limitation, in public message forum, bulletin boards and IRC (chats). Regarding communication forums available in Entropia Universe, for example the "Participant Content System", the "Global Ad System" and chat windows, You acknowledge that MindArk operates as a passive conduit for Your information and communications.

MindArk reserves the right to modify these Rules of Conduct any time.

YOU HEREBY ACKNOWLEDGE THESE RULES AND AGREE TO ABIDE BY THEM. YOU ALSO AGREE THAT YOU ARE RESPONSIBLE FOR YOUR REGISTERED ENTROPIA UNIVERSE ACCOUNT AND THESE SAME RULES APPLY TO ANYBODY YOU ALLOW TO USE YOUR ACCOUNT. All and any behavior, utterance or action in the Entropia Universe or in any of MindArk's forum or website that MindArk, at it sole and absolute discretion, FIND TO be a violation of the Rules of Conduct could result in the Account being Banned or Terminated WITHOUT ANY CLAIMS WHATSOEVER.

9. MINDARK'S LIMITATION OF LIABILITY

MindArk provides the Entropia Universe, a virtual universe where You are free to choose the course of the action You wish to pursue.

MINDARK, ITS EMPLOYEES, OFFICERS AND DIRECTORS, ITS AFFILIATES AND SUBSIDIERIES SHALL, TO THE EXTENT ALLOWABLE UNDER APPLICABLE LAW, IN NO EVENT, BE LIABLE TO YOU FOR ANY DAMAGES, LOSS OR EXPENSE INCLUDING WITHOUT LIMITATION, DIRECT, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGE, OR ECONOMIC LOSS, INCLUDING WITHOUT LIMITATION ATTORNEY FEES, LOST OF GOODWILL OR HARDWARE DAMAGES, ARISING FROM THE USE OF THE ENTROPIA UNIVERSE OR IN CONNECTION WITH YOUR TRANSMISSION OR USE OF ANY CONTENT USING THE ENTROPIA UNIVERSE.

YOU ACKNOWLEDGE THAT , TO THE EXTENT ALLOWABLE UNDER APPLICABLE LAW, MINDARK SHALL NOT BE LIABLE TO YOU FOR THE LOSS OF ANY DATA OR ELECTRONIC FILES, INCLUDING, BUT NOT LIMITED TO, ACCOUNT, AVATAR, SKILLS AND/OR VIRTUAL ITEMS AND/OR CURRENCIES, FOR ANY REASON WHATSOEVER INCLUDING, BUT NOT LIMITED TO, SERVER FAILURE, INTERRUPTIONS OR CESSATION OF TRANSMISSION, INTERNET LATENCY, VIRUSES, BUGS, TROJAN HORSES AND THE LIKE, SOFTWARE AND/OR HARDWARE DEFECTS OR ERRORS, UNAUTHORISED USE OF THE ENTROPIA UNIVERSE SYSTEM OR SERVERS, USE OF CONTENT SUBMITTED TO THE ENTROPIA UNIVERSE, AND THE USE OF ENTROPIA UNIVERSE IN GENERAL.

You acknowledge that MindArk will not be liable for any damages or loss caused by failure to perform any term or condition of this Agreement due to conditions beyond MindArk's reasonable control such as, but not limited to, war, terror attack, strikes, fires, floods, acts of God, governmental or authority restrictions, power failures, or damage or destruction of any network facilities or servers.

MindArk reserves the right to interrupt the services available via Entropia Universe and/or the operation of the Entropia Universe System with or without prior notice for any reason. You agree that MindArk will not be liable for any loss or damage caused by interruption of the Entropia Universe, delay or failure to perform.

MINDARK'S LIABILITY TOWARDS YOU SHALL, IF ACKNOWLEDGED, IN EACH INCIDENCE BE LIMITED TO NO MORE THAN THE TOTAL AMOUNT TRANSFERRED INTO THE INVOLVED ACCOUNT BY SAID PARTICIPANT UNDER SIX MONTHS PERIOD PRIOR TO THE INCIDENT.

MindArk does not endorse any Participant Content or any opinion, recommendation, or advice expressed therein, and MindArk expressly disclaims any and all liability in connection with Participant Content (see furtherer terms for Participant Content in EULA Paragraph 4 and MindArk's Participant Content Policy.

MINDARK EXPRESSLY DISCLAIMS ALL REPRESENTATION AND WARRANTIES REGARDING GOODS OR SERVICES YOU OBTAIN FROM THIRD PARTIES DURING YOUR USE OF THE ENTROPIA UNIVERSE. YOU AGREE TO LOOK SOLELY TO THIRD PARTIES FOR ANY AND ALL CLAIMS REGARDING SUCH TRANSACTIONS WITH THIRD PARTIES. YOU FURTHER AGREE THAT THE SPECIAL 'THIRD PARTY'S ITEMS PURCHASE AGREEMENT' TERMS (THAT YOU ACCEPT IN THE CASE OF MAKING A THIRD PARTY ITEM PURCHASE) WILL APPLY AS A COMPLEMENT TO THIS AGREEMENT FOR ANY TRANSACTIONS OR COMMUNICATIONS BETWEEN YOU AND THE THIRD PARTY.

10. Indemnification

You agree to indemnify, defend, and hold MindArk and its officers, employees, subsidiaries and affiliates harmless from and against, any losses suffered, incurred, or caused by You or by third party to the extent resulting from, arising out of, or relating to, any claim:

1. that You are unlawfully using the Entropia Universe and/or Your Entropia Universe Account, and/or;
2. that You are non–compliant with any applicable law, regulations, agreement or other legal obligation, and/or;
3. that Your Participant Content is infringing upon the proprietary or other rights of any third party.

Notwithstanding anything else in this Agreement for the avoidance of doubt, in case of Termination of your Account you acknowledge and agree to MindArk's right to set off any claim for any loss sustained against the remaining PED value of Your Account or any other refund obligation it might have under this Agreement

11. Breach Agreement

Without limiting MindArk's legal remedies, if You fail to comply with the restrictions and limitations of this Agreement or the agreements it incorporates by reference, MindArk may immediately terminate this Agreement, with or without prior notice to You.

You also agree that MindArk has the right to lock Your Entropia Universe Account in case of suspected Agreement violation during the period of investigation of the said violation.

Termination of this agreement on this ground may also result in Termination or Ban of Your Entropia Universe Account and termination of the EULA agreement. If Your Account was Terminated for any reason, MindArk is under no obligation to allow You to register a new Entropia Universe Account in the future.

12. Equitable Relief

You recognize and acknowledge that any breach of or threat to breach this Agreement by You may cause MindArk irreparable harm for which monetary damages may be inadequate. You agree, therefore, that MindArk shall be entitled to an injunction, without posting bond or undertaking and without proof of actual damages, to restrain You from such breach or threatened breach. Nothing in this Agreement shall be construed as preventing MindArk from pursuing any remedy at law or in equity for any breach or threatened breach of this Agreement.

13. Terms of Agreement

13.1. Term

This ToU is effective until terminated by You or by MindArk.

Please note that if Your Account has been Locked or Banned according to Paragraph 5 above (Account Inactivity, Account Ban and Account Termination) You are still obliged to comply with this Agreement in its relevant parts.

If any provision of this Agreement shall be void or unenforceable for any reason, this will not affect the validity and enforceability of any remaining provisions of this Agreement.

13.2. Termination of the ToU

MindArk may terminate this Agreement upon notice to You. Such expiration may be made for any reason, and may be for one or more Participants.

MindArk reserves the right, pursuant to the conditions set forth in Paragraph 11 (Breach of the Agreement), to terminate this Agreement at MindArk's sole discretion, if You fail to comply with the terms of this Agreement.

You acknowledge that a direct effect of termination of the EULA agreement, by either party and for any reason, will be the immediate termination of this ToU.

If You wish to end this Agreement at any time, You can do so by filing a request for Account Termination through the Entropia Universe Support. MindArk reserves the right to collect fees, surcharges or costs incurred before You terminate this Agreement. In addition, You are responsible for any charges incurred to third-party vendors or content providers prior to Your termination.

All provisions of this Agreement that by their nature should survive termination of this Agreement do survive its termination, including, but not limited to, provisions on proprietary rights, warranty disclaimers, liability and remedy limitations.

14. No Assignment

You may not assign this Agreement or transfer Your Entropia Universe Account to anyone, except to the extent expressly permitted by this Agreement or if obtaining a prior written consent from MindArk. Notwithstanding the foregoing, Your Entropia Universe Account will be disposable by Your legal successors by inheritance subject to terms and limitations, as applicable by MindArk from time to time. Any attempt to transfer, give or grant Your Entropia Universe Account in breach of this ToU will be null and void. MindArk may assign or transfer any of its rights or obligations under this Agreement to any other company, firm or person without any limitations.

15. Headings

Headings used in this Agreement are provided for convenience only and shall not be used to construe meaning or intent.

16. Forum and Governing Law

16.1. Forum

You agree that all disputes under this Agreement shall be settled by a Swedish court in the city of Gothenburg. Notwithstanding the exclusive jurisdiction of a Swedish court as stipulated above, You acknowledge MindArk's right to apply for injunctive and/or other equitable relief in any court of competent jurisdiction.

16.2. Governing Law

This Agreement is to be governed by, construed and enforced according to the laws of Sweden. You agree that any future dispute that might arise between You and MindArk is to be governed by the laws of Sweden, without regards to any principles of conflicts of laws and the United Nations convention on contracts for the International Sale of Goods.

17. Additional Terms

Additional terms and conditions are incorporated into this agreement by the following documents:

a. MindArk's Privacy Policy

b. General Real World Items Agreement

c. End User License Agreement

d. MindArk's Participant Content Policy

e. Third Party Item's Purchase Agreement

f. Entropia Universe Interconnect Services – Terms and conditions (T&C)

g. Voice Communication Service - Terms of Use

18. Final Agreement

18.1. Final Agreement

This Agreement terminates and supersedes all prior understandings or agreements on the subject matter hereof.

18.2. MindArk's Right to Change the Agreement

By accepting this Agreement and applying for an Entropia Universe Account You agree that MindArk may, at any time, update, revise or change this Agreement if MindArk reasonably consider it necessary to

do so and upon prior notice to You as follows:

Currently applicable Agreement is always posted on the Entropia Universe website http://legal.entropiauniverse.com/legal/conditions.xml. You should periodically check the website for such changes. If MindArk makes material changes or revisions to this Agreement, MindArk will endeavor to provide You with a notice, via the Entropia Universe Release Notes, in connection with a release subsequent to the change. The Release Notes are published on the Entropia Universe website http://www.entropiauniverse.com/bulletin/release-notes/ and in the Client Loader.

Your use of Your Entropia Universe Account and continued participation in the Entropia Universe after notification of changes means that You have accepted the changes. If You do not want to accept the changes proposed by MindArk or any of the terms in this Agreement, Your only remedy is to end this Agreement and Terminate Your Account and cease using the Entropia Universe.

18.3. Conflict between Different Language Versions of this Agreement

(...)

I hereby certify that I have read, understood and agree to the ToU. I acknowledge that by checking the "I accept" box or registering an approved Account I hereby entering an obliging agreement with MindArk.

E5. Entropia Universe End User Licence Agreement

GENERAL CONDITIONS

Contents

1. Introduction

These terms (the "Terms") apply to you as a user (the "User", "You"), who wish to use the **Entropia Universe**, and MindArk PE AB (publ) ("MindArk"), a Swedish corporation having its principle place of business at Järntorget 8, SE-413 04 Gothenburg, Sweden (for additional contact details, see MindArk's

webpage https://www.mindark.com/contact/). Please read the Terms carefully before clicking accept when you log into Entropia Universe.

The **Entropia Universe** includes the Entropia Universe System and the Entropia Universe Services. Entropia Universe is the virtual environment developed and supported by MindArk as it is amended and altered from time to time. The Entropia Universe may consist of several virtual planetary systems ("Entropia Universe Planet(s)"), where each one is created by and in collaboration between MindArk and third parties ("MindArk's Planet Partner(s)"). A planet can be independently managed by one of MindArk's Planet Partners.

The **Entropia Universe System** is operated by MindArk and includes digital information (for example files containing computer software, script, texts, images, photos, drawings and other graphics, sound and video, database information), the Entropia Universe Client software and any data communication and/or network communication to or from the Entropia Universe Client software. In order to gain access to the Entropia Universe System, the Entropia Universe Client Software must be installed on Your computer.

The **Entropia Universe Services** consist of a unique mixture of features, services and content, such as, but not limited to, on-line entertainment, community creation, communications, E-commerce, cultural and educational activities and much more, which are offered to Participants through different graphical environments or other client communication devices. Some features of this service may be free, and some for charge.

You do not have the right to gain access to Entropia Universe or any parts thereof without accepting these Terms. By accepting these Terms, You undertake to comply with them for Your use of Entropia Universe. To qualify as an Entropia Universe Participant, You must be at least 18 years old. If You are not 18 years old but You are at least 13 years old, You may still apply for an Entropia Universe Account, but only with approval of Your parent or guardian.

As a newcomer, You will be introduced to Entropia Universe via a starting area ("Entropia Universe Starting Area"). The Entropia Universe Starting Area allows You to explore some of the basic features of Entropia Universe but will not allow You full access to the Service. Once You have left the Entropia Universe Starting Area You cannot return there, but You will continue to an Entropia Universe Planet in the Entropia Universe.

These terms include any rules and policies that MindArk from time to time publishes on the Entropia universe websites www.entropiauniverse.com, https://account.entropiauniverse.com and legal. entropiauniverse.com.

The Terms shall apply only to the maximum extent allowed by national mandatory law in Your country of residence or otherwise applicable to You.

2. Right to use Entropia Universe

MindArk or its Planet Partner(s) holds any and all rights, including intellectual property rights and database rights, to The Entropia Universe and the Entropia Universe System and the items in Entropia Universe including the Client software, and any future patches, updates, modifications or related documentations, including without limitation, materials, user guides, manuals and drawings and no rights are transferred or licensed to the User other than the limited right to access and play Entropia Universe in accordance with these Terms.

MINDARK®, MINDARK PE™, PROJECT ENTROPIA™, ENTROPIA UNIVERSE®, MINDBANK®, ENTROPIA PLATFORM®, PED®, PROJECT ENTROPIA DOLLAR® and other names and marks indicated in Entropia Universe and/or on MindArk's and Entropia Universe's websites (at www.mindark.com and at www.entropiauniverse.com) are trademarks of MindArk. Any Entropia Universe and/or MindArk design and any other, graphics, logotypes or icons that appear in Entropia Universe and/or on MindArk's and Entropia Universe's websites are trademarks of MindArk and/or respective MindArk's Planet Partner(s).

Virtual items are fictional in-world graphical objects with a predefined set of parameters in Entropia Universe and will often have names similar or identical to corresponding physical categories such as "people", "real estate", "possessions", "currency", "cloths" and the names of specific items in those categories such as "house", "rifle", "tools", "armour", "coat", "money" etc. ("Virtual Items"). Despite the similarity in terminology, all Virtual Items, including virtual currency, are part of the Entropia Universe

System and/or features of the Entropia Universe, and MindArk and/or respective MindArk's Planet Partner(s) retains all rights, title, and interest in all parts including, but not limited to Avatars, Skills and Virtual Items. These retained rights include, without limitation, patent, copyright, trademark, trade secret and other proprietary rights throughout the world. Notwithstanding any other language or context to the contrary, as used in this agreement and/or in the Entropia Universe in the context of Virtual Items, You expressly acknowledge that all terms like "exchange of", "trade with", "purchase of", "sale of" or "use of" Virtual Items, and all similar terms in context of transactions with Virtual Items, refers to the licensed right to use a certain feature of the Entropia Universe or the Entropia Universe System in accordance with the terms and conditions of this agreement.

Subject to these Terms, MindArk hereby grants You a non-transferable, non-exclusive, worldwide and perpetual right (without the right to sublicense) to download, display and use Entropia Universe, as provided to You by MindArk, solely for Your private, personal and non-commercial use.

You are not entitled to use Entropia Universe in a manner that violates applicable law or infringes on any third parties' rights. MindArk does not tolerate any fraudulent behaviour or cheating in Entropia Universe. If You use Entropia Universe, in a manner that violates the Terms and/or any rules or policies provided by MindArk, MindArk may limit or terminate Your Account without further notice.

Your license is subject to Your acceptance of these Terms including:

1. No modification or de-compilation. The Participant may not translate, modify, copy, disassemble, de-compile, derive source code, create derivative works from or otherwise tamper with the Entropia Universe System, code, software, hardware or firmware provided therewith.
2. Use of the Entropia Universe Client. The Participant agrees upon not tampering, removing (except complete un-installation) or modifying the installed Entropia Universe Client Software and its associated files in any way whatsoever.
3. No interference. You may not analyse, hack into, interrupt, redirect or in any other way affect or interfere with any data and/or network communication to or from the Entropia Universe System, the Entropia Universe servers, clients, websites and systems, as well as not use any other software than the Entropia Universe Client to interpret or affect data sent to or from the Entropia Universe server and client systems. You may also not replicate or in any other way falsely portray the Entropia Universe.
4. No transfer of license. The Participant may not sell, lease, sublicense or otherwise transfer any rights to the Entropia Universe System to third parties.
5. No transmission. The Participant may not distribute, transmit, broadcast or display parts of the Entropia Universe for commercial use, which has not been authorized by MindArk.
6. No peripheral services or goods. The Participant may not provide any peripheral services or goods related to the Entropia Universe System. MindArk reserves the right to revoke this limitation either generally or in specific cases.
7. No cheating. You may not use, launch or install any third party software, device or techniques that MindArk deems, at MindArk's sole discretion, to be possible to use for collecting information from the Entropia Universe System or servers, constituting "cheating" and/or affecting the Entropia Universe in any way. This includes, without limitation, if possible to use for affecting the Entropia Universe System interface, the Entropia Universe environment, components, balancing and/or the Participant's experience. MindArk reserves the right to revoke this limitation either generally or in specific cases.

The Entropia Universe System incorporates third party technologies and/or third party content, including code, text, audio files, graphics, icons, images, characters, items, animations, concepts etc. ("Third Party Licensed Material"). Third Party Licensed Material is the property of Third Parties and is protected under international and local immaterial rights laws. You acknowledge that You may not modify, copy, disassemble, decompile, derive source code or create derivative works from Third Party Licensed Material. You further agree to use Third Party Licensed Material only to the extent necessary to use the Entropia Universe System and/or the Entropia Universe.

3. User Account

You can only join an Entropia Universe Planet and use the Entropia Universe Services by creating an Entropia Universe Account that is uniquely associated with Your participation ("Account"). When applying for an Entropia Universe Account You will be asked to fill in a simple form.

To complete the Account registration process, You have to choose a password ("Password") and a username ("Username") (together referred to as "Login Details"), which, subject to MindArk's approval, will provide You with an access to the Entropia Universe Account that You have registered.

You may only register one Account.

Within the Entropia Universe You will appear as an "Avatar", a virtual persona/alter-ego. Your use of the Entropia Universe Account and all Your activities within Entropia Universe through the Account are regulated by this agreement.

An approved Account will allow You to use the Entropia Universe Starting Area.

An approved Account and a verified e-mail address will allow You to log into the Entropia Universe Planets. Here, You will be able to interact and exchange Virtual Items with other Participants and/or Non-Participant Character (a.k.a. NPC).

The user account is personal and may not be assigned to a third party. Your Account and Login Details are uniquely associated with Your participation in Entropia Universe and use of the Entropia Universe System. You undertake to ensure that no one but You can use Your login credentials. You may not reveal Your password to any unauthorized person and shall ensure that any document setting out the username and password is stored in such way that no unauthorized person can gain access to the information. You must immediately change Your password or notify MindArk if it is suspected that any unauthorized person know Your password.

If MindArk suspects that the user account or login information is misused or if the usage otherwise violates the Terms, MindArk has the right to suspend You as a User. MindArk has the right to, irrespective of the reason, assign You with new login details.

You can unregister Your user account at any time. When You unregister Your user account all information that is stored in Your user account will be permanently deleted. Any PED which has not been withdrawn from Your Entropia Universe account will cease to exist and can thereafter not be withdrawn.

You agree to accept personal liability for all actions that occur through Your Account or with Your Login Details, whether done by You or by someone else using Your Account and/or Login Details. You agree to hold MindArk free from liability for any improper or illegal use of Your Account. This includes illegal or improper use by someone to whom You have given permission to use Your Account. The Terms of this agreement shall extend to anyone else using Your Account.

If You should happen to wilfully or otherwise reveal Your Login Details, You have relinquished Your right to any assistance regarding the possible outcomes or consequences of Your actions. Your Account may be Banned and/or Terminated if You let someone else use it inappropriately or not in compliance with this paragraph.

MindArk reserves the right to, for any reason and at its sole discretion, refuse approval of an Account application, to refuse access to an Account, to Terminate, Ban or Lock an Account and to remove, edit or add Account information, with or without notice to You.

It is hereby expressly clarified that the Virtual Items, accumulated in Your Account as well as the Avatar You use represent only a limited license right regulated by this agreement. Accordingly, MindArk may, at any time and at MindArk's sole discretion, update, revise, implement patches or in any other way modify, manage and control the internal data and balancing of the Entropia Universe System and/or any aspect or feature of the Entropia Universe, with or without any prior notice to the Participant or responsibility for compensation due to loss or gain of value consequent to these modifications.

You agree that upon launching the Entropia Universe Client updates may automatically be downloaded and installed on Your hardware for the purpose of improving, enhancing or repairing the Entropia Universe System.

4. Account Lockdown, Inactivity, Ban and Termination

Locked Account/Account Lockdown means that the Account is temporarily not accessible due to Your own request. Please note that if Your Account has been Locked You are still obliged to comply with the Agreement in its relevant parts.

Inactivated Account/Account Inactivation You acknowledge and agree that Your Entropia Universe Account will be deemed inactive if it has not been logged into for a period of ninety consecutive days.

Terminated Account/Account Termination means that the Account is purged and that You will no longer be able to retrieve its contents or to re-activate it to access Entropia Universe. Purging the Account means that, when applicable, all skills will be deleted, any estate deeds will be transferred back to MindArk and/or MindArk's Partner and the virtual objects on the Account will be exchanged for their Trade Terminal (TT) value. The aggregated value will be added to the balance on the PED Card connected to Your Account for You to withdraw if exceeding the minimal withdrawal limit of 1 000 PED. Any pending transactions involving a Terminated Account will be revoked.

You acknowledge and agree that Your Entropia Universe Account will be deemed to have been abandoned by You and consequently automatically Terminated if it has not been accessed for a period of 365 consecutive days (i.e. 275 days after an account becomes inactive as described above).

You also agree to assign MindArk and/or MindArk's Partners all rights in Your Terminated Entropia Universe Account according to the procedures established in this paragraph. You hereby discharge MindArk, any of MindArk's Partners and their respective officers, directors and employees, from and against all claims, demands, liabilities, costs, and expenses to You arising out of, or relating to, Your Terminated Entropia Universe Account.

In the event that Your Account is Terminated and if applicable, no refund will be granted except for the balance on Your PED Card and the TT value of the objects on the Account, as set out above. Any delinquent or unresolved issues relating to former participation in the Entropia Universe must be resolved before MindArk will permit You to register a new Account.

Banned Account/Account Banning means that the Account is under investigation due to a suspected violation of these Terms, or that the Account user was deemed to have violated one of the Terms. This may be definitive or temporary for short or long periods, on MindArk's and/or MindArk's Partner sole and absolute discretion.

If Your Entropia Universe Account has been temporarily Banned, MindArk and/or MindArk's Partner may, at their sole discretion and upon verification of Your identity or fulfilment of other conditions, reactivate Your Account.

You hereby expressly acknowledge that if MindArk and/or MindArk's Partner decide not to reactivate Your Account, it will eventually be Terminated, with or without Your right to withdraw any remaining PED Card value, on MindArk's and/or MindArk's Partner sole and absolute discretion.

5. Privacy

(...)

6. System Requirements and Monitoring

The Entropia Universe is accessed by downloading the Entropia Universe Client with an approximate file size of 1 GB. The Entropia Universe Client can be downloaded from anywhere in the world.

You hereby acknowledge that You may not be able to successfully utilize all features of the Entropia Universe if Your system does not comply with the minimum requirements for the Entropia Universe System.

You are fully responsible to protect Your computer or device and any other technical equipment against unauthorized use, including using appropriate anti-virus software and firewall.

You hereby give MindArk Your consent for monitoring Your use of the Entropia Universe System for the purpose of detecting use of unauthorized third party program or tool.

7. Explicit Consent to No Right of Withdrawal

(...)

8. Rules of Conduct for the Entropia Universe

As a participant in the virtual universe of the Entropia Universe You are required to abide the general community principles and respect the feelings and rights of other participants to use the Entropia Universe, It is Your responsibility to read and understand these rules.

Please note that additional rules and policies may apply to each Entropia Universe Planet.

The Entropia Universe account rules of conduct include, but are not limited to, the following regulations:

1. You may not impersonate any person, including a MindArk's employee, agent or affiliate or another Participant, or claim having association with MindArk if You do not really are/have one. You may not create any society in the Entropia Universe that would indicate such links.
2. You may not take any action, post, communicate, upload or otherwise use any content to threaten, harass, cause grief or distress to any of MindArk's employees or agents or MindArk's affiliate's employees or agents in or outside the Entropia Universe, including, but not limited to, IRC channels or public web forums.
3. You cannot interfere with any other Participants ability to use and enjoy the Entropia Universe.
4. You may not take any action, post, communicate, upload or otherwise use any content, including text, images and sounds, that MindArk, at its sole and absolute discretion determines to be sexually explicit, racially, ethnically, religiously or sexually offensive, hateful, vulgar, defamatory, libellous, harassing or threatening to another person or organization or otherwise objectionable. This includes communications in the Entropia Universe and in any other website or forum with connection to the Entropia Universe.
5. You may not register details on an Avatar hosting an explicit or implicit racist, hateful, degrading, religious, sexual or other form of offensive, illegal or otherwise objectionable alias.
6. You may not use the Entropia Universe, including the Entropia Universe System, the Entropia Universe website or Forum to commit, attempt to commit, support or communicate about any illegal activity and/or infringe any local, national or international laws or regulation intentionally or unintentionally, including without limitation, copyright, trademark or other proprietary right infringement, invasion of privacy, fraud, contrabands, narcotics, defamation, harassment, hacking or other cyber-crime.
7. You may not use the Entropia Universe to engage in any misleading or deceptive activity.
8. You may not create and/or join a society or a team within the Entropia Universe that are based on any sexist, racist, degrading, hateful or otherwise objectionable philosophy directed towards companies, persons or organizations.
9. You may not use the official Entropia Universe website and/or the Entropia Universe, including the Entropia Universe System, to provide or to facilitate access to or to distribute illegal software or materials, including software or materials that infringes MindArk's or third party proprietary rights.
10. You must immediately report errors and bugs in the Entropia Universe to MindArk whenever You discover them. You may not "cheat" or otherwise neglect to report errors or bugs, use bugs, slow connection, Internet latency, or other 'exploits' for own benefits or for the benefit of others.
11. You may not spread any rumours, false or inaccurate information about MindArk, the Entropia Universe or MindArk's Partners, associates, staff or affiliates, which MindArk consider, at MindArk's sole discretion, to be potentially damaging, by using the Entropia Universe, IRC (chats) or any other public forums in any media, now known or not currently known, including but not limited to a web site.
12. You may not provide MindArk, MindArk's Partners or affiliates, in the context of Your participation in the Entropia Universe, with false or inaccurate information, including false reporting to MindArk's Support and false information during Account registration.

13. You may not post or convey any other Participants' Personal Information and/or Login Details, in, on or outside the Entropia Universe.
14. Gambling activities are expressly forbidden in the Entropia Universe.
15. You may not interfere in any way with the virtual economy of Entropia Universe and/or with other Participants' ability to use or enjoy the auction system or any other trading system in Entropia Universe. The foregoing includes, without limitations, the prohibition of manipulation or cause to manipulate statistical data, directly or indirectly. This prohibition includes, without limitation, prohibition of price manipulation and/or price fixing regarding virtual items on the auction system.

You are solely responsible for any information that You publish and/or provide to MindArk or to another Entropia Universe Participant in any communication medium, in or outside Entropia Universe, including without limitation, in public message forum, bulletin boards and IRC (chats). Regarding communication forums available in Entropia Universe, for example the "Participant Content System", the "Global Ad System" and chat windows, You acknowledge that MindArk operates as a passive conduit for Your information and communications.

9. Virtual Currency Transfers and Fund Transactions

The Entropia Universe incorporates a PED Card System connected to each Account, through which MindArk administers the funds You transfer to and withdraw from the Entropia Universe (the "PED Card").

You may use MindArk's approved and secured fund transfer methods to increase by deposits and/or decrease by withdrawals the PED balance on Your PED Card. The deposited funds are converted by MindArk to PED that may be used by You as virtual currency in the Entropia Universe. If You choose to deposit or withdraw funds to or from the Entropia Universe. You hereby agree to any costs and fees involved in all fund transfers. For further information please see under the "Account" Section (Sub-sections "Deposits" and/or "Withdrawals") of the Entropia Universe website.

To deposit or withdraw funds from the Entropia Universe You must provide MindArk with current, complete and accurate information. Such information may include, without limitation, details such as Your full name, country of origin and e-mail address, as well as Your home address, telephone number and Your bank account and/or credit/debit card information ("Self-Registered Personal Information"). The protection of all of Your Personal Information is regulated by Entropia Universe's Privacy Policy. You agree that You are responsible to update any of Your Self Registered Personal Information, whenever needed, so that MindArk's records are always correct. MindArk reserves the right to terminate Your Entropia Universe Account and/or to refuse a deposit or a withdrawal. If You provide false, incomplete or misleading Self-Registered Personal Information.

You acknowledge that MindArk may refuse, halt or reverse a withdrawal, and/or ask You to verify Your identity as condition to withdrawal if:

1. MindArk is unable to verify or authenticate any or some of the Self-Registered Information You provide; or
2. You did not provide MindArk with the full and comprehensive information needed to complete a withdrawal; or
3. MindArk is obliged by law or regulations to do so; or
4. it is suspected that the withdrawal may involve fraudulent and/or other unlawful activity; or
5. the PED balance on Your PED Card is less than 1 000 PED, the minimum amount for a withdrawal.

MindArk acknowledges the responsibility to maintain records of finance for all funds transactions in connection with Your use of the Entropia Universe. You agree that MindArk's transaction records shall be conclusive proof of the transaction carried out to or from Your PED Card.

MindArk will provide You with a fund transfer statement, showing Your deposits and withdrawals for the last 12 months (under the Account Section). Notwithstanding the forgoing, You acknowledge Your responsibility to keep track of any transactions with virtual currency within the Entropia Universe to or

from Your PED Card. MindArk accepts no responsibility for funds and/or PED misplaced or misused in any incidence, regardless of reason.

10. Transactions between Avatars in Entropia Universe

The Entropia Universe provides You with trading administration services (including the Auction System service, the Shop Systems services, Avatar Direct Trade System services etc.) that enables You to carry out secure transactions with others, in which participating parts can exchange Virtual Items and Real World Items (the "Approved Transaction").

Please notice that transactions concerning payment for Virtual Items, including PED, outside the Entropia Universe often involve fraudulent activities. You acknowledge that any transaction regarding Virtual Items, including PED, carried out using any service or system other than one of MindArk's Approved Transaction systems is at Your own risk. MindArk reserves the right to take any reasonably necessary measures for the purpose of preventing and acting against frauds and non-Approved Transactions, including, but not limited to, making a reservation against a suspected Transaction, and Banning and/or Terminating a directly or indirectly involved Account, if MindArk determines that the transaction was not performed in compliance to this Agreement.

MindArk acknowledges the responsibility to maintain records on all transactions with Virtual Items via MindArk's Approved Transaction systems. You agree that MindArk's transaction records shall be conclusive proof of the transaction carried out via Your Account.

You acknowledge Your responsibility to keep track of all transactions with Virtual Items involving Your Account. MindArk accepts no responsibility for misplaced or misused Virtual Items in any incidence, regardless of reason.

Please note that there are different terms that applies when You purchase in Entropia Universe from a Third Party, se separate agreement http://legal.entropiauniverse.com/legal/third-party-items-purchas.xml.

11. Participant Content

As part of Your interactions with the Entropia Universe, You may also, "construct", "craft", "compile", "design", "modify" or in any other way "create" Virtual Items. Notwithstanding any other language or context to the contrary, as used in this agreement and/or in the Entropia Universe in the context of the in-world creation of Virtual Items, You expressly acknowledge that You do not obtain any ownership right or interest in the Virtual Item You "create" but all such terms refer to the licensed right to use a certain feature of the Entropia Universe System or the Entropia Universe in accordance with the Terms and conditions of this agreement. For clarity, MindArk and/or the respective MindArk's Planet Partner retains all rights, title and interest to all Virtual Items You create in-world.

The Entropia Universe contains different systems, including but not limited to the services available via the Ad-System, Chat-System, Messaging-System, Land management System and Event System, that allow You to insert, use or create content, for example, text, graphics, audio and video in the Entropia Universe System. Subject to the conditions in these terms, You hereby grant MindArk the worldwide, perpetual, irrevocable, royalty-free, right to exercise all intellectual property rights for any said content, including, but not limited to, user-to-user communications.

The Entropia Universe even incorporates a communication system that allows You to submit images, videos, films, texts and other communications that can be then viewed by other Participants ("Participant Content").

You agree to be solely responsible to Your Participant Content and for the results of its submission.

In connection with the Participant Content System, You agree that You will not: (a) submit materials that are copyrighted, protected by trade secret or otherwise subject to third party proprietary rights, privacy and publicity rights, unless You are the owner of such rights or have a written permission from their rightful owner(s) to submit the materials; (b) publish falsehoods or misrepresentations that could damage MindArk or any third party; (c) submit material that is unlawful, libellous, defamatory, obscene, threatening, pornographic, hateful, harassing, containing excessive language, racially, ethnically or sexually offensive, or encourages conduct considered a criminal offense, give rise to civil liability, violate any law or agreement, or is otherwise inappropriate; (d) post advertisements or business solicitations not related to participation in the Entropia Universe;

MindArk reserves the right to, without prior notice, remove Participant Content and/or revoke Your access to upload material, if MindArk determines, at MindArk's sole discretion, that uploaded material does not comply with the above limitations.

Participant Content is made available "as is" and may be used solely for its intended functionality within the Entropia Universe.

You may not copy, reproduce, distribute, display, transmit, broadcast, license or in any other way transfer the rights or exploit others' Participant Content. For clarity, prohibition for copying does not include automatic and temporary copy to Your hardware for the purpose of viewing others' Participant Content.

Ownership Right in Participant Content

You retain all ownership rights in Your Participant Content that You have submitted to the Entropia Universe. By submitting Your Participant Content, however, You hereby grant all other Participants the right to create a copy of Your Participant Content on their hard disk for the purpose of viewing the material You submitted with connection to their participation in the Entropia Universe.

You hereby agree to, concurrently with submission of Your Participant Content, grant MindArk and MindArk's Planet Partner, on which Planet You publish Your Participant Content, an irrevocable, non-exclusive, perpetual, royalty-free, transferable, worldwide license to use Your Participant Content. The license is granted for the purpose of developing and promoting MindArk's business, the Planet Partner's business, the Entropia Universe, the Planet Partner's Planet, MindArk's websites and Planet Partner's website concerning the Planet, or any other purpose reasonably connected to them. The license granted by You to MindArk and/or MindArk's Planet Partner includes the rights to reproduce, distribute, sub-license, create derivative works of, perform, display and publish the Participant Content.

For clarity purposes please note that, Your retainable proprietary right to Your Participant Content does not mean that You obtain any right in the Virtual Item (like the virtual frame, advertising board etc.) displaying the said material. MindArk and/or Planet Partner, as applicable, hereby expressly retain all and any rights in all Virtual Items as set out above.

12. Limited Warranty

MindArk represents and warrants that it has the requisite right and legal authority to grant the license as granted in these Terms and to provide the Entropia Universe System to the User. MindArk makes no other warranty, express or implied, with respect to The Entropia Universe.

The Entropia Universe is provided to You "as is" which means that MindArk do not warrant that The Entropia Universe will be uninterrupted, complete, and accurate or error or bug free.

13. Limitation of Liability

MindArk shall in no event be liable for (i) any indirect, incidental, special, consequential, punitive or tort damages, nor (ii) for any loss of use or data (including, but not limited to Your Entropia Universe User Account, Avatar skills and/or Virtual Items) or for lost profits of any kind (whether direct, indirect or consequential). MindArk is in no event liable for any services provided by a third party.

MindArk is not liable for any disruptions, delays or failures to perform in Entropia Universe, including any damages, losses or causes of action, which this may cause the User.

MindArk reserves the right to interrupt the services available via Entropia Universe and/or the operation of the Entropia Universe System with or without prior notice and for any reason. You agree that MindArk will not be liable for any loss or damage caused by interruption of the Entropia Universe, delay or failure to perform.

MindArk's total liability for all damages, losses and causes of action and for all costs and expenses which may arise under the agreement with You shall for each incidence, if acknowledged, under no event, exceed the total amount that You have purchased PEDs for during the six months period prior to the incident.

The limitation of liability set forth herein does not apply in case of willful misconduct or gross negligence. The limitation of liability shall only apply to the extent allowable under applicable mandatory law.

14. Indemnification

To the extent allowable under applicable mandatory law, You agree to indemnify, defend, and hold MindArk, its agents, representatives and employees harmless from and against, any losses suffered, incurred, or sustained by You to the extent resulting from, arising out of, or relating to, any claim:

1. that You are unlawfully using the Entropia Universe System or the Entropia Universe and/or Your Entropia Universe Account, including usage in breach of this Agreement, and/or;
2. that You are non–compliant with any applicable law, regulations, agreement or other legal obligation, and/or;
3. that Your Participant Content is infringing upon the proprietary or other rights of any third party.

Notwithstanding anything else in this Agreement for the avoidance of doubt, in case of Termination of Your Account You acknowledge and agree to MindArk's right to set off any claim for any loss sustained against the remaining PED value of Your Account or any other refund obligation it might have under this Agreement.

15. Breach of Agreement

Without limiting MindArk's legal remedies, if You fail to comply with the restrictions and limitations of this Agreement or the agreements it incorporates by reference, MindArk may immediately terminate this Agreement, with or without prior notice to You.

You also agree that MindArk has the right to lock Your Entropia Universe Account in case of suspected Agreement violation during the period of investigation of the said violation.

Termination of this agreement results in Termination or Ban of Your Entropia Universe Account.

You recognize and acknowledge that any breach of or threat to breach this Agreement by You may cause MindArk irreparable harm for which monetary damages may be inadequate. You agree, therefore, that MindArk shall be entitled to an injunction, without posting bond or undertaking and without proof of actual damages, to restrain You from such breach or threatened breach. Nothing in this Agreement shall be construed as preventing MindArk from pursuing any remedy at law or in equity for any breach or threatened breach of this Agreement.

16. Terms of Agreement

This Agreement is effective until terminated by You or by MindArk.

Please note that if Your Account has been Locked or Banned according to these Terms (Account Inactivity, Account Ban and Account Termination) You are still obliged to comply with this Agreement in all applicable parts.

17. Termination of this Agreement

MindArk may terminate this Agreement immediately upon notice to You. Such expiration may be made for any reason, and may be for one or more Participants.

MindArk reserves the right, pursuant to the conditions set forth in Paragraph 14 (Breach of the Agreement), to terminate this Agreement at MindArk's sole discretion, if You fail to comply with the Terms of this Agreement.

If You wish to end this Agreement at any time, You can do so by filing a request for Account Termination through the Entropia Universe Support. MindArk reserves the right to collect fees, surcharges or costs incurred before You terminate this Agreement. In addition, You are responsible for any charges incurred to third-party vendors or content providers prior to Your termination.

The license granted to You by this agreement shall immediately cease, upon termination of the Agreement, either by You or by MindArk. Thus upon termination You must permanently remove the all parts of the Entropia Universe System, including the Entropia Universe Client, from Your computer.

All provisions of this Agreement that by their nature should survive termination of this Agreement do survive its termination, including, but not limited to, provisions on proprietary rights, warranty disclaimers, liability and remedy limitations.

18. Miscellaneous

Assignment

You may not assign this Agreement or transfer Your Entropia Universe Account to anyone. You may not sublicense any license granted to You by this Agreement, except to the extent expressly permitted by this Agreement with regards to transaction with Virtual Items, or if obtaining a prior written consent from MindArk. Notwithstanding the foregoing, Your Entropia Universe Account will be disposable by Your legal successors by inheritance subject to terms and limitations, as applicable by MindArk from time to time. Any attempt to transfer, give or grant Your Entropia Universe Account in breach of this Agreement will be invalid. MindArk may assign or transfer any of its rights or obligations under this Agreement to any other company, firm or person without any limitations.

Headings

Headings used in this Agreement are provided for convenience only and shall not be used to construe meaning or intent.

Partial Invalidity

If any provision of this Agreement shall be void or unenforceable for any reason, this will not affect the validity and enforceability of any remaining provisions of this Agreement.

Complaints

You as a consumer have the right to lodge complaints for purchased services, such as Virtual Items, in three years from when the service was purchased or the time set out in applicable mandatory consumer protection law. Please note that the time to lodge a complaint may be shorter or longer depending on the consumer's legal rights in each case (see further information on governing law below).

The right to file a complaint apply to services, which are defective according to applicable consumer protection legislation

Any User who wishes to file a complaint shall, as soon as possible after discovering the defect, contact MindArk preferably by sending an e-mail to support@mindark.com

Forum and Governing Law

Any dispute, controversy or claim regarding the interpretation or application of these Terms shall be governed and construed in accordance with Swedish law and settled by public court in Sweden to the extent this is possible under mandatory applicable consumer protection law in the country where the User resides.

In case of a dispute, controversy or claim MindArk will follow the submitted recommendations from the Swedish National Board for Consumer Disputes or equivalent alternative dispute resolution board in the User's country of residence. The Swedish National Board for Consumer Disputes may be accessed either via the website www.arn.se or address Box 174, 101 23 Stockholm, Sweden.

You acknowledge that MindArk is not a part to any possible future disputes between Third Party and You even if it is related to Entropia Universe. Resolution of any dispute is the full and sole responsibility of the involved parties and MindArk will not act as a mediator between them.

MindArk's Right to Change the Agreement

By accepting this Agreement and applying for an Entropia Universe Account You agree that MindArk may, at any time, update, revise or change this Agreement if MindArk reasonably consider it necessary to do so and upon prior notice to You as follows:

Currently applicable Agreement is always posted on the Entropia Universe website http://legal.entropiauniverse.com/legal/conditions.xml. You should periodically check the website for such changes. If MindArk makes material changes or revisions to this Agreement, MindArk will endeavour to provide You with a notice, via the Entropia Universe Release Notes, in connection with a release subsequent to the change. The Release Notes are published on the Entropia Universe website http://www.entropiauniverse.com/bulletin/release-notes/ and in the Client Loader.

Your use of Your Entropia Universe Account and continued participation in the Entropia Universe after notification of changes means that You have accepted the changes. If You do not want to accept the changes proposed by MindArk or any of the Terms in this Agreement, Your only remedy is to end this Agreement and Terminate Your Account and cease using the Entropia Universe.

Conflict between Different Language Versions of this Agreement

(...)

I hereby certify that I have read, understood and agree to the Terms in this Agreement. I acknowledge that by checking the "I accept" box or registering an approved Account, install the Entropia Universe Client or parts of it I hereby enter an obliging agreement with MindArk.

E6. Second Life Terms of Service

This agreement (the "Agreement" or the "Terms") describes the terms on which Linden Research, Inc. and its wholly-owned subsidiaries, including Tilia Inc. and Tilia Branch UK Ltd. (collectively, "Linden Lab") offer you access to its interactive entertainment products and services.

By using the Service (as defined below), you agree to and accept these Terms, including important dispute resolution procedures and all policies and terms linked to or otherwise referenced herein, all of which are incorporated into this Agreement. If you do not so agree, you should decline this Agreement, in which case you are prohibited from accessing or using the Service.

TABLE OF CONTENTS

This Agreement includes both the terms above and the following sections, which you may jump to directly by selecting the appropriate link below. The headings and subheadings are for your convenience only -- you are responsible for reviewing all sections, defined terms and related links in their entirety to ensure you fully understand this Agreement.

1. ONLINE SERVICE

1.1 Defined Terms

"Account" means the entirety of your contractual rights and obligations under this Agreement associated with a particular Account Name (defined below) you have selected for accessing the Service.

"Account Name" means a name to identify yourself to Linden Lab staff in connection with your Account for each Product.

"Content" means any works of authorship, creative works, graphics, images, textures, photos, logos, video, audio, text, and interactive features.

"Intellectual Property Rights" means copyrights, trademarks, service marks, trade dress, publicity rights, database rights, patent rights and other intellectual property rights or proprietary rights recognized by law.

"Internet Device" means a personal computer, mobile phone or other wireless or internet-enabled device.

"Linden Content" is the Content provided to you in connection with the Service, including, but not limited to Content we created or licensed from third parties subject to the license set forth herein.

"Payment Service Provider" means a third party payment service provider as contracted by Linden Lab in its sole discretion.

"Product" means any interactive entertainment product or software provided to you by Linden Lab, each of which shall be further governed by an applicable product-specific policy (each a "Product Policy").

"Servers" are the online environments that support the Service, including without limitation: the server computation, electronic data storage, software access, messaging and protocols that simulate the Service.

"Service" means all features, applications, content and downloads offered by Linden Lab, including its Websites, Servers, Software, Linden Content, and User Content as those terms are defined herein.

"Software" is the software provided to you by Linden Lab and/or its suppliers under license in connection with the Service, including but not limited to the software for accessing the Service and any other communication software, whether facilitating text-based, chat-based, voice, audio or other communication, within or outside of the Service, and any application program interfaces (the "APIs") for use with the Service.

"User Content" means any Content that a user of the Service has uploaded, published, or submitted to or through the Servers, Websites or other areas of the Service.

"Virtual Space" is virtual space that is stored on our Servers and made available in the form of virtual units.

"Websites" are the websites and services available from the domain and subdomains of Linden Lab and any related entity or successor domains from which Linden Lab may offer the Service.

1.2 The Service exists only as long as and in the form that we may provide the Service, and all aspects of the Service, including your User Content, are subject to change or elimination.

Linden Lab has the right to change, limit access to, and/or eliminate any aspect(s), feature(s) or functionality of the Service (including your User Content) as it sees fit at any time without notice, and Linden Lab makes no commitment, express or implied, to maintain or continue, or to permit open access to, any aspect of the Service. You acknowledge that your use of the Service is subject to this risk and that you knowingly assume it and make your decisions to participate in the Service, contribute Content and spend your money accordingly.

Linden Lab may, but will not have the obligation to, display, maintain, or otherwise make use of, any of your User Content, and Linden Lab may, in its sole discretion, modify, delete, or otherwise make use of User Content without notice or any liability to you or any third party. Linden Lab reserves the right to treat User Content on the Service as content stored at the direction of users for which Linden Lab will not exercise control except to block or remove content that comes to Linden Lab's attention and is offensive, obscene, abusive, illegal or otherwise objectionable to Linden Lab, or to enforce the rights of third parties or the content restrictions set forth below (in Sections 2 and 7), when notice of their violation comes to Linden Lab's attention. Such User Content submitted by you or others need not, however, be maintained on the Service by us for any period of time and you will not have the right, once submitted, to access, archive, maintain, or otherwise use such User Content on the Service.

1.3 Your User Content is not confidential; You represent that your Content is original to you (and/or your minor child).

Linden Lab may now or in the future offer users of the Service the opportunity to display, publish, distribute, transmit, broadcast, or otherwise make available on or submit through the Service (collectively, "submit") User Content. We may do this through forums, blogs, message boards, social networking environments, social communities, e-mail and other functionality. Subject to the rights and license you grant in this Agreement, you retain whatever legally cognizable right, title and interest that you have in your User Content.

Each time you submit any User Content, you represent and warrant that you are at least the age of majority in the state in which you reside and are the parent or legal guardian, or have all proper consents from the parent or legal guardian, of any minor who is depicted in or contributed to any User Content you submit, and that, as to that User Content, (a) you are the sole author and owner of the intellectual property and other rights to the User Content, or you have a lawful right to submit the User Content and grant Linden Lab the rights to it that you are granting by this Agreement and any Additional Terms (as defined in Section 2.2 below), all without any Linden Lab obligation to obtain consent of any third party and without creating any obligation or liability of Linden Lab; (b) the User Content is accurate; (c) the User Content does not and, as to Linden Lab's permitted uses and exploitation set forth in this Agreement, will not infringe any intellectual property or other right of any third party; and (d) the User Content will not violate this Agreement or any Additional Terms, or cause injury or harm to any person.

Please remember that the Service is a public forum and User Content that you submit will be accessible to and viewable by other users. Except as may be required to register and/or maintain your Account, do not submit personally identifiable information (e.g. first and last name together, password, phone number, address, credit or debit card number, medical information, e-mail address, or other contact information) on the Service.

Except as otherwise described in our Privacy Policy or any Additional Terms we provide to you, you agree that (i) your User Content will be treated as non-confidential and non-proprietary and will not be returned, and (ii) Linden Lab does not assume any obligation of any kind to you or any third party with respect to your User Content. Upon Linden Lab's request, you will furnish us with any documentation necessary to substantiate these rights and verify your compliance with this Agreement or any Additional Terms.

1.4 Linden Lab is a service provider and is not responsible or liable for the Content, conduct, or services of users or third parties.

You understand that Linden Lab is a service provider that enables its users to interact online and display and communicate information and Content chosen by those users. Linden Lab does not control or endorse the Content of communications between users or users' interactions with each other or the Service.

You acknowledge that you will be exposed to various aspects of the Service involving the conduct, Content, and services of users, and that Linden Lab does not control and is not responsible or liable for the quality, safety, legality, truthfulness or accuracy of any such user conduct, User Content or user services. You acknowledge that Linden Lab does not guarantee the accuracy of information submitted by any user of the Service, nor any identity information about any user. Your interactions with other users and your use of User Content are entirely at your own risk. Linden Lab has no obligation to become involved in any dispute that you may have or claim to have with one or more users of the Service, or in any manner in any resolution thereof.

The Service may contain links to or otherwise allow connections to third-party websites, servers, and online services or environments that are not owned or controlled by Linden Lab. You agree that Linden Lab is not responsible or liable for the Content, policies or practices of any third-party websites, servers or online services or environments. Please consult any applicable terms of use and privacy policies provided by the third party for such websites, servers or online services or environments.

1.5 The Service is subject to scheduled and unscheduled service interruptions and loss of server data, which you do not own and for which you will not hold us liable.

Linden Lab may on occasion need to interrupt the Service with or without prior notice. You agree that Linden Lab will not be liable for any interruption of the Service (whether intentional or not), and you understand that except as may otherwise be specifically provided in Linden Lab's billing policies, posted on applicable areas of the Service and/or Website(s), you will not be entitled to any refunds of fees or other compensation for interruption of service.

Likewise, you agree that in the event of data loss, we will not be liable for any purported damage or harm arising therefrom. Linden Lab owns the bits and bytes of electronic data stored on its Servers, and accordingly will not be liable for any deletion, corruption or data loss that occurs in connection with the Service. Linden Lab will solely determine any disposition of the electronic data stored on its Servers and will have no obligation to reproduce, process, transfer, extract or recreate any data from its Servers.

2. CONTENT LICENSES AND INTELLECTUAL PROPERTY RIGHTS

2.1 Linden Lab owns Intellectual Property Rights in the Service and the Linden Marks.

Linden Lab owns Intellectual Property Rights in and to the Service, including but not limited to the Linden Content, Software, the Servers, and the Websites related thereto, and in and to our trademarks, service marks, trade names, logos, domain names, taglines and trade dress (collectively, the "Linden Marks"). You acknowledge and agree that Linden Lab and its licensors own all right, title, and interest in and to the Service, including all Intellectual Property Rights therein, other than with respect to User Content.

You understand and agree that without a written license agreement with Linden Lab, we do not authorize you to make any use of the Linden Marks, including but not limited to "LINDEN," or "LINDEN LAB". Use of the Linden Marks in whole or in part is subject to the guidelines and terms of any applicable license provided in our Trademark Guidelines.

Except as expressly granted in this Agreement, all rights, title and interest in and to the Service, and in and to the Linden Marks are reserved by Linden Lab. Copyright, trademark and other laws of the United States and foreign countries protect the Service and the Linden Marks.

2.2 Linden Lab grants you certain licenses to access and use the Service while you are in compliance with the Terms; Additional terms may apply.

Linden Lab hereby grants you a non-exclusive, non-transferable, non-sublicenseable, limited, personal, revocable license to access and use the Service on an Internet Device as set forth in these Terms and expressly conditioned upon you and each of your Accounts remaining active, in good standing, and in compliance with these Terms. Additional terms may apply to certain elements of the Service ("Additional Terms"); these terms are available where such separate elements are made available through the Service. If there is any contradiction between any Additional Terms and these Terms, then the Additional Terms shall take precedence only in relation to that particular element of the Service. For examples of such Additional Terms, please see Section 12 below.

Use of the Software is subject to these Terms and the terms of any applicable Product Policy provided with such software. If no Product Policy is provided with certain Software, such software is subject to the license terms set forth in this Section. Linden Lab hereby grants you a nonexclusive, non-transferable, non-sublicensable, limited, personal and revocable license to install and use the object code of the Software on any Internet Device that you own or control. You may not charge any third party for using the Software, and you may not modify, adapt, reverse engineer (except as otherwise permitted by applicable law notwithstanding such limitation), decompile or attempt to discover the source code of the Software, or create any derivative works of the Software, or otherwise use the Software except as expressly provided in this Agreement.

Linden Lab provides access to Linden Content and hereby grants you a non-exclusive, non-transferable, non-sublicensable, limited, personal, revocable license to use, reproduce, distribute, prepare derivative works of, display, and perform the Linden Content solely as permitted through the normal functionality of the Service and under these Terms, except that photographs, images, films, and videos of Linden Content may be used in other areas of and outside the Service only as may be set forth in an applicable Product Policy. To be clear, and without limiting the foregoing, you may not use, reproduce, distribute, prepare derivative works of, display or perform any Linden Content, whether modified by you or not, outside the virtual environment of the Service except as provided in an applicable Product Policy or as expressly agreed upon in a written agreement with Linden Lab. The foregoing license is referred to as a "Linden Content License." You acknowledge that when you receive a Linden Content License you do not acquire ownership of any copies of the Content, or transfer of any copyright or other intellectual property rights in the Content.

2.3 You grant Linden Lab certain licenses to your User Content.

You retain any and all Intellectual Property Rights you already hold under applicable law in Content you upload, publish, and submit to or through the Servers, Websites, and other areas of the Service, subject to the rights, licenses, and other terms of this Agreement, including any underlying rights of other users or Linden Lab in Content that you may use or modify.

In connection with Content you upload, publish, or submit to any part of the Service, you affirm, represent, and warrant that you own or have all necessary Intellectual Property Rights, licenses, consents, and permissions to use and authorize Linden Lab and users of the Service to use the Content in the manner contemplated by the Service and these Terms.

Because the law may or may not recognize certain Intellectual Property Rights in any particular Content, you should consult a lawyer if you want legal advice regarding your legal rights in a specific situation. You acknowledge and agree that you are responsible for knowing, protecting, and enforcing any Intellectual Property Rights you hold, and that Linden Lab cannot do so on your behalf.

Except as prohibited by law, you hereby waive, and you agree to waive, any moral rights (including attribution and integrity) that you may have in any User Content, even if it is altered or changed in a manner not agreeable to you. To the extent not waivable, you irrevocably agree not to exercise such rights (if any) in a manner that interferes with any exercise of the granted rights. You understand that you will not receive any fees, sums, consideration or remuneration for any of the rights granted in this Section.

Except as otherwise described in any Additional Terms (such as a contest's official rules) which will govern the submission of your User Content, you hereby grant to Linden Lab, and you agree to grant to Linden Lab, the non-exclusive, unrestricted, unconditional, unlimited, worldwide, irrevocable, perpetual, and cost-free right and license to use, copy, record, distribute, reproduce, disclose, modify, display, publicly perform, transmit, publish, broadcast, translate, make derivative works of, and sell, re-sell or sublicense (through multiple levels)(with respect to each Product or otherwise on the Service as permitted by you through your interactions with the Service), and otherwise exploit in any manner whatsoever, all or any portion of your User Content (and derivative works thereof), for any purpose whatsoever in all formats, on or through any media, software, formula, or medium now known or hereafter developed, and with any technology or devices now known or hereafter developed, and to advertise, market, and promote the same. You agree that the license includes the right to copy, analyze and use any of your Content as Linden Lab may deem necessary or desirable for purposes of debugging, testing, or providing support or development services in connection with the Service and future improvements to the Service. The license granted in this Section 2.3 is referred to as the "Service Content License."

Linden Lab has no obligation to monitor or enforce your intellectual property rights to your User Content, but you grant us the right to protect and enforce our rights to your User Content, including by bringing and controlling actions in your name and on your behalf (at Linden Lab's cost and expense, to which you hereby consent and irrevocably appoint Linden Lab as your attorney-in-fact, with the power of substitution and delegation, which appointment is coupled with an interest).

2.4 You grant certain Content licenses to other users by submitting your Content to publicly accessible areas of the Service.

You agree that by uploading, publishing, or submitting any Content to any publicly accessible areas of the Service, you hereby grant other users of that aspect of the Service a non-exclusive license to access the User Content through the Service, and to use, reproduce, distribute, prepare derivative works of, display, and perform the Content on the Service solely as permitted by you through your interactions with the Service under these Terms. This license is referred to as the "User Content License," and the Content being licensed is referred to as "User Content." "Publicly accessible" areas of the Service are those areas that are accessible to other users of that aspect of the Service.

If you do not wish to grant users of the Service a User Content License, you agree that it is your obligation to avoid displaying or making available your Content to other users.

Your interactions with the Service may include use of a permissions system as provided in an applicable Product Policy. Any agreement you make with other users relating to use or access to your Content must be consistent with these Terms and the applicable Product Policy, and no such agreement can abrogate, nullify, void or modify these Terms or the applicable Product Policy.

You acknowledge that when you receive a User Content License you receive only licensing and use rights; therefore, you do not acquire ownership of any copies of the Content, or transfer of any copyright or other Intellectual Property Rights in the Content.

2.5 You also grant Linden Lab and other users of the Service a license to use your Content in snapshots and machinima that is displayed in publicly accessible areas of the Service.

You agree that by uploading, publishing, or submitting any Content to or through the Servers for display in any publicly accessible area of the Service, you hereby grant other users a non-exclusive, worldwide, royalty-free, sublicenseable and transferable license to photograph, capture an image of, film, and record a video of the Content, and to use, reproduce, distribute, prepare derivative works of, display, and perform the resulting photograph, image, film, or video in any current or future media as provided in and subject to the restrictions and requirements of an applicable Product Policy or other policy. The foregoing license is referred to as the "Snapshot and Machinima Content License."

2.6 You may delete copies of your Content from the Service, and the licenses you have granted for the deleted copies will terminate with certain limitations.

Where permitted, you may delete copies or instances of your Content that you have displayed or that are in your Account inventory through the normal functionality of the Service, such as by emptying the trash folder in your Account inventory as applicable. In such event, the licenses granted by you in this Section 2 shall terminate in the manner provided below, but only for those particular copies or instances of Content that you have deleted from the Service.

You acknowledge that this termination will not apply to any other copies or instances of the same Content that you have not specifically deleted from the Service, including without limitation those that may be displayed elsewhere through the Service and those that may be in the Account inventories of other users to whom you transferred copies.

You acknowledge that the Snapshot and Machinima Content License granted to Linden Lab and other users with respect to your Content will survive any such termination.

You also acknowledge that the Service Content License granted to Linden Lab with respect to your Content will survive any such termination solely as follows to permit Linden Lab: (i) to retain server copies of particular instances of your Content, including copies stored in connection with back-up, debugging, and testing procedures; and (ii) to enable the exercise of the licenses granted in this Section 2 for any other copies or instances of the same Content that you have not specifically deleted from the Service, including those that may be displayed elsewhere through the Service or exist in other users' Account inventories.

2.7 You agree to respect the Intellectual Property Rights of other users, Linden Lab, and third parties.

You agree that you will not publish, or submit to any part of the Service, any Content that is protected by Intellectual Property Rights or otherwise subject to proprietary rights, including trade secret or privacy rights, unless you are the owner of such rights or have permission from the rightful owner to upload, publish, or submit the Content and to grant Linden Lab and users of the Service all of the license rights granted in these Terms.

You acknowledge that the Content of the Service is provided or made available to you under license from Linden Lab and independent Content providers, including other users of the Service ("Content Providers"). You acknowledge and agree that except as expressly provided in this Agreement, the Intellectual Property Rights of Linden Lab and other Content Providers in their respective Content are not licensed to you by your mere use of the Service. You must obtain from the applicable Content Providers any necessary license rights in Content that you desire to use or access.

Linden Lab and other Content Providers may use the normal functionality of the Service, including an applicable permissions system and the copy, modify, and transfer settings, to indicate how you may use, reproduce, distribute, prepare derivative works of, display, or perform their respective Content solely through the Service. You acknowledge and agree that the permissions system and other functionality of the Service do not grant you any license, consent, or permission to copy, modify, transfer, or use in any manner any Content outside the Service.

You agree that you will not copy, transfer, or distribute outside the Service any Content that contains any Linden Content, in whole or in part or in modified or unmodified form, except as allowed by an applicable Product Policy or other policy, or that infringes or violates any Intellectual Property Rights of Linden Lab, other Content Providers, or any third parties.

Linden Lab reserves the right, but is not obligated to use technological measures designed to prohibit the copying, transfer, or distribution of Content outside the Service when we in good faith believe that such copying, transfer, or distribution would or might violate the Intellectual Property Rights of our users, Linden Lab, or third parties.

You copy and use Content at your own risk. You are solely responsible and liable for your use, reproduction, distribution, modification, display, or performance of any Content in violation of any Intellectual Property Rights. You agree that Linden Lab will have no liability for, and you agree to defend, indemnify, and hold Linden Lab harmless for, any claims, losses or damages arising out of or in connection with your use, reproduction, distribution, modification, display, or performance of any Content.

3. ELIGIBILITY TO USE THE SERVICE

(...)

4. ACCOUNT REGISTRATION AND BILLING

4.1 You must establish an account to use certain aspects of the Service, using true and accurate registration information.

Except for certain Software or portions of the Websites which Linden Lab allows users to access without registration, you must establish an Account with Linden Lab to use the Service. You agree to provide accurate, current and complete information about yourself as prompted by the registration form ("Registration Data") and to use the account management tools provided to keep your Registration Data accurate, current and complete.

You may establish an Account with Registration Data provided to Linden Lab by a third party who provides a gateway to our Service through the use of an API, in which case you may have a separate, additional account relationship with such third party. This relationship in no way modifies, lessens or alters your obligations under this Terms. Access to the Service through third parties may be available or discontinued at the discretion of Linden Lab. You acknowledge that Linden Lab is not liable for the acts or omissions of such third parties, which are not the partner or representative of Linden Lab or endorsed or controlled by Linden Lab.

Depending upon your age and the age requirements set forth in an applicable Product Policy, registration may require parental consent. The Service's practices governing any resulting collection and use of your personal information are disclosed in our Privacy Policy. Your decision to provide this information is purely voluntary and optional; however, if you elect not to provide it, then you may not be able to access certain Content or participate in certain features of the Service.

You may not sell, transfer or assign your Account or its contractual rights, licenses and obligations, to any third party (including, for the avoidance of doubt, permitting another individual to access your Account) without the prior written consent of Linden Lab. Linden Lab reserves the right, at its sole discretion, to manage and control the number of Accounts that you may establish and maintain.

4.2 You agree to use an Account Name for each Product that is not misleading, offensive or infringing. You are responsible for activities related to your Account Name, and for keeping your password for your Account(s) secure.

You must choose an Account Name for your Account which may also serve as the name for your graphical representation within each Product (your "Avatar"). You may not select as your Account Name any name that Linden Lab determines may cause deception or confusion; may violate any trademark right, copyright, or other proprietary right or mislead other users regarding your identity or affiliation; or any name that Linden Lab determines in its sole discretion to be vulgar, offensive, or otherwise inappropriate. Linden Lab reserves the right to delete or change any Account Name that violates this paragraph, and will have no liability regarding the use, modification, or deletion of any Account Name.

You are solely responsible for all activities conducted through your Account whether or not you authorize the activity (except to the extent that activities occur because someone gains access to our system without using your identifiers and password). In the event that fraud, illegality or other conduct that violates this Agreement is discovered or reported (whether by you or someone else) that is connected with your Account, we may terminate your Account (or Accounts) as described in Section 5.

You are solely responsible for maintaining the confidentiality of your password and for restricting access to your Internet Device. You are solely responsible for any harm resulting from your disclosure, or authorization of the disclosure, of your password or from any person's use of your password to gain access to your Account or Account Name. You will immediately notify us of any unauthorized use of your Account, password or username, or any other breach of security related to the Service. At no time should you respond to an online request for a password other than in connection with the log-on process to the Service. Your disclosure of your password to any other person is at your own risk. If you lose access to your Account for any reason, Linden Lab may, but is not required to, attempt to restore access to your Account by verifying your Registration Data. In the event that you are unable to provide the Registration Data, Linden Lab reserves the right to suspend your Account(s).

We will not be liable for any loss or damage (of any kind and under any legal theory) to you or any third party arising from your inability or failure for any reason to comply with any of the foregoing obligations.

4.3 If you choose to use paid aspects of the Service, you agree to the posted pricing and billing policies on the Websites, through the Service, or by an applicable Payment Service Provider.

Certain aspects of the Service (including subscription to a premium Account or usage of virtual environments ("Virtual Space," as may be further described in an applicable Product Policy)), are provided for a fee or other charge by Linden Lab or an applicable Payment Service Provider. Should you elect to use paid aspects of the Service, you agree to the pricing, payment and billing policies related to such fees and charges, plus VAT or other taxes as applicable, as posted on the Website(s), application(s), or by an applicable Payment Service Provider. Upon your acceptance of these terms and submission of your order, you hereby agree that Linden Lab or an applicable Payment Service Provider (collectively, for purposes of this Section 4.3, "we") have the right to automatically charge your credit card or debit your account (or other payment method) for the applicable fees or charges, plus any applicable taxes that we are required to collect, and you authorize us to do so. Thereafter, if you have purchased or redeemed a subscription-based product or service, each time your subscription comes up for renewal, we have the right to charge your credit card or debit your account the then-current renewal rate plus any applicable taxes we are required to collect, and you authorize us to do so. Any prices posted in US Dollar or non-US Dollar currencies by Linden Lab on the Service do not include any applicable sales tax, unless specifically noted that it is tax inclusive.

Linden Lab reserves the right, upon reasonable notice, to (directly or through an applicable Payment Service Provider): (i) charge for access to some or all of the Service, charge for access to premium functionality or Content on some or all of the Website, require a free or paid subscription ("Usage Subscription"), or account registration to access some or all of the Service; (ii) change terms and conditions for the Service or portions thereof; and (iii) restrict access to the Service or portions thereof, in whole or in part, based on any lawful eligibility requirements Linden Lab may elect to impose (e.g. geographic or demographic limitations). You are responsible for obtaining and maintaining, at your sole cost, all Internet Devices and other equipment and software, and services necessary for you to access and use the Service.

You acknowledge that it is your responsibility to ensure payment in advance for all paid aspects of the Service, and to ensure that your credit or debit cards or other payment instruments accepted by Linden Lab or an applicable Payment Service Provider continue to be valid and sufficient for such purposes. Payments made with a United States-based payment instrument will be charged by Linden Research, Inc. Payments made with payments instruments based outside of the United States will be charged by Tilia Branch UK Ltd., which is located at 11-12 St. James's Square, Suite 1, 3rd Floor, London, United Kingdom SW1Y 4LB.

Linden Lab may offer you the opportunity (directly or through an applicable Payment Service Provider) to purchase or use virtual credits, points, tokens, services, or items ("Virtual Goods and Services"). Linden Lab may modify, revalue, or make the Virtual Goods and Services more or less common, valuable, effective, or functional. Virtual credits, points, or tokens as further described in each applicable Product Policy ("Virtual Tender") associated with your Account that were purchased with U.S. dollars or other accepted fiat currency may be used or exchanged before Virtual Tender associated with your Account that was not purchased (e.g., Virtual Tender that was earned through experiential play), no matter when that Virtual Tender was acquired. Except as set forth in any Additional Terms (such as any refund policies that may apply to a subscription service) or above with respect to Usage Subscriptions, if

Linden Lab modifies, suspends or terminates any Usage Subscription or Virtual Goods and Services (including any Virtual Tender), then you will forfeit your rights to the modified, suspended, or terminated Usage Subscription or Virtual Goods and Services. Likewise, except as set forth above, in any Additional Terms, or as required by applicable law, Linden Lab is not responsible for repairing, replacing or restoring access to your Usage Subscription, or Virtual Goods and Services (including any Virtual Space or other Virtual Tender associated with each Product, as further described in an applicable Product Policy), or providing you with any credit or refund or any other sum, in the event of: (a) Linden Lab's change, suspension or termination of any Usage Subscription or Virtual Goods and Services (including any Virtual Space or other Virtual Tender associated with each Product, as further described in an applicable Product Policy); or (b) for loss or damage due to Website or Server error, or any other reason.

Without limiting any other rights or remedies of Linden Lab, Linden Lab may exercise its termination rights as provided in Section 5 in the event of any payment delinquency. Linden Lab further reserves the right to terminate Usage Subscriptions and/or Virtual Goods and Services for cause immediately at its sole discretion without advance notice or liability. In such event you will not be entitled to a pro-rata refund or credit.

4.4 Linden Lab has no obligation to accept returns or provide refunds of any amounts paid for products or services purchased from Linden Lab.

Except as set forth above or in any Additional Terms, purchases of Linden Content (including but not limited to Usage Subscriptions, Virtual Tender, and/or other Virtual Goods and Services) are final, non-refundable, have no monetary value (i.e. are not a cash account or equivalent) and are purchases of only a limited, non-exclusive, revocable, non-assignable, personal, and non-transferable license to use content Inworld, even if they come with a durational term (e.g. a monthly subscription). Notwithstanding any agreement by Linden Lab to provide a discretionary pro-rata refund or credit in certain circumstances, you have no property, proprietary, intellectual property, ownership, economic, or monetary interest in your Account, User Content, Usage Subscriptions, Virtual Tender or other Virtual Goods and Services, which remain the exclusive property of Linden Lab (subject only to the limited license set forth in Section 2 above, this Agreement or any Additional Terms).

5. TERMINATION OF YOUR ACCOUNT

5.1 You or we may terminate your Account(s) at any time.

You may terminate this Agreement by closing your Account(s) at any time for any reason. Linden Lab may suspend or terminate your Account at any time for any reason. In such event, Linden Lab shall have no further obligation or liability to you under this Agreement or otherwise, and you shall be entitled to no compensation or other payment, remedy, recourse or refund.

5.2 We may terminate your Accounts for violation of this Agreement.

Linden Lab may suspend or terminate your Account if you violate this Agreement, along with any or all other Accounts held by you or otherwise related to you, as determined by Linden Lab in its discretion, and your violation of this Agreement shall be deemed to apply to all such Accounts. Upon termination of your Accounts, this Agreement between us will be automatically terminated and you may not re-subscribe or return to the Service through other or future Accounts you or others may set up.

5.3 We may terminate your Account(s) to protect the best interests of the Service and the community or if we believe you pose an unacceptable risk to the community.

We may terminate your Account if we determine in our discretion that such action is necessary or advisable to comply with legal requirements or protect the rights or interests of Linden Lab, the Service community or any third party.

We may terminate your Account(s) if we learn, or in good faith believe, that you are a registered sex offender, that accessing the Service may violate a condition of parole or probation, that you have engaged in or attempted to engage in conduct with minors on the Service that violates this Agreement, or that you for any other reason may pose what we deem to be an unacceptable risk to the Service community.

5.4 We may terminate your Accounts upon a general suspension or discontinuation of the Service.

If Linden Lab elects to generally suspend or discontinue the Service, in whole or in part, for any reason, Linden Lab may terminate your Accounts. In such event, you will not be entitled to compensation for

such suspension or termination, and you acknowledge that Linden Lab will have no liability to you in connection with such suspension or termination.

5.5 Upon Account termination, you will lose access to your Account and all licenses, Content, and data, and you understand this is a risk of participating in the Service.

Upon termination of your Account, you will no longer be able to access your Account or access (or transfer or direct the transfer to any other Account) any Content or data you have stored on the Servers. All licenses granted by Linden Lab to use the Service, including any Virtual Tender will automatically terminate. You acknowledge that you have elected to procure Virtual Tender or any premium account or paid features of the Service notwithstanding the possibility of termination of such license rights under the circumstances set forth in this Agreement.

You should ensure that you have only stored Content on the Servers to which you are willing to permanently lose access. You acknowledge and assume the risk of the possibility of termination of your Account as provided in this Agreement, and you represent that you will make your decisions to participate in the Service, contribute Content, spend your money and dispose of transferable licenses at all times knowingly based upon these risks.

Upon termination, you will remain liable for any unpaid amounts owed by you to Linden Lab.

5.6 Some terms of this Agreement will survive and continue after termination.

The provisions of this Agreement and any Additional Terms which by their nature should survive your suspension or termination will survive, including the rights and licenses you grant to Linden Lab in this Agreement, as well as to the indemnities, releases, disclaimers, and limitations on liability and the provisions regarding jurisdiction, choice of law, no class action and mandatory arbitration.

6. CONDUCT BY USERS OF THE SERVICE

You agree to abide by certain rules of conduct, including any applicable community standards for the portion of the Service you are using) and other rules prohibiting illegal and other practices that Linden Lab deems harmful.

You are solely responsible for your interaction with other users of the Service, whether online or offline. We are not responsible or liable for the conduct or content of any user. We reserve the right, but not the obligation, to monitor or become involved in disputes between you and other users.

Exercise common sense and your best judgment in your interactions with others (e.g. when you submit any personal or other information) and in all of your other online activities.

6.1 You will not post or transmit prohibited Content, including any Content that is illegal, harassing or violates any person's rights.

You agree that you will not:

(i) Post, display, or transmit Content that violates any law or the rights of any third party, including without limitation Intellectual Property Rights. We reserve the right to request at any time proof of permissions in a form acceptable to us. Failure to provide such proof may lead to, among other things, removal of such Content from the Service;

(ii) Impersonate any person or entity without their consent, or otherwise misrepresent your affiliation, or if you are an adult, impersonate a minor for the purpose of interacting with a minor using the Service;

(iii) Stalk, harass, or engage in any sexual, suggestive, lewd, lascivious, or otherwise inappropriate conduct with minors on the Service;

(iv) Post, display, or transmit Content (including any communication(s) with employees of Linden Lab) that is harmful, threatening or harassing, defamatory, libelous, false, inaccurate, misleading, or invades another person's privacy;

(v) Post, display, or transmit Content that is obscene, hateful, involves terrorism, or is racially, ethnically or otherwise objectionable; or

(vi) Post, display or transmit any Content or conduct or host any activity that is sexually explicit, or

intensely violent.

Any violation by you of the terms of this Section may result in immediate termination of your Accounts without any refund or other compensation.

6.2 You agree that you will not post or transmit Content or code that may be harmful, impede other users' functionality, invade other users' privacy, or surreptitiously or negatively impact any system or network.

You agree to respect both the integrity of the Service and the privacy of other users. You will not:

(i) Post or transmit viruses, Trojan horses, worms, spyware, time bombs, cancelbots, or other computer programming routines that may harm the Service or interests or rights of other users, or that may harvest or collect any data or information about other users without their consent;

(ii) Post or transmit unsolicited or unauthorized advertising, or promotional materials, that are in the nature of "junk mail," "spam," "chain letters," "pyramid schemes," or any other form of solicitation that Linden Lab considers to be of such nature;

(iii) Engage in malicious or disruptive conduct that impedes or interferes with other users' normal use of or enjoyment of the Service;

(iv) Use any cheats, mods, hacks, or any other unauthorized techniques or unauthorized third-party software to cheat in any competition or game that may be offered on the Service, or to otherwise disrupt or modify the Service or the experience of any users on the Service; or

(v) Attempt to gain unauthorized access to any other user's Account, password or Content.

7. INFRINGEMENT NOTIFICATIONS

We operate an intellectual property complaint process for complaints that User Content infringes another's Intellectual Property Rights, the details of which are described in the Intellectual Property Infringement Notification Policy.

8. PRIVACY AND YOUR PERSONAL INFORMATION

Your privacy is important to us. Our Privacy Policy sets forth the conditions under which you provide personal and other information to us. You understand and agree that through your use of the Service you consent to the collection and use of your information in accordance with our Privacy Policy. We encourage you to review our Privacy Policy, which describes our use and disclosure of information we collect on the Websites and the Service.

If you object to your information being used or disclosed as described therein, please do not use the Service.

9. RELEASES, DISCLAIMERS, LIABILITY LIMITS AND INDEMNIFICATION

9.1 Linden Lab is NOT liable for its users' actions, and you release Linden Lab from any claims relating to other users.

You agree not to hold Linden Lab liable for the Content, actions, or inactions of other users. As a condition of access to the Service, you release Linden Lab (and its officers, directors, shareholders, agents, subsidiaries and employees) from claims, demands, losses, liabilities and damages (actual and consequential) of every kind and nature, known and unknown, arising out of or in any way connected with any dispute you have or claim to have with one or more users, including whether or not Linden Lab becomes involved in any resolution or attempted resolution of the dispute.

If you are a California resident, you waive California Civil Code Section 1542, which says: "A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor." If you are a resident of another jurisdiction, you waive any comparable statute or doctrine.

You agree and understand that Linden Lab does not control and is not responsible for information you provide to parties other than Linden Lab.

9.2 Linden Lab provides the Service on an "as is" basis, without express or implied warranties, and all Content, including Virtual Tender and other Virtual Goods and Services, have no guarantee or warranty of any compensable value.

LINDEN LAB PROVIDES THE SERVICE, INCLUDING WITHOUT LIMITATION THE SOFTWARE, THE WEBSITES, THE SERVERS, THE CONTENT (INCLUDING THE VIRTUAL GOODS AND SERVICES), AND YOUR ACCOUNT, STRICTLY ON AN "AS IS" BASIS, AND HEREBY EXPRESSLY DISCLAIMS ALL WARRANTIES OR CONDITIONS OF ANY KIND, WRITTEN OR ORAL, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF TITLE, NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

NO VALUE, EITHER EXPRESS OR IMPLIED, IS GUARANTEED OR WARRANTED WITH RESPECT TO ANY CONTENT, INCLUDING VIRTUAL TENDER OR ANY OTHER VIRTUAL GOODS AND SERVICES. NOTWITHSTANDING ANY INTELLECTUAL PROPERTY RIGHTS YOU MAY HAVE IN YOUR CONTENT OR ANY EXPENDITURE ON YOUR PART, LINDEN LAB AND YOU EXPRESSLY DISCLAIM ANY COMPENSABLE VALUE RELATING TO OR ATTRIBUTABLE TO ANY DATA RELATING TO YOUR ACCOUNT RESIDING ON LINDEN LAB'S SERVERS. YOU ASSUME ALL RISK OF LOSS FROM USING THE SERVICE ON THIS BASIS.

Linden Lab does not ensure continuous, error-free, secure or virus-free operation of the Service, the Software, the Websites, the Servers, or your Account, and you understand that you shall not be entitled to refunds or other compensation based on Linden Lab's failure to provide any of the foregoing other than as explicitly provided in this Agreement. Some jurisdictions do not allow the disclaimer of implied warranties and, to that extent, the foregoing disclaimers may not apply to you.

9.3 Linden Lab's liability to you is expressly limited, to the extent allowable under applicable law.

IN NO EVENT SHALL LINDEN LAB OR ANY OF ITS DIRECTORS, OFFICERS, EMPLOYEES, SHAREHOLDERS, SUBSIDIARIES, AGENTS OR LICENSORS BE RESPONSIBLE OR LIABLE TO YOU OR TO ANY THIRD PARTY FOR ANY LOSS OR DAMAGES OF ANY KIND, INCLUDING FOR ANY DIRECT, INDIRECT, ECONOMIC, EXEMPLARY, INCIDENTAL, CONSEQUENTIAL, RELIANCE, SPECIAL, OR PUNITIVE LOSSES OR DAMAGES OR DISGORGEMENT OR COMPARABLE EQUITABLE REMEDY, FOR LOST DATA OR LOST PROFITS, ARISING (WHETHER IN CONTRACT, TORT, STRICT LIABILITY OR OTHERWISE) OUT OF OR IN CONNECTION WITH THE SERVICE (INCLUDING ITS MODIFICATION OR TERMINATION), THE SOFTWARE, THE WEBSITES, THE SERVERS, YOUR ACCOUNT (INCLUDING ITS TERMINATION OR SUSPENSION) OR THIS AGREEMENT, WHETHER OR NOT LINDEN LAB MAY HAVE BEEN ADVISED THAT ANY SUCH DAMAGES MIGHT OR COULD OCCUR AND NOTWITHSTANDING THE FAILURE OF ESSENTIAL PURPOSE OF ANY REMEDY.

EXCEPT AS MAY BE PROVIDED IN ANY ADDITIONAL TERMS, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT WILL LINDEN LAB'S CUMULATIVE LIABILITY TO YOU EXCEED THE GREATER OF (i) ONE HUNDRED DOLLARS (U.S. $100.00); OR (ii) THE FEES, IF ANY, PAID BY YOU FOR USE OF THE SERVICE; PROVIDED, HOWEVER, THIS PROVISION WILL NOT APPLY IF A TRIBUNAL WITH APPLICABLE JURISDICTION FINDS SUCH TO BE UNCONSCIONABLE.

Some jurisdictions do not allow the foregoing limitations of liability, so to the extent that any such limitation is found to be impermissible, such limitation may not apply to you. In such jurisdictions, the liability of the Linden Lab parties to you is limited to the lowest amount permitted by applicable law.

9.4 You agree to indemnify Linden Lab from claims relating to your use of the Service.

At Linden Lab's request, you agree to defend, indemnify and hold harmless Linden Lab, its officers, directors, shareholders, employees, subsidiaries, and agents from all damages, liabilities, claims and expenses, including without limitation attorneys' fees and costs, arising from: (i) your User Content; (ii) your acts, omissions, or use of the Service, including without limitation your negligent, willful or illegal conduct; (iii) your breach or alleged breach by you of this Agreement, including without limitation your representations and warranties relating to your Content; (iv) your violation or anticipatory violation of any applicable law, rule or order in connection with your use of or activities in the Service; (v)

information or material transmitted through your Internet Device that infringes or misappropriates any Intellectual Property Right; (vi) any misrepresentation made by you; (vii) Linden Lab's use of the information that you submit to us; (viii) your purported "ownership" of any Usage Subscriptions or virtual items; or (ix) the increase or decrease in "value" or loss of Usage Subscriptions or virtual items if Linden Lab deletes, terminates, or modifies them (all of the foregoing, "Claims and Losses") . We reserve the right to assume the exclusive defense and control of any matter otherwise subject to indemnification by you, and in such case, you agree to cooperate with our defense of such claim. You will not settle any Claims and Losses without, in each instance, the prior, written consent of an officer of Linden Lab.

9.5 You are not our employee, and you have no rights to compensation.

(...)

9.6 Unsolicited Ideas and Materials Prohibited; No Confidential or Special Relationship with Linden Lab.

(...)

10. DISPUTE RESOLUTION AND ARBITRATION

(...)

11. GENERAL PROVISIONS

11.1 The Service is a United States-based service.

Linden Lab controls and operates the Service from its offices in the United States. Linden Lab makes no representation that any aspect of the Service is appropriate or available for use outside of the United States. Those who access the Service from other locations are doing so on their own initiative and are responsible for compliance with applicable local laws regarding your online conduct and acceptable content, if and to the extent local laws apply. Subject to the terms of this Agreement, we reserve the right to limit the availability of, restrict access to, or discontinue the Service and/or any content, program, product, service or other feature described or available on the Service to any person, entity, geographic area, or jurisdiction, at any time and in our sole discretion, and to limit the quantities of any content, program, product, service, or other feature that we provide.

Software related to or made available by the Service may be subject to export controls of the United States. No software from the Service may be downloaded, exported, or re-exported (i) into (or to a national or resident of) any country or other jurisdiction to which the United States has embargoed goods, software, technology or services (which, as of the effective date of this User Agreement, includes Cuba, North Korea, Iran, Sudan and Syria), or (ii) to anyone on the U.S. Treasury Department's list of Specially Designated Nationals or the U.S. Commerce Department's Table of Deny Orders, or (iii) to anyone on the U.S. Department of Commerce's Bureau of Industry and Security Entities List as published in the Export Administration Regulations (including entities engaged in weapons of mass destruction proliferation in various countries and persons and entities that are suspected of diverting U.S. origin items to embargoed countries or terrorist end-uses). By downloading any software related to the Service, you represent and warrant that you are not located in, under the control of, or a national or resident of, any such country or on any such list.

11.2 You may not assign this Agreement or your Account; we may assign this Agreement.

You may not assign this Agreement or your Account without the prior written consent of Linden Lab. You may not transfer or sublicense any licenses granted by Linden Lab in this Agreement without the prior, written consent of Linden Lab, except solely to the extent this Agreement or an applicable Product Policy permits transfer of any applicable Virtual Tender licenses. Linden Lab may assign this Agreement, in whole or in part, and all related rights, licenses, benefits and obligations, without restriction, including the right to sublicense any rights and licenses under this Agreement.

11.3 We agree to provide each other with notices in a specified manner.

Linden Lab may give notice to and obtain consent from you by one or more of the following means: through the Service or Website, by electronic mail to your e-mail address in our records, or by written mail communication to the address on record for your Account. When you communicate with us electronically, such as via e-mail and text message, you consent to receive communications from us

electronically. All notices given by you or required under this Agreement shall be faxed to Linden Lab Legal Department at: (415) 243-9045; or mailed to us at: Linden Lab Legal Department, 945 Battery Street, San Francisco, CA 94111.

With respect to any electronic commercial service on a Website, residents of California are entitled to the following specific consumer rights information: if you have a complaint, you may contact the Complaint Assistance Unit of the Division of Consumer Services of the Department of Consumer Affairs by mail at 1625 North Market Boulevard, Suite N 112, Sacramento, California 95834, or by telephone at 1.800.952.5210. See also www.dca.ca.gov.

11.4 This Agreement and the referenced Policies are the entire understanding between us.

This Agreement, including the Additional Terms and policies referenced in this Agreement, sets forth the entire understanding and agreement between you and Linden Lab with respect to the subject matter hereof and supersedes any prior or contemporaneous agreements or understandings.

Linden Lab reserves the right to modify this Agreement and any Additional Terms, at any time without prior notice ("Updated Terms"). You agree that we may notify you of the Updated Terms by posting them on the Service, and that your use of the Service after we post the Updated Terms (or engaging in other such conduct as we may reasonably specify) constitutes your agreement to the Updated Terms. Therefore, you should review this Agreement and any Additional Terms on a regular and frequent basis. The Updated Terms will be effective as of the time that Linden Lab posts them or such later date as may be specified in them. Except for such Updated Terms, this Agreement may not be modified except by mutual written agreement between you and Linden Lab that is signed by hand (not electronically) by duly authorized representatives of both parties and expressly references amendment of this Agreement. You acknowledge that no other written, oral or electronic communications will serve to modify or supplement this Agreement, and you agree not to make any claims inconsistent with this understanding or in reliance on communications not part of this Agreement.

The section headings used herein, including descriptive summary sentences at the start of each section, are for convenience only and shall not affect the interpretation of this Agreement. The terms "include" and "including" are not limiting. As used in this Agreement, references to a determination made in Linden Lab's discretion means that the determination will be made by Linden Lab in accordance with its good faith business judgment. If any provision of this Agreement shall be held by a court of competent jurisdiction to be unlawful, void, or unenforceable, then in such jurisdiction that provision shall be deemed severable from these terms and shall not affect the validity and enforceability of the remaining provisions.

11.5 The applicable law and venue is in San Francisco, California.

You agree that this Agreement and the relationship between you and Linden Lab shall be governed by the laws of the State of California without regard to conflict of law principles or the United Nations Convention on the International Sale of Goods. Further, you and Linden Lab agree to submit to the exclusive personal jurisdiction and venue of the courts located in the City and County of San Francisco, California, except as provided in Section 10 regarding arbitration.

11.6 No Equitable or Injunctive Relief.

IF YOU CLAIM THAT YOU HAVE INCURRED ANY LOSSES OR DAMAGES IN CONNECTION WITH YOUR USE OF THE SERVICE, THEN THE LOSSES AND DAMAGES WILL NOT BE IRREPARABLE OR SUFFICIENT TO ENTITLE YOU TO AN INJUNCTION OR OTHER EQUITABLE RELIEF OF ANY KIND. THIS MEANS THAT, IN CONNECTION WITH YOUR CLAIM, YOU AGREE THAT YOU WILL NOT SEEK AND THAT YOU WILL NOT BE PERMITTED TO OBTAIN ANY COURT OR OTHER ACTION THAT MAY INTERFERE WITH OR PREVENT THE DEVELOPMENT OR EXPLOITATION OF ANY WEBSITE, CONTENT, USER CONTENT, UNSOLICITED IDEAS AND MATERIALS, PRODUCT, SERVICE, OR OTHER INTELLECTUAL PROPERTY OWNED, LICENSED, OR CONTROLLED BY LINDEN LAB OR A LICENSOR OF LINDEN LAB.

11.7 Improperly Filed Claims are Subject to Attorneys' Fees and Costs.

All claims you bring against Linden Lab must be resolved in accordance with Section 10, Dispute Resolution and Arbitration. All claims filed or brought contrary to the Dispute Resolution Section shall be

considered improperly filed and a breach of these Terms of Service. Should either party file a claim contrary to the Dispute Resolution Section, the other party may recover attorneys' fees and costs up to one thousand U.S. Dollars ($1,000.00 USD), provided that such party seeking such fees has notified the other in writing of the improperly filed claim, and the other has failed to promptly withdraw the claim.

12. RELATED POLICIES

The following related policies are incorporated by reference in and made part of this Agreement, and provide Additional Terms, conditions and guidelines regarding the Service. In the event of a conflict between this Agreement and any Additional Terms, this Agreement shall control except as expressly provided otherwise.

1. Linden Lab Privacy Policy
2. Intellectual Property Infringement Notification Policy
3. Community Standards
4. Content Guidelines

E7. Second Life Terms and Conditions

This agreement (the "**Second Life Policy**") describes the terms on which Linden Research, Inc. and its wholly-owned subsidiaries ("**Linden Lab**") offer you access to its 3D virtual world environment entitled Second Life. This offer is conditioned on your agreement to all of the terms and conditions contained in this Second Life Policy, Linden Lab's Terms of Service (the "**Terms of Service**"), and Linden Lab's Privacy Policy (the "**Privacy Policy**"), including the policies, terms, and dispute resolution procedures linked to or otherwise referenced therein (collectively, the "**Agreements**"), all of which are hereby incorporated into this Second Life Policy. If you do not so agree, you should decline this Second Life Policy, in which case you are prohibited from accessing or using Second Life.

In the event of a conflict amongst the Agreements, the Terms of Service shall control except as expressly provided otherwise. All capitalized terms have the meanings set forth in the Terms of Service, unless otherwise stated.

1. Content Licenses and Intellectual Property Rights

1.1. Linden Lab owns Intellectual Property Rights in Second Life.

In addition to Linden Lab's ownership of the Intellectual Property Rights set forth in the Terms of Service, you understand and agree that without a license agreement with Linden Lab, we do not authorize you to make use of the Linden Marks. Use of the Linden Marks in whole or in part, including without limitation "Second Life," "SL," and the Eye-in-Hand logo, is subject to the guidelines and terms of any applicable license provided in the Second Life Trademark Guidelines and Second Life Brand Center.

With respect to the source code for certain Software that has been released by Linden Lab under an open source license (such as the Second Life Viewer), such software code must be used in accordance with the applicable open source license terms and conditions.

1.2. Linden Lab grants you certain licenses to access and use Second Life while you are in compliance with the Agreements.

Linden Lab is thrilled to support the amazing creativity of the artists who take snapshots and make machinima in Second Life. Subject to compliance with all applicable terms and conditions, Linden Lab grants you certain copyright licenses as provided in the Second Life Snapshot and Machinima Policy.

1.3. You also grant Linden Lab and other users of Second Life a license to use in snapshots and machinima your Content that is displayed in publicly accessible areas of the Second Life.

In addition to the rights granted in Section 2.5 of the Terms of Service, you agree to the restrictions and requirements of our Snapshot and Machinima Policy. The foregoing license is referred to as the "Snapshot and Machinima Content License."

1.4. You shall be responsible for restricting access to Content for which you do not wish to grant a User Content License.

You agree that the User Content License set forth in the Terms of Service does not apply to content that is located on an island or region that is not publicly accessible. If you do not wish to grant users of Second Life a User Content License, you agree that it is your obligation to avoid displaying or making available your Content to other users. For example, an island or estate holder may use Virtual Land tools to limit or restrict other users' access to the Virtual Land and thus the Content on the Virtual Land.

1.5. You may grant certain Content licenses to other users through the Second Life permissions system.

Your interactions with Second Life may include use of the Second Life permissions system and the copy, modify, and transfer settings for indicating how other users may use, reproduce, distribute, prepare derivative works of, display, or perform your Content in Second Life subject to the Agreements.

1.6. You agree to respect the Intellectual Property Rights of other users, Linden Lab, and third parties.

You agree that you will not copy, transfer, or distribute outside of Second Life any Content that contains any Linden Content, in whole or in part or in modified or unmodified form, except as allowed by the Snapshot and Machinima Policy, or that infringes or violates any Intellectual Property Rights of Linden Lab, other Content Providers, or any third parties.

Any access to or use of Second Life through a software client other than the Linden Software that logs into the Servers (referred to as a "Third-Party Viewer") is subject to the Terms of Service, this Second Life Policy, and the terms of the Policy on Third-Party Viewers. The Policy on Third-Party Viewers provides required and prohibited functionality for Third-Party Viewers as well as other terms for those who use, develop, or distribute Third-Party Viewers; however, Linden Lab offers and supports Second Life only as offered by Linden Lab and is not obligated to allow access to or use of Second Life by any software or means not provided by Linden Lab. You understand and agree that Linden Lab is not responsible or liable for any aspect of Second Life that is accessed or experienced using software or other means not provided by Linden Lab.

Certain of the fonts in the Meta family of copyrighted typefaces are used in Second Life under license from FSI FontShop International. You acknowledge that you may not copy any Meta font that is included in the Viewer and that you may use any such Meta font solely to the extent necessary to use the Linden Software in Second Life and that you will not use such Meta fonts for any other purpose whatsoever.

2. Eligibility to Use Second Life

(...)

3. Fee and Billing Policy

3.1. "Linden Dollars" are virtual tokens that we license. Each Linden Dollar is a virtual token representing contractual permission from Linden Lab to access features of Second Life. Linden Dollars are available for Purchase or distribution at Linden Lab's discretion, and are not redeemable for monetary value from Linden Lab.

Second Life includes a component of virtual tokens ("Linden Dollars" or "L$"), each of which constitutes a limited license permission to use features of Second Life as set forth below. Linden Lab may or may not charge fees to acquire or use Linden Dollars, and these fees may change at any time.

Each Linden Dollar that you may acquire constitutes a limited license granted to you by Linden Lab to access and use Content, applications, services, and various user-created features in Second Life, and is digitally represented in Second Life as a virtual token that can be traded and/or transferred in Second Life with other users (and/or Linden Lab) in exchange for permission to access and use specific Content, applications, services, and various user-created features, in each case in accordance with this Second Life Policy and the Terms of Service. Linden Dollars are transferable by the holder to any other user, provided that both users comply with these Terms of Service, maintain their Accounts in good standing, and are not delinquent on any Account payment requirements. Except as expressly permitted by this Second Life Policy or otherwise expressly permitted by Linden Lab, Linden Dollars may not be sublicensed, encumbered, conveyed or made subject to any right of survivorship or other disposition by operation of

law or otherwise, and you agree that any attempted disposition in violation of these Terms of Service is null and void. Linden Lab may revoke any Linden Dollar at any time without notice, refund or compensation in the event that: (i) the Linden Dollar program is suspended or discontinued; (ii) Linden Lab determines that fraud or other illegal conduct is associated with the holder's Account; (iii) Linden Lab imposes a fixed time period during which the license rights provided by the Linden Dollar may be exercised; (iv) the holder's Account is terminated for violation of these Terms of Service; or (v) the holder becomes delinquent on any of that user's Account payment requirements, ceases to maintain an active Account or terminates any of the Agreements.

You acknowledge that Linden Dollars are not currency or any type of currency substitute or financial instrument, and are not redeemable for any sum of money from Linden Lab at any time. You agree that Linden Lab has the right to manage, regulate, control, and/or modify the license rights underlying such Linden Dollars as it sees fit, and may revalue or make such license rights more or less common, valuable, effective, or functional, and that Linden Lab will have no liability to you based on its exercise of this right. Linden Lab makes no guarantee as to the nature, quality or value of the features of Second Life that will be accessible through the use of Linden Dollars, or the availability or supply of Linden Dollars. As Linden Lab deems necessary, in its sole and absolute discretion, we may limit the total amount of Linden Dollars that may be purchased at any one time, and/or limit the aggregate amount of Linden Dollars that may be held in your Account.

3.2. Second Life may offer a Linden Dollar exchange (the "LindeX exchange" or "LindeX"), which shall be subject to the terms and conditions applied by an applicable Payment Service Provider.

Second Life may include a component called the "LindeX exchange" or the "LindeX," which refers to an aspect of Second Life through which Linden Lab permits Linden Dollars to be purchased by a user or exchanged by a user with Linden Lab. You acknowledge that your use of the LindeX is subject to the terms and conditions set forth by an applicable Payment Service Provider. If you do not so agree, you are prohibited from accessing or using the LindeX.

Linden Lab or its Payment Service Provider may halt, suspend, discontinue, or reverse any LindeX exchange transaction (whether proposed, pending or past) in cases of actual or suspected fraud, violations of other laws or regulations, or deliberate disruptions to or interference with Second Life.

3.3. Linden Dollars may not be purchased or sold outside of the LindeX exchange.

Any purchase or sale of Linden Dollars through any means other than the LindeX is not permitted and is considered a violation of these Terms of Service which may result in suspension or termination of your Account.

3.4. "Virtual Land" is Virtual Space in Second Life that we license.

Second Life includes a component of Virtual Space that is stored on our Servers and made available in the form of virtual units ("Virtual Land"). Virtual Land is the graphical representation of three-dimensional virtual world space. Linden Lab may or may not charge fees for the right to acquire, transfer or access Virtual Land, and these fees may change at any time.

When you acquire Virtual Land, Linden Lab hereby grants you a limited license ("Virtual Land License") to access and use features of Second Life associated with the virtual unit(s) of space corresponding to the identifiers of the Virtual Land within Second Life as designated by Linden Lab, in accordance with this Second Life Policy, the Terms of Service and any other applicable policies, including the Second Life Mainland Policies as they exist from time to time. The Virtual Land License is transferable by the holder to any other user provided that both users and the proposed transfer comply with the Terms of Service, maintain their accounts in good standing, and are not delinquent on any Account payment requirements. Except as expressly permitted by this Second Life Policy, this Virtual Land License may not otherwise be encumbered, conveyed or made subject to any right of survivorship or other disposition and any attempted disposition in violation of the Agreements is null and void. Linden Lab may revoke the Virtual Land License at any time without notice, refund or compensation in the event that: (i) Linden Lab determines that fraud, illegal conduct or any other violations of the Agreements are associated with the holder's Account or Virtual Land; or (ii) the holder becomes delinquent on any of that user's Account's payment requirements, ceases to maintain an active Account or terminates any of the Agreements.

You may permit or deny other users to access your Virtual Land on terms determined by you. Any agreement you make with other users relating to use or access to your Virtual Land must be consistent with the Agreements, and no such agreement can abrogate, nullify, void or modify the Agreements.

You acknowledge that Virtual Land is a limited license right and is not a real property right or actual real estate, and it is not redeemable for any sum of money from Linden Lab. You acknowledge that the use of the words "Buy," "Sell" and similar terms carry the same meaning of referring to the transfer of the Virtual Land License as they do with respect to the Linden Dollar License. You agree that Linden Lab has the right to manage, regulate, control, modify and/or eliminate such Virtual Land as it sees fit and that Linden Lab shall have no liability to you based on its exercise of such right. Linden Lab makes no guarantee as to the nature of the features of Second Life that will be accessible through the use of Virtual Land, or the availability or supply of Virtual Land.

4. Conduct by Users of Second Life

In addition to the rules of conduct set forth in the Terms of Service, you agree that you will not:

(i) Use robots or other automated means to increase traffic to any Virtual Land;

(ii) Operate or profit from a "game of chance". For more information please see our Skill Gaming Policy;

(iii) Operate or profit from a virtual "bank" In Second Life. For more information please see our Banking Policy;

(iv) Post, display or transmit any Content that is explicitly sexual, intensely violent or otherwise designated as Adult under our Maturity ratings, except as set forth in those ratings.

(v) Violate our Second Life Mainland Policies, each of which is incorporated into this Second Life Policy;

(vi) Violate our Maturity Content Guidelines. A region designated General is not allowed to advertise or make available content or activity that is sexually explicit, violent, or depicts nudity;

(vii) If you are an adult, impersonate a minor for the purpose of interacting with a minor using Second Life, or stalk, harass, or engage in any sexual, suggestive, lewd, lascivious, or otherwise inappropriate conduct with minors on Second Life, or attempt to contact or meet with such minor outside Second Life, including without limitation electronically or physically, if you have reason to know or Second Life concludes that you should have known you were interacting with a minor on Second Life, or otherwise engage in any conduct that violates our Teen Safety Guidelines;

(viii) Post, display or transmit any material, object or text that encourages, represents, or facilitates sexual "age play," i.e., using child-like avatars in a sexualized manner. This activity is grounds for immediate termination. You may review our full Age Play Policy here. You understand and agree that we may report any and all such incidents -- and any and all of your corresponding personal information -- to any authorities we deem appropriate, whether or not it in and of itself violates the law of your (or any) jurisdiction; or

(ix) Use "[slgaming]" as a prefix in the root object name field of any Content, unless otherwise approved by Linden Lab.

5. Second Life Intellectual Property Policy

Linden Lab encourages the creation of original content in Second Life. You should not use copyrighted, trademarked, or celebrity material in Second Life. The Second Life Intellectual Property Policy describes how Linden Lab treats trademark, copyright, and celebrity issues in Second Life. We operate an intellectual property complaint process for complaints that User Content infringes another's Intellectual Property Rights, the details of which are described in the Intellectual Property Infringement Notification Policy.

6. Privacy and Your Personal Information

(...)

7. Related Policies

The following related policies are incorporated by reference in and made part of this Second Life Policy, and provide additional terms, conditions and guidelines regarding Second Life.

1. Linden Lab Terms of Service
2. Linden Lab Privacy Policy
3. Intellectual Property Infringement Notification Policy
4. Community Standards
5. Content Guidelines
6. Second Life Maturity Ratings
7. Second Life Brand Center
8. Second Life Trademark Guidelines
9. Snapshot and Machinima Policy
10. Second Life Fee Schedule
11. Second Life Billing Policy
12. Second Life Marketplace Fee and Listing Policies
13. Second Life Mainland Policies
14. Gambling Policy
15. Skill Gaming Policy
16. Banking Policy
17. Age Play Policy
18. Policy on Third-Party Viewers

E8. World of Warcraft End User Licence Agreement

SOFTWARE PROGRAM. THIS SOFTWARE IS LICENSED, NOT SOLD. IF YOU DO NOT AGREE WITH THE TERMS OF THIS AGREEMENT, PLEASE DELETE THE SOFTWARE PROGRAM IMMEDIATELY AND ARRANGE TO RETURN THE GAME TO YOUR RETAILER.

This software program, and any files that are delivered to you (via on-line transmission or otherwise) to "patch," update, or otherwise modify and/or enhance the software program, as well as any printed materials and any on-line or electronic documentation (the "Manual"), and any and all copies and derivative works of such software program and materials (collectively, together with the "Game Client" defined below, the "Game") are copyrighted works of Blizzard Entertainment, Inc. ("Blizzard Entertainment"), who has licensed its rights to exploit the Game in the European Union to its affiliate Blizzard Entertainment, SAS ("Blizzard"). All use of the Game is governed by the terms of this End User License Agreement ("License Agreement" or "Agreement"). To play the Game, you must have registered an account on Blizzard's Battle.net® game service (the "Battle.net® Account"), which is subject to a separate Terms of Use agreement available at http://eu.blizzard.com/en-gb/company/about/termsofuse.html?rhtml=y (the "BNET Terms of Use Agreement"). Blizzard's Battle.net® game service (the "Battle.net® Service") is provided to you by Blizzard. In addition, the Game may only be played by obtaining access to Blizzard Entertainment's World of Warcraft massively multi-player on-line role-playing game service (the "Service"), which is subject to a separate Terms of Use agreement (the "WoW Terms of Use") and which is provided to you by Blizzard. The Service includes the use of a voice over Internet protocol technology, which enables you to communicate orally with other users and which includes certain features to determine who to speak with (the "Voice Client"). Blizzard is your contractual partner for the performance of the Service. If your purchase of the Game included a limited period of "free access" to the Service, the WoW Terms of Use also govern your access

to the Service during the period of "free access." The Game is distributed solely for use by authorized end users according to the terms of this License Agreement. Any use, reproduction or redistribution of the Game not expressly authorized by the terms of the License Agreement is expressly prohibited.

1. Grant of a Limited Use License.

The Game installs computer software (hereafter referred to as the "Game Client") onto your hardware to allow you to use your Battle.net® Account to play the Game through access to the Service. To play the Game you must therefore: (i) register for and login using an authorized Battle.net® Account, (ii) obtain access to the Service and (iii) agree to the terms of this License Agreement, the WoW Terms of Use and the BNET Terms of Use Agreement. Subject to your agreement to and continuing compliance with this License Agreement, Blizzard hereby grants, and by installing the Game Client you thereby accept, a limited, revocable, non-transferable, non-sublicensable and non-exclusive license and right to install the Game Client – unless otherwise expressly permitted in this License Agreement – for your personal and non-commercial use on one (1) or more computers which you own or which are under your personal control. All use of the Game is subject to this License Agreement, the BNET Terms of Use Agreement, and the WoW Terms of Use, each of which you must accept before you can use your Battle.net® Account to play the Game through access to the Service. Blizzard Entertainment and/or Blizzard reserve the right to update, modify or change the Game for the reasons stated in Section 9 below. Changes to the License Agreement will be notified and enter into force according to Section 15 below.

2. Pre-Loaded Software.

The media on which the Game Client is distributed may contain additional software and/or content for which you may not have a valid license and which is specially protected against unauthorized access (the "Locked Software"). You agree that Blizzard Entertainment and/or Blizzard may install the Locked Software onto your hard drive during the Game Client installation process. You also agree that you will not access, use, distribute, copy or display any Locked Software, or create any derivative works based on the Locked Software. PLEASE NOTE THAT THE CIRCUMVENTION OF ACCESS OR COPY PROTECTION MEASURES MAY CONSTITUTE A CRIMINAL ACT UNDER THE COPY PROTECTION LAWS OF YOUR COUNTRY OF RESIDENCE. You can get access to and use the Locked Software, or parts thereof, if you (a) purchase or otherwise legally obtain a valid license and (b) accept the End User License Agreement(s) for this Locked Software, in such case you will receive an alphanumeric key from Blizzard to unlock the software. Please note that you will only be allowed to unlock those portions of the Locked Software for which you accepted the respective End User License Agreement ("the Unlocked Software EULA") and were granted a valid license (the "Unlocked Software"). The terms of this Agreement, the WoW Terms of Use and the BNET Terms of Use Agreement shall apply to Unlocked Software in addition to the Unlocked Software EULA. However, to the extent any provision of this Agreement conflicts with any provision in the Unlocked Software EULA, the provisions of the Unlocked Software EULA shall prevail, but only with regard to the Unlocked Software.

3. Service and Terms of Use.

As previously stated, you must have registered a Battle.net® Account to access the Service and play the Game. The Battle.net® Service is subject to the BNET Terms of Use Agreement, which you may view http://eu.blizzard.com/en-gb/company/about/termsofuse.html?rhtml=y and which you must accept to register a Battle.net® Account. You must also accept the WoW Terms of Use in order to access the Service to play the Game. The WoW Terms of Use govern all aspects of game play. You may view the Terms of Use by visiting the following website: http://www.wow-europe.com/en/legal/termsofuse.html. If you have purchased a hardcopy of the Game and do not agree with the BNET Terms of Use Agreement, or the WoW Terms of Use, you should (i) not register for a Battle.net® Account to play the Game, (ii) not access the Service to play the Game, and (iii) return the Game to the place where you purchased the Game within thirty (30) days of the original purchase date.

4. Ownership.

A. All intellectual property rights in and to the Game, including without limitation the Locked and Unlocked Software, and all copies thereof (including, but not limited to, any user accounts, titles, computer code, themes, objects, characters, character names, stories, dialog, catch phrases, locations, concepts, artwork, character inventories, structural or landscape designs, animations, sounds, musical

compositions, audiovisual effects, storylines, character likenesses, methods of operation, moral rights, any related documentation, and "applets" incorporated into the Game) are owned or expressly licensed by Blizzard Entertainment or Blizzard. The Game is protected by the copyright laws of the United States, international copyright treaties and conventions, and other laws. All rights are reserved. The Game may contain certain licensed materials, and licensors of those materials may enforce their rights in the event of any violation of this License Agreement.

B. In order to access the Service and to play World of Warcraft , you are required to establish a Battle.net® Account as described in the BNET Terms of Use Agreement that is unique to you and non-transferable. To access the Service, you will be asked to provide Blizzard with an Authentication Key of the Game that will be exclusively linked to the Battle.net® Account you have established. Therefore, Blizzard does not allow you to transfer ownership of the Game Client to third parties.

5. Responsibilities of End User.

A. Subject to the Grant of License herein, you may not, in whole or in part, copy, photocopy, reproduce, translate, reverse engineer, derive source code, modify, disassemble, decompile, or create derivative works based on the Game, or remove any proprietary notices or labels on the Game. Failure to comply with the restrictions and limitations contained in this Section 5 shall result in immediate, automatic termination of the license granted hereunder and may subject you to civil and/or criminal liability. Notwithstanding the foregoing, you may make one (1) backup copy of the Game Client, the Unlocked Software and the Manuals.

B. You agree that you shall not, under any circumstances:

(i) sell, grant a security interest in or transfer reproductions of the Game to other parties in any way not expressly authorized herein, nor shall you rent, lease or license the Game to others;

(ii) exploit the Game or any of its parts, including, but not limited to, the Game Client, for any commercial purpose without Blizzard's express permission, with the sole exception that you may use the Game Client, or copies of the Game Client, on the Service at a cyber cafe, computer gaming center or any other location based site;

(iii) host, provide or develop matchmaking services for the Game or intercept, emulate or redirect the communication protocols used by Blizzard in any way, including, without limitation, through protocol emulation, tunneling, packet sniffing, modifying or adding components to the Game, use of a utility program or any other techniques now known or hereafter developed, for any purpose, including, but not limited to, unauthorized network play over the Internet, network play utilizing commercial or non-commercial gaming networks or as part of content aggregation networks; or

(iv) create or maintain, under any circumstance, any unauthorized connections to the Game or the Service. All connections to the Game and/or the Service, whether created by the Game Client or by other tools and utilities, may only be made through methods and means expressly approved by Blizzard. Under no circumstances may you connect, or create tools that allow you or others to connect, to the Game's proprietary interface or interfaces other than those expressly provided by Blizzard for public use.

(v) use the Voice Client for any unlawful purposes. In particular you shall not (i) eavesdrop, intercept or monitor any communication which is not intended for you, (ii) use any type of spider, virus, worm, trojan-horse or any other codes or tools that are designed to distort or otherwise interfere with the communication, (iii) use the Voice Client for any commercial communication, or (iv) expose any other user to communication which is offensive, harmful to minors, indecent or otherwise objectionable.

6. Parental Control.

(...)

7. Termination.

This License Agreement is effective until terminated. Upon termination for any reason, all licenses granted herein as well as licenses for Unlocked Software shall immediately terminate and you may terminate the License Agreement at any time by cumulatively (i) destroying the Game; and (ii) removing

the Game Client from your hard drive; and (iii) notifying Blizzard by mail of your intention to terminate this License Agreement to the following address: Blizzard Entertainment S.A.S., TSA 60 001, 78143 Vélizy-Villacoublay Cedex, France. Blizzard reserves the right to terminate this License Agreement without notice, if you fail to comply with any terms and conditions contained herein, the WoW Terms of Use and/or the BNET Terms of Use Agreement. In case of minor violations of these rules Blizzard will provide you with a prior warning of your non-compliance prior to terminating the License Agreement. If, however, your behavior is utterly inacceptable, in particular if it endangers the gaming experience of other players, Blizzard is not required to provider you with such prior warning. A behavior is utterly inacceptable in case of a serious violation of important provisions of this License Agreement, the WoW Terms of Use and/or the BNET Terms of Use Agreement. Important provisions include a violation of Sections 1, 2 and 5 above. In such event, you must immediately destroy the Game and remove the Game Client from your hard drive.

8. Export Controls.

(...)

9. Patches and Updates.

Blizzard Entertainment and/or Blizzard shall have the right to deploy or provide patches, updates and modifications to the Game, as needed or as useful to: (i) enhance the gaming experience by adding new content to the Game, (ii) incorporating new features to the Game, (iii) enhancing content or features already in the Game; (iv) fixing 'bugs' that may be altering the Game; and (v) determining how you and other players utilize the Game so that the Game can be enhanced for the enjoyment of the Game's users; and (vi) protect you and other players against cheating; and (iii) make the gaming environment safer for you. These patches, updates and modifications to the Game must be installed for the user to continue to play the Game. For these purposes, Blizzard Entertainment and/or Blizzard may update the Game remotely, including, without limitation, the Game Client residing on the user's machine, without knowledge or consent of the user, and you hereby grant to Blizzard Entertainment and/or Blizzard your consent to deploy and apply such patches, updates and modifications to the Game.

10. Duration of the "On-line" Component of the Game and of the Voice Client.

This Game is an 'on-line' game that must be played over the Internet through the Service, as provided by Blizzard. It is your entire responsibility to secure an Internet connection and all fees related thereto shall be at your own charge. Blizzard will use reasonable efforts to provide the Service all day, every day. However, Blizzard reserves the right to temporarily suspend the Service for maintenance, testing, replacement and repair of the telecommunications equipment related to World of Warcraft, as well as for transmission interruption or any other operational needs of the system. Blizzard can neither guarantee that you will always be able to communicate with other users, nor that you can communicate without disruptions, delays or communication-related flaws. Blizzard is not liable for any such disruptions, delays or other omissions in any communication during your use of the Voice Client. Blizzard agrees to provide the servers and software necessary to access the Service until such time as World of Warcraft is "Out of Publication." World of Warcraft shall be considered "Out of Publication" following the date that World of Warcraft is no longer manufactured and/or distributed by Blizzard Entertainment, or its affiliates. Thereafter, Blizzard may, in its sole and absolute discretion, continue to provide the Service or license to third parties the right to provide the Service. However, nothing contained herein shall be construed so as to place an obligation upon Blizzard to provide the Service beyond the time that World of Warcraft is Out of Publication. In the event that Blizzard determines that it is in its best interest to cease providing the Service, or license to a third party the right to provide the Service, Blizzard shall provide you with no less than three (3) months prior notice. Neither the Service nor Blizzard's agreement to provide access to the Service shall be considered a rental or lease of time on or capacity of Blizzard's servers or other technology.

11. No Responsibility for Individual Communication.

You acknowledge that the content of the communication with other users through the Voice Client is entirely the responsibility of the user from whom such content originates. You may therefore be exposed to content that is offensive, harmful to minors, indecent or otherwise objectionable. Blizzard is not liable for any such sort of communication of other users through the Voice Client.

12. Additional Manufacturer's Guarantee for the Game Client.

In the event that tangible media (e.g. CD-ROMs or DVDs) containing the Game Client were purchased in the European Union and they prove to be defective and provided you inform Blizzard of such defect within (i) two (2) months from the day you detected such defect and (ii) within two (2) years from the date of the purchase of the Game, Blizzard will, upon presentation to Blizzard of proof of purchase of the defective media and the media itself, at its sole discretion 1) correct any defect, 2) replace the Game, or 3) refund your money.

This guarantee does not affect or restrict the statutory warranty claims that you may have against the retailer of the Game Client.

13. Limitation of Liability.

As regards the online service provided by Blizzard, for damages or compensation of unavailing expenditures, whatever the legal basis including tort may be, the following rules apply: Blizzard may only be liable in cases of where it is adjudged that Blizzard: (i) engaged in intentionally damaging conduct; (ii) was grossly negligent; and/or (iii) is in breach of the requirements of the Product Liability Act according to statutory law. If you acquired the media containing the Game Client in Germany or Austria or if you access the Service from the territory of Germany or Austria or in such other countries where local laws would apply, Blizzard may also be liable in case of death or personal or physical injury according to statutory law where Blizzard is adjudged to be responsible for such death or personal or physical injury. Blizzard shall not be liable for slight negligence. However, if you acquired the media containing the Game Client in Germany or Austria or if you access the Service from the territory of Germany or Austria, Blizzard may also be liable for slight negligence if Blizzard is adjudged to be in breach of such contractual obligation hereunder, the fulfillment of which is required for the due performance under this Agreement, the breach of which would endanger the purpose of this Agreement and the compliance with which you may constantly trust in. In such cases, Blizzard's liability is limited to typical and foreseeable damages; in other cases Blizzard shall not be liable for slight negligence.

14. Rights on Breach.

The Game, Game Client as well as the Locked Software, trademarks and copyrighted content contained therein and associated with the Game are the copyrighted property of Blizzard Entertainment, and, through the efforts of Blizzard Entertainment, has established substantial goodwill and recognition. In the event of a significant breach of the terms of this Agreement, Blizzard Entertainment reserves its right to take all legal actions which may be available to a licensor of intellectual property under the law to protect its rights in its property. In the event that Blizzard Entertainment is the prevailing party in any such actions, Blizzard Entertainment shall see any and all rights that may be available to Blizzard Entertainment under the law to recover damages, costs of suit and its attorneys fees.

15. Changes to the Agreement.

Blizzard may, from time to time, change, modify, add to, supplement or deleted this License Agreement. Those changes will become effective upon prior notice as follows: Blizzard will post notification of any such changes to this License Agreement on the World of Warcraft website located at http://eu.battle.net/index.html and will post the revised version of this License Agreement in this location, and may provide other notice which may include by email, postal mail or pop-up screen. After expiry of one month following the notification the continued use of the Game and Services by you will mean you accept any and all such changes. By means of the notification Blizzard will inform you about the fact that the License Agreement has been amended and shall point out that after expiration of one month following the notification your installation or use of the Game shall be deemed as consent to the modification or amendment. If any future changes to this License Agreement are unacceptable to you or cause you to no longer be in compliance with this License Agreement, you may terminate this License Agreement in accordance with Section 7 herein. The modified version of the License Agreement shall enter into force at the beginning of the second month following the notification unless Blizzard has received a notification of termination from you by that time.

16. Miscellaneous.

In the event that any provision of this License Agreement shall be held by a court or other tribunal of competent jurisdiction to be unenforceable, the remaining portions of this License Agreement shall remain in full force and effect. This License Agreement constitutes and contains the entire agreement between the parties with respect to the subject matter hereof and supersedes any prior oral or written

agreements; provided however, that this agreement shall coexist with, and shall not supersede, the WoW Terms of Use and the BNET Terms of Use Agreement. To the extent that the provisions of this Agreement conflict with the provisions of the WoW Terms of Use, the conflicting provisions in the WoW Terms of Use shall govern. In the event of a conflict between the terms of this Agreement and the BNET Terms of Use Agreement, this Agreement shall govern and supersede the BNET Terms of Use Agreement. Sections 4A, 11, 12, 13, 14, 154 and 16 hereof shall survive the termination of this Agreement.

I represent that I am a 'natural person' over the age of eighteen (18) years or over the age of majority in my country of residence. I hereby acknowledge that I have read and understand the foregoing License Agreement. I further agree that the action of installing the Game Client is an acknowledgment of my agreement to be bound by the terms and conditions of the License Agreement contained herein on behalf of myself and, as far as applicable, for one minor child for whom I am a parent or legal guardian and whom I have authorized to use the Service and to play the Game.