Newcastle Law School

Legal Framework for Protecting Computer Programs in the Ambit of Intellectual Property: A Comparative Study between Iraqi Law (Civil Law) and English Law (Common Law)

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Abstract

The purpose of this thesis is to test the ability of Iraqi law to protect right holders of computer programs and the programs themselves. Comparison is made between Iraq's Author's Right Act 1971, as amended in 2004, and English law- especially Copyright, Designs, and Patent Act 1988, as amended. Examining the effectiveness of the rules in both laws for protecting CPs entails four main areas: the nature and legal status of computer programs, the scope of copyright protection guaranteed for computer programs by the legislation, other legal ways of protecting programs and harmonisation between European Union copyright laws and Iraqi author right law. The methodology is mainly doctrinal /comparative.

Accordingly, this study has been divided into six chapters. Chapter One contains the general introduction and covers the main features for Iraq as a developing country and the study's background; its importance, aims and goals, and methodology.

Chapter Two examines the nature and legal status of computer programs. Many questions are raised in relation to their nature: are computer programs tangible or intangible things? goods, services, or something else? Should property subsist and if so which kind of property, if programs do not fit recognised kinds of private property, can they be deemed a *sui generis*? Finally, evaluation the ability of "property" as a way to protect the investment of CPs in Iraq.

Chapter Three, test the provisions of copyright and author's right in English law, Iraqi law and references other laws - US, French, and Egyptian. Iraqi law and the UK law deem computer programs to be a literary works, protected by author's right/copyright. Iraqi law has started to be consistent with the WTO and TRIPs Agreement. Questions arise regarding the sufficiency of copyright/author's right to protect computer programs. If not adequate, would other methods provide preferable protection?

Chapter Four examines other techniques for protection: patents, contractual terms, trade secret law and trade marks.

Chapter Five aims to make harmony between Iraqi laws, international laws and European Directives, to link Iraq with the communities which preceded it in the area of intellectual property. As well as legislation, there is scope for judicial harmonisation using s1 (3) of Iraqi Civil Code. Finally, Chapter Six presents the main results and conclusions and makes recommendations as to for improving the current legal situation.

Acknowledgement

To my country and parents

List of abbreviations

AIPJ	Akron Intellectual Property Journal
ACA	Australian Copyright Act 1968
ARA 1971	Author's Right Act 1971
BC	Berne Convention
CCPA	the Courts of Customs and Patent Appeals
CDPA 1988	Copyright, Design, Patent, Act 1988
CI	Confidential Information
CL&SR	Computer Law & Security Report
CL&SW	Computer Law & Security Review
CPD	Council European Directive of the legal protection of computer programs 1991 &2009
Infosoc	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.
CLR	California Law Review
C&TLR	Computer and Telecommunications Law Review
CLR&TJ	Computer Law Review &Technology Journal
CPs	Computer programs
CS&TLR	Columbia Science and Technology Law Review
CTs	Contractual Terms
EAR 1954	Egyptian Author's Right 1954
EIPRA 2002	the Egyptian Intellectual Property Rights Act 2002
ECC 1948	Egyptian Civil Code 1948
ECL	English case law

EIPR	European Intellectual Property Review
ELR	Entertainment Law Review
EPC	European Patent Convention 197
EPO	European Patent Office
FLIPC	French Law on the Intellectual Property Code 1992, as consolidated 2010
ICC	Iraqi Civil Code 1951
IJL&IT	International Journal of Law & Information Technology
IP	Intellectual Property
IRIP&CL	International Review of Intellectual Property and Competition Law
IPQ	Intellectual Property Quarterly
IP&TLJ	Intellectual Property & Technology law Journal
IPIML	Iraqi Patent and Industrial Models Law, 1970, as amended 1999,2004
JARA 1992	The Jordanian Author's Right Act 1992
JCLA	Jordanian Civil Law Act 1976
JPA 1999	Jordanian Patent Act 1999
JCL	Journal of Contemporary Law
JIPL&P	Journal of Intellectual Property Law & Practice
JILT	the Journal of Information, Law and Technology
JWT	Journal of World Trade
LAR 1999	Lebanese Author's Right 1999
LJI	Legal Journals Index
UK PA 1977	UK Patent Act 1977
PTOBA	the Patent and Trademark Office Board of Appeals
TM	Trade mark
TMA	Trade Marks Act 1994
TRIPs	Agreement on Trade –Related Aspects of Intellectual Property Rights 1994

TS	Trade Secret
U.S.CA	the USA Copyright Act (1976)
USPTO	United State Patent and Trademark Office
WIPO	World Intellectual Property Organisation Copyright Treaty 1996

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Chapter One

Introduction

1.1.Introduction to Iraq and its computer industry

This section is relating to give the reader an introduction or background as regards Iraq[1] as a developing country[2] and its computer industry. This will provide the reader with knowledge

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[1] Iraq, officially the Republic of Iraq, is a country in Western Asia spanning most of the north western end of the Zagros mountain range, the eastern part of the Syrian Desert and the northern part of the Arabian Desert.

Iraq borders Syria to the northwest, Turkey to the north, Iran to the east, Jordan to the southwest and Kuwait and Saudi Arabia to the south. Iraq has a narrow section of coastline measuring 58 km (36 mi) on the northern Persian Gulf. The capital city, Baghdad is in the center-east of the country. Two major rivers, the Tigris and Euphrates, run through the center of Iraq, flowing from northwest to southeast. See, Duiker William J; Spielvogel Jackson J. World History: From 1500 (5th edition. Belmont, California, USA: Thomson Wadsworth, 2007)

[2]The word pair developing/developed countries became in the 1960s the more common way to characterize countries, especially in the context of policy discussions on transferring real resources from richer (developed) to poorer (developing) countries, see Lester Person &others, Partners in Development: Report of the Commission on International Development (New York: Praeger Publishers, 1969) and Lynge Nielsen, Classifications of Countries Based on Their Level of Development: How it is Done and How it Could be Done, IMF work paper (2011) WP/11/31, p.4 .

 Developing country means a country that is poor and whose citizens are mostly agricultural workers but that wants to become more advanced socially and economically. See Audio English .net <http://www.audioenglish.net/dictionary/developing_country.htm > accessed 8 January 2103. Also, it is defined as a nation with a low living standard, undeveloped industrial base, and low Human Development Index (HDI) relative to other countries. See Financial Dictionary http://financial-dictionary.thefreedictionary.com/lesauthor=Farlex Financial Dictionary, and Arthur Sullivan; Steven M. Sheffrin , Economics: Principles in Action. (2003)Upper Saddle River, New Jersey 07458: Pearson Prentice Hall. p. 471.The World Bank has classified the countries in the world developing countries and developed countries according to a global poverty line on the basis of which internationally comparable poverty rates can be estimated.

Also, the UN General Assembly adopted in 2000 the Millennium Declaration. The declaration included a reference to the global policy intent "to halve, by the year 2015, the proportion of the world's people whose income is less than one dollar a day, see(Paragraph 19 in UN General Assembly Resolution 55/2 of 18 September 2000. The full text of the resolution is contained in document A/RES/55/2 available on the UN's website www.un.org).

 Iraq is developing country according to the classification of : International Monetary Fund (IMF), see International Monetary Fund (IMF) <http://www.imf.org/external/index.htm> accessed 19 December 2012, World Bank International, see <http://www.worldbank.org/ > accessed 9 January 2013, and United Nation , see

regarding political and legal historical background, Iraq's status as a developing country and the World Trade Organization (hereinafter WTO) [3] position, judicial history and background including civil code and court system, the computer industry in recent years, possible reason to protect computer programs (hereinafter CPs) and finally possible mechanisms to protect CPs.

1.1.1. Historical background to Iraq: politically, legally and judiciary

1- Political background, Iraq was under the rules of Ottoman Empire since 1534 until 1918[4] and then has become as an independent country in 1932.[5] This was gained from Britain by the Kingdom of Iraq.[6] In 1958, the monarchy was overthrown and the Republic of Iraq was created. Iraq was controlled by the Ba'ath Party (Iraqi-led faction) from 1968 until 2003. After an invasion led by American and British forces, the Ba'ath Party was removed from power and Iraq came under a military occupation by a multinational coalition. Sovereignty was transferred to the Iraqi Interim

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<http://www.un.org/en/> > accessed 9 January 201 , and the Organization of Economic Cooperation and Development (OECD), see Nielsen,12

[3] The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations. At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations and ratified in their parliaments. The goal is to help producers of goods and services, exporters, and importers conduct their business < http://www.wto.org>

[4] Iraq was the centre of the Abbasid Caliphate which was the third of the Islamic caliphates (Kingdom) . Iraq has been known to the west by the Greek toponym 'Mesopotamia' (Land between the rivers) and has been home to continuous successive civilizations since the 6th millennium BC. The region between the Tigris and Euphrates rivers is often referred to as the cradle of civilization and the birthplace of writing, law and the wheel. At different periods in its history, Iraq was the centre of the indigenous Akkadian, Sumerian, Assyrian, Babylonian-Chaldean, and Arab Abbasid empires. It was also part of the Achaemenid, Hellenistic, Parthian, Sassanid, Roman, Rashidun, Umayyad, Mongol, Safavid, Afsharid, and Ottoman empires, and under British control as a League of Nations mandate. See Library of Congress Country Study, Iraq: Historical Setting<http://historymedren.about.com/library/text/bltxtiraq8.htm> accessed 10 January 2013

[5] On October 3, 1932, Iraq was admitted to the League of Nations as an independent state. See <http://www.britannica.com/EBchecked/topic/293631/Iraq/22903/Independence-1932-39>accessed 19December 2012. Also, Library of Congress Country Study, Iraq: Historical Setting < <http://historymedren.about.com/library/text/bltxtiraq8.htm> accessed 10 January 2013

[6] Iraq had been a monarchy from 1921-1958, see : Edmund A Ghareeb, Beth K Dougherty. *Historical Dictionary of Iraq*(Lanham, Maryland and Oxford: The Scarecrow Press, Ltd., 2004) P .vii , William (n1) 839

Government in June 2004 which then approved a new Constitution[7], which made Iraq as a Federation Country,[8] and a new Government of Iraq was elected. Foreign troops remained in Iraq after the establishment of a new government due to an insurgency that developed shortly after the invasion, withdrawing in 2011.[9]

2- As regards the legal background of intellectual property (hereinafter IP), the Author Turkish Act of 1910[10] was applicable to Iraq until 1971. Iraq had been implemented Sharia Law until 1951 which made Iraq embraced Civil Law Code (hereinafter ICC) approach and enacted ICC to be implemented in 1953.[11] In 1971, the Author's Right Act (hereinafter ARA 1971)[12] was enacted to create a new era of author protection. A drawback to this law was its ambiguity regarding the protection of CPs. In fact, it did not mention CPs and leaves one wondering whether CPs were actually known to Iraqi law at the time of the enactment of the Act.

3- Judicially, Iraq was a part of the Ottoman Empire in 1900 and one of its states. During that period, Iraq knew one kind of courts; the Islamic Shari'a (law) courts, which rested in their judgments on the Islamic Shari'a (the Hanafi doctrine) and applied its rules to the disputes they decided on.[13] In 1917, Britain occupied the City of Baghdad and the Turkish judges left the city. The Courts' activities were suspended or almost suspended, as the Turkish employees left them too. The courts documents were destroyed. No court continued to undertake its activity except one Islamic Shari'a court and one magistrates' court in Baghdad. Their location was in the government

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[7] Iraqi Constitution of 2005, The Washington Post < http://www.washingtonpost.com/wp-dyn/content/article/2005/10/12/AR2005101201450.html > accessed 9 January 2013

[8] The Preamble and S 1(The Republic of Iraq is a single federal, independent and fully sovereign state in which the system of government is republican, representative, parliamentary, and democratic, and this Constitution is a guarantor of the unity of Iraq)

[9] Frederic Wehrey & others, *The Iraq Effect: The Middle East After the Iraq War* (Santa Monica : RAND Corporation, 2010) 21 et seq , 41 & seq. See also, <http://edition.cnn.com/2011/12/17/world/meast/iraq-troops-leave/index.html> Retrieved 18 December 2011.See also Duriker (n3) 839

[10]This Act was enacted when Iraq was a colony to Ottoman Empire

[11] See the Appendix 3 of thesis

[12] In 2005,this legislation has become Federal after issuing Iraqi Constitution of 2005

[13] Medhat Mahmoud (Chairman of the Court of Cassation, President of the Council of judges), Judicial System in Iraq Review of the Legislation Regulating Judicial Affairs in IRAQ, Conference was held in Jordan, Amman 2004,p.7

palace adjacent to the Wali's room. According to the "Courts Declaration" , the courts in Iraq during the British occupation period were formed as follows :The court of appeal, Bada'a courts, Magistrates' courts,Shari'a (or, Islamic law) courts and Criminal courts.[14] When Iraq became a republican state in 1958, the judicial system remained as it was under the British occupation rule, which inherited this system from the time of the Ottoman occupation.[15]

The Iraqi judicial currently contains different kinds of Courts under the Judicature Act 160/1979. The High court is called "Court of Cassation". It was defined by s (12) of the Judicature Act 1979 is "the supreme judicial body that exercises control over all courts". It is made up of a Chairman, five (5) deputies and at least 30 judges as members. The court's premises are in Baghdad. In addition, there are number of courts are under the authority of " Court of Cassation". These courts are divided into two sections, civil Courts and Criminal courts: (a) Civil courts: 1. The Courts of appeal. 2. The Courts of first instance which is specialist to issue the decisions as regards copyright infringements. 3. The Courts of personal status affairs 4. The labor Courts. (b).Criminal courts:1. Courts of felonies. 2. Courts of misdemeanours.3. Courts of juveniles: a. Courts of investigation (juvenile crimes) b. Courts of trial. 4.Customs courts. 5. Courts of investigation (all crimes).[16]See the diagram bellow.

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[14] ibid 10&11

[15] ibid 12

[16] For more detail , ibid et seq

Iraqi Judicial system

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                        Court of
                        Cassation

        Criminal                              Civil Courts
        Courts

  Investigatio    Custom        Courts of    Courts of         Courts     Labour    Courts    Courts     Courts
  n Courts        s Courts      juveniles    Misdemeanours     of         Courts    of        of first   of
                                                               Felonie              personal  instanc    Appeal
                                                                                    Status

                          Trial            Juvenile
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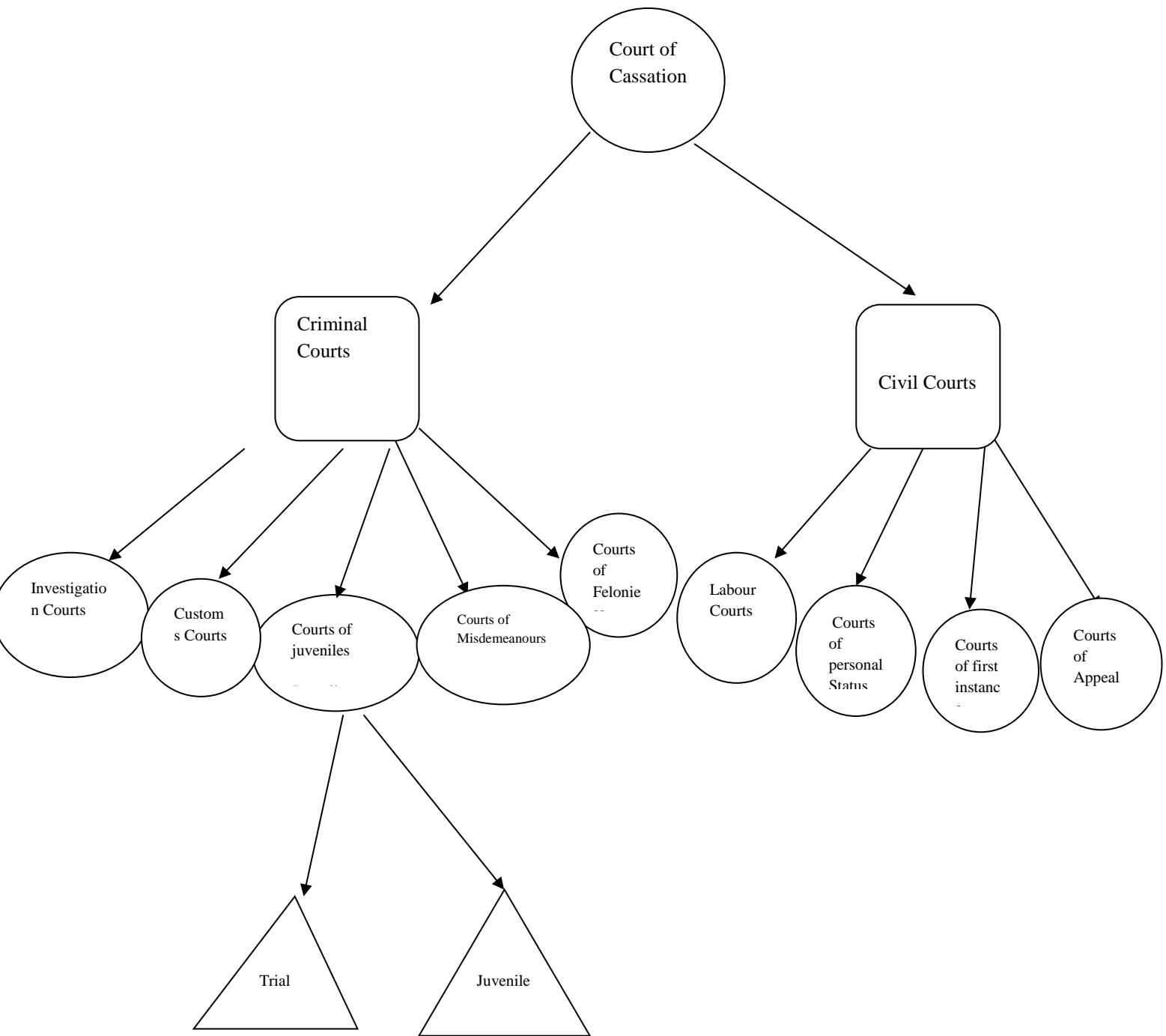
1.1.2. Iraq's status as a developing country and WTO position

Iraq is currently in the pipeline of acceding to the WTO.[17]This means that Iraq needs to develop a comprehensive strategy to implement intellectual international law, such as Agreement on Trade-related Aspect of Intellectual Property Rights 1994 (hereinafter TRIPs Agreement), successfully and expeditiously to overcome the weakness points in Iraqi law.[18]

Many developing countries, Iraq on of them, are seeking to establish themselves as low -cost "knowledge factories", working at wages 90-95 per cent lower than in Europe and North America.[19] Accordingly, there are significant differences in size and growth of the industry particularly computer industry between developing countries and developed countries.[20]

Iraq is currently lack of real industry which is being destroyed because Iraq had faces very bad circumstances in the last three decades.[21] This could be deemed as a reason for

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[17]"Iraq Takes First Step to Join WTO," 12 February 2004, Financial Times 14. Having a seat at the WTO as an observer would allow Iraq to attend WTO meetings but not participate in decision-making or table proposals for negotiations. See, Bashar Malkawi , 'Iraqi Patent Law: in search of compliance with TRIPS', (2007) IRIP&CL, 38(5), 591-604,591&footnote 1

[18] This subject will be discussed in chapter 5 relating to "Harmonisation the rules of IP international law with Iraq, as a developing country". See the literatures : Olu Fasan, Commitment and compliance in international law: a study of the implementation of the WTO TRIPS Agreement in Nigeria and South Africa , A.J.I.C.L. 2012, 20(2), 191-228), Sam Ricketson & Jane C.Ginsburg, *"International Copyright and Neighbouring Right- the Berne Convention and Beyond"*(OUP, volume 2, 2nd ed, 2006), Jeremy De Beer & Sara Bannerman, Foresight into the future of WIPO's development agenda,(2010) W.I.P.O.J , 1(2), 211-231, Sepehr Ghazinoory & others, IP management in the context of developing countries - the case of Iran's industrial companies (2012) ICC 43(3), 267-285, Ng-Loy Wee Loon, Exploring flexibilities within the global IP standards (2009) I.P.Q. Correa C , Intellectual Property Rights, the WTO and developing Countries, the TRIPS Agreement and Policy options, (London & New York: Zed Books Ltd 2000), Gervais D, The TRIPS Agreement : Drafting History and Analysis(3rd edn, Sweet & Maxwell 2008), Alavi A, 'Special and Differential Treatments provisions in the TRIPs negotiations' (2008) J.I.P.L &P, 3(1), 55-58

[19] UNCTAD, Changing Dynamic of Global Computer Software and Services Industry: Implication for Developing Countries,2002, ISBN 92-1-112550-2,p.13. Also see: UNCTAD-ICTSD Project on Intellectual Property Rights and Sustainable Development Policy Discussion Paper, "Intellectual Property Rights: Implications for Development" 129 (2003), Haochen Sun, Copyright law under siege: an inquiry into the legitimacy of copyright protection in the context of the global digital divide,(2005)IIC 36(2), 192-213

[20] ibid 14 and Sun(n19) 192

[21] In 1995, there are five countries moved out from the group of developing countries to the group of developed countries because of their "high-income developing economies" . These countries are Singapore, Hong Kong, Israel, Kuwait and the United Arab Emirates. See Loon(n18) 7 & footnote 30

categorising Iraq as a developing country. However, Iraq has strength points could help it to be more than a developing country.

It could be summarised that the main strength points in Iraq are: Firstly, Iraq is wealthy country in the area of natural resources such as oil producing. Secondly, in the 1980s, Iraq used to be very much interested in computer industry.[22] Thirdly, Iraqi citizens who are working in other countries learning a new computer technology and are more experienced in modern society can take this knowledge back to Iraq and teach this new computer technology to help move the country into a more modern society, establish better industry with better knowledgeable computer technology and establish what type of industry best suits Iraq and will benefit from this technology.[23] Finally, Iraq has technology background in computer industry because it has many universities teaching and dealing with computer industry, particularly CPs.[24]

On the other hand, there are some obstacles could prevent any developing countries, Iraq one of these countries, in establishing computer software and services industry. For example, the most obvious obstacle developing country in making a successful industry is lack of financial capital.[25] However, Iraq, as a wealthy country in oil producing, could overcome this obstacle if it could make adequate money in the future. Another obstacle could be added is that the factor of English language. Unfortunately, Iraq is not of the Anglophone countries, e.g. India which has undoubtedly benefited from Anglophone. The industry itself and the Internet, in terms of websites and online databases, are dominated by the English language. This could make major barriers for countries where English is unfamiliar because English language is important not only in terms of communication but it is also significant for the success of a good CPs.[26] However, Iraq citizens have background in English language but it is not the same level in India. Iraq is currently seeking to teach English language from Primary schools. This obstacle could be finished in the future. Finally, low-cost skilled workforce is a

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[22] Non-author, History of Computers and the Internet <www.vig.prenhall.com/samplechapter/0130898155.pdf > accessed 9 January 2013

[23] Iraqi computer experts have immigrated to many countries whether neighbour or European during 1980s and 1990s. See , Wehrey (n9) 43

[24] Non –author ,<http://www.4icu.org/iq/iraqi-universities.htm > accessed 10 January 2103. See also, the US Bureau of Labor statistics < http://www.bls.gov/ > accessed 10 January 2013

[25] UNCTAD (19)19

[26] ibid 19

significant obstacle could hinder this industry.[27] Iraqi workforce is still not the same level in India which has low-cost skilled workforce and the latter, as a developing country, has benefited from this characteristic to develop its computer industry.

In addition, Iraq has private own obstacles. These obstacles could be summarised in some points: Firstly, the previous regime had made two wars, the first one was with Iran which had continued for 8 years (between1980-1988) and the second one was when Iraq invaded Al-Kuwait in 1990 and that led to make Iraq under the economic sanctions for 13 years.[28] Secondly, the last war which took place in 2003 made Iraq to be less developing country.[29] Thirdly, the terrorism war, which has been made in Iraq after the invasion, affected the Iraqi citizen life and the industry in general and Iraq is still suffering from this war.[30] Finally, Iraq has not yet settled in the area of politics which could affect the industry in general and the computer industry in particular. Unfortunately, however, this industry had died out in this country because of the wars and economic sanctions which had continued since 1990-2003.

Iraq is currently in the stage of the construction its economy. This means it needs legislation revaluation, to be compatible with international standards such as the TRIPs Agreement, as well as rebuild its economic and industry. To overcome the obstacles above, the Iraqi Legislature, in 2004, made tremendous legislative reforms. An amendment to the ARA 1971(s2/2) deemed a CP to be a literary work bringing it within the ambit of the protection offered by the Act. Iraq tried to protect the computer industry through IP because the ARA 1971 did not protect a CP as a literary work before that time. This amendment promises to be so significant because it identifies the position of CPs in this legislation. It also sets the pace for Iraq as a developing country to pursue the development and protection of CPs.[31]

1.1.3. The computer industry in recent history

There was a dramatic change in the computer industry since enactment the ARA in 1971. Iraq was one of the best Middle East countries in computer industry in 1980s[32] and it was wealthy

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[27] ibid 19

[28] Wehrey (n9) 21

[29] ibid 42

[30] ibid 105 et seq

[31] See Appendix 1 of thesis

[32] Iraqi Ministry of Trade < http://www.mot.gov.iq/arabi/> accessed 6 November 2012. See also, Wehrey (n9) 108 et seq

country. This reason encouraged computer companies, such as Microsoft, to work in Iraq.[33] Also, this made Iraq is the headquarters of the computer companies.

Iraq, prior to the 1980s war,[34] had become the biggest importer in the Middle East for the CPs because it was under the construction of its economy including the industry.[35] CPs could have become assistant factor for this purpose. Thus, Microsoft Company sought to be the first important company for Iraq to contribute in building its economy which made Iraq to be very much desired by this company.

However, this industry encountered damages because of the wars and other circumstances. Iraq had become concerned in this war, namely the war between Iraq and Iran, which continued for 8 years and this led to destruct the industry including the computer industry.[36] These reasons made this industry very weak.

After 2003, many companies have entered the Iraqi market particularly oil companies.[37] The country has adopted several measures that liberalise its trade regime For example; new foreign investment laws were passed after that date permitting 100 per cent foreign ownership of firms in all sectors of the economy.[38] One of these legislations is the amendment of the ARA 1971 in 2004 to protect computer industry. The overall purpose of these changes is to advance from a closed economy dominated by state-owned monopolies and subsidies toward a competitive and modern economy open to world trade.[39]

Iraq's present position commercially and industrially is growing up nowadays because Iraq has the resources to promote the growth in the field of commerce and industry. One of these resources is that the capital which comes from producing oil.[40] This money could help in

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[33]The Country Studies Series,< http://www.mongabay.com/reference/country_studies/iraq/ECONOMY.html> accessed 10 January 2013

[34] This war broke out in 1980 between Iraq and Iran and ended in 1988, see Wehrey (n9) 21 et seq

[35] Wehrey (n9) 17 et seq

[36] ibid 21

[37] http://www.telegraph.co.uk/news/politics/tony-blair/9655594/Tony-Blair-British-business-should-do-deals-in-Iraq-after-sacrifice-of-troops.html

[38] Malkawi (n17) 592

[39] ibid 592. See also, Judith Richard Hope & Edward Griffin, "The New Iraq: Revising Iraq's Commercial Law Is a Necessity for Foreign Direct Investment and the Reconstruction of Iraq's Decimated Economy," (2004)11 Cardozo Journal of International & Comparative Law 875, 877

[40] See : U.S. Relations With Iraq < http://www.state.gov/r/pa/ei/bgn/6804.htm> accessed 7 September 2012

developing and reinforcement commerce and industry. A computer industry could be one of these industries which Iraq must concern as regards how it makes legislation to attract the investors in this field of technology.

1.1.4. Possible reasons and mechanism to protect CP in Iraq

It could be argued, according the last amendment, Iraq has become at the same level of European and international protection which protects a CP as literary work.[41] However, this level of protection could be against the benefit of Iraqi industry because Iraq has not yet become as a developed country[42] as European countries have been. This means that the level of protection of intellectual property rights (hereinafter IPRs) has impact on foreign direct investment (FDI) and technology transfer. In other words, it could be said that weak levels of IPRs in developing countries generally, including Iraq, prevents both down-stream and up-stream technology transfer activities. The fear of the unauthorised use of proprietary knowledge prevents foreign companies from entering into technology transfer activities with local entities (down-stream technology transfer). On the other hand, it also deprives local innovators of the opportunity to license their inventions to foreign entities (up-stream technology transfer)[43]

It could be suggested that Iraq as a developing country should not wish, for example, to emulate France, the US or any other developed Western nation. Accordingly, the consequences could lead to escape the investors in the area of computer industry because Iraq provides the same of protection in Europe countries. One the other hand, the last amendment could attract the investors if Iraqi legislator made the rules which lead to make environmental investment in computer industry.

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[41] The Software Directive 2009 (hereafter CPD), Art1, and TRIPs Agreement, Art 10/1

[42] A developed country is a sovereign state that has a highly developed economy and advanced technological infrastructure relative to other less developed nations. See http://www.investopedia.com/terms/d/developed-economy.asp#axzz1legO8olO

[43] Meir P. Pugatch,'If it Ain't Broke, Don't Fix it': A Discussion Paper on the benefits of the Voluntary Market-Driven Approach to Innovation (2008)Stockholm Network, p.32 < http://www.stockholm-network.org/downloads/publications/Innovation.pdf > accessed 9 January 2013. See also : Mansfield, E. 'Intellectual Property Protection, Foreign Direct Investment and Technology Transfer'(1994) International Finance Corporation, Discussion Paper No. 19, Washington DC: World Bank, 1994; Mansfield, E. Lee J.Y. 'Intellectual Property Protection and US Foreign Direct Investment'(1996)The Review of Economics and Statistics, Vol. LXXVIII No. 2, pp. 181-186

The question could be raised here, what is the ideal level of protection of IP that should be provided by Iraqi law for computer industry? The debate as regards the level of IP protection afforded by countries particularly developing countries in term of high technology industries has been going for many years. For example, study was conducted by World Bank found that the effect of IPR on trade flows in high- tech goods was insignificant. [44]On the other hand, another study found that the strength of IP protection did not appear to be significantly related to research and development investment. [45] It could be said that the strength or weakness of IP protection depends on the domestic circumstances of that country. Thus, great care needs to be taken in implying causality between IPRs protection and development of high technology sectors, such as computer software and services, or in terms of presenting uni-dimensional or uni-linear patterns of development in high technology activity. ICC grants the Judge, flexibility and discretion, to use other legislations which are the nearest to Iraqi law if there is no rule can govern the case before the Judge (S1/3).[46] Using these legislations must be compatible with domestic circumstance of Iraq. For example, nowadays Iraq as a developing country does not need to grant strong protection for computer industry to attract investment in this sector of industry because it is currently seeking to build its economy in this stage. Accordingly, this section of ICC could be a significant factor to provide further protection to the computer industry, notably CPs because it would allow the Judge to fellow the development in IP law through the principle of harmonisation with European CPs and international law.[47]

Accordingly, the hypothesis is that the IP protection in Iraq could help in the developing of computer industry via protection CPs as well as the rules of ICC[48]. This needs to show how the rules of IP could play a significant role to provide suitable protection for CPs. Also, this needs to mould modern IP to protect computer industry via protection of computer software

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[44] United Nations Development Programme (UNDP). *Human Development Report: 1999* (Oxford: Oxford University Press, 1999)

[45] N Kumar.'Intellectual property protection, market orientation and location of overseas R&D activities by multinational enterprises' (1996), World Development, 24, pp. 673-688.

[46] See Appendix 3

[47] See chapter 5, s 5.5

[48]For example; property and contract rules. See chapter 2 & section 3 of chapter 4

which could be used as adjunct of other industries which can be protected in Iraq by the rules of IP.[49]

The ARA 1971 has many flaws that needed attention; it only indicated that a CP should be protected as a literary work[50] without any details regarding how this was to be achieved. Accordingly, the purpose of the amending legislation to the ARA 1971 was to ensure that Iraqi authors' rights meet current internationally-recognised standards of protection, and to incorporate the modern standards of the WTO into Iraqi law.[51] This means that Iraq should implement TRIPs Agreement which aims to "the promotion of technological innovation and to the transfer and dissemination of technology..".[52] The question posed by the amendment is whether it has succeeded in protecting the rights of CP holders and the program itself. If the inquiry shows that this has been achieved, it will be concluded that the amendment is a success. If the response is in the negative, the writer will seek to proffer solutions for the better protection for CPs.

The writer will also be enquiring into how Iraqi law has dealt with the term of a literary work through explaining the rules of copyright and author right in this study.[53] To tackle this question, the subject of inquiry will be identified. The key question is why the ARA 1971 deemed CPs to be literary works, and what are the advantages and disadvantages of this deeming as a way of protecting CPs?

If the writer can answer the question it will contribute to the development of a national infrastructure in the area of producing CPs in the future. To tackle this problem entails studying the main fundamentals of the rules for the protection of author's rights and the ambit of this protection.

1.2.Introduction to the thesis

1.2.1.   The reasons for establishing the study

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[49] Look at the discussion concerning Indian development pattern, see UNCTAD (n19) 20

[50] S 2/2

[51] ARA 1971/s 1, see the Appendix 1

[52] See Art 8. Aslo, chapter 5, s 5.4

[53] Chapter 3 of the thesis

Although there are some countries are classified as developing countries, such as India, Brazil etc,[54] but they could make a great achievement in the area of industry including computer industry. India, for example, has been the most successful developing country in establishing a major domestic CPs and services industry. Computer industry has grown rapidly in this country.[55] It could be said that there are some factors of success made India is a successful developing country in the area of computer industry: Firstly, forming joint-ventures (although sometimes running independent operations) with local Indian software companies, such as Tata Consultancy Services (TCS) and Wipro, to run software design, have hastened the exposition. Secondly, major industrial corporations have set up sophisticated offshore development operations to generate software largely for their own use, but sometimes for resale. For example, Mahindra-British Telecom gained 85 per cent of its turnover from British Telecommunications in 1998, but this proportion is declining. Lastly, domestically-owned companies themselves continually garner increasing amounts of overseas trade. For example, CMC, a major Indian computer service company, has won contracts overseas providing software for London Underground and La Suisse Insurance. More recently, Indian companies have started to set up overseas subsidiaries in major developed economies.[56]

On the other hand, some developing countries such as Iraq do not usually develop their technologies they need, except some developing countries such as the countries above, by themselves; there is not enough motivation among producers to apply IPRs.[57]

Iraq, as developing country, should learn a lesson from these countries how they could overcome their problems and develop their industries. Should Iraq could reach the level of these countries that would be sufficient in this stage of Iraqi age until its conditions would be much better in the future to follow at all the developed countries. The writer could say the stages of developing must have impact on Iraq's statutes to make a legal environment to be able to protect the industry particularly CPs industry, whether the owner of CP or the CP itself. Undoubtedly, these developing countries, which have overcome to their problems, learnt a lesson from the developed countries how they could remedy the deficiencies in their

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[54] See UNCTAD (n19) 15, Also see the list of developing countries economic according to the classifications of International Monetary Fund<http://www.imf.org/external/index.htm> Accessed 6 November 2012.

[55] See UNCTAD(n19)14

[56] ibid 15

[57] Ghazinoory (n18)276

legislations to create suitable protection to protect their goods and investment. Accordingly, the main target for establishing this study in the UK, as a developed country, is to remedy the flaws in ARA 1971 and develop the computer industry. Accordingly, to further tackle the writer's enquiry, he will make a thorough comparative analysis between Iraqi law with other laws including the UK, the USA, France and other international laws to determine whether the ARA 1971 meets international standards. The question could be raised; does Iraq as a developing country need the same level of protection in developed countries or less for computer industry? This question could help us to know the consequences of applying the rules of developed countries to Iraqi economy in the field of protecting the computer industry. Also, another question could be raised as regards what the respective needs of a developing country, what stage Iraq has reached in its development. This study could be attempting to motivate Iraqi legislator to give more attention to applying a comprehensive intellectual property for protecting CPs. This is could be the first reason for establishing this study. Another reason for making this study is that the computer industry, for importance of local CPs industry, can help a typical Iraqi entrepreneur by setting up his business from the start by using a CP that helps to build the business through applying different functions, i.e; to ordering stock, how much stock is there, how much is left and what price it has sold for and if it is making a loss, breaking even or making a profit, he/she will need to build in a CP for wages, tax, national insurance VAT . This will be a separate CP as this will be set up by a finance program. He/she can have CPs to show how his/her business is growing and where his/her weakness is in whatever products sell well or not.

His/her (Iraqi entrepreneur) inspiration is to build a successful company that will eventually grow and make good business sense to help the Iraqi economy grow and help move Iraqi into a more modern society building a stronger country and for people to understand how different kind of industry works within the community and better their lives.

As I indicated above as regards the purpose of the last amendment which is to ensure that Iraqi authors' rights meet current internationally-recognised standards of protection, and to incorporate the modern standards of the WTO into Iraqi law, the question could be raised regarding the impact of the international rules relating to IP , such as the TRIPs Agreement , on Iraq as a developing country. If we say Iraq should apply the TRIPs Agreement that would make likely Iraq facing greater challenges more than the UK as a developed country in meeting the obligations. Iraq is currently less willing to comply with the TRIPs because the Agreement, as we will see, does not reflect its *ex ante* preferences such domestic conditions.

On the other hand, Iraq could benefit from that Agreement, which provides some flexible rules, in developing its industry. Thus, this study in chapter 5 will study the impact of the harmonising Iraq law with the international law and its impact on Iraq as a developing country.[58]This is another reason could be added for making this study.Finally, the reason for establishing this study in the UK is that the writer thinks that Iraq should follow Europe at this stage, and UK is part of Europe, because the methodology depends on it.

1.2.2. The importance of studying protection CPs

The key question could be raised in this study is that what is the importance of making this study for Iraq as a developing country in the area of computer industry? Since a CP as a work has some distinctive features that make it different from other literary works like books, articles, etc, the writer suggests a hypothesis that the rules of ARA 1971 could be adequate with some amendments on this law at this stage. In addition, CPs could be protected not only by copyright law but also by patent law, in the future if Iraq developed its industry since the program is difficult to be categorized into one category of IP. In the USA and some other developed countries, CPs are patentable and also protected as literary works. There are generally two forms of protection offered CPs globally, copyright and patent as well as the rules of ICC, such as the provisions of property[59] and contract.[60]

This thesis will propose that Iraqi law should follow these developed countries to make an environment conducive to the development of CPs. Should this approach be adopted, to what extent should CPs be patented in Iraq? Trends from the UK or the USA must be adapted to Iraqi economic and local situations.

Having said Iraq is a developing country, this characterise imposes on Iraqi legislator to enact legislation suits the situation in Iraq. Thus, it would be unsuitable for the investor to expand the USA IP protection in Iraq without alteration of Iraqi laws. It could be suggested that implication the USA, as a developing country, IP is not appropriate for Iraqi circumstances because Iraq is still classified as a developing country. One of the most important industries is a computer industry thus it could be argued that the investor needs IP protection for his/her innovations. Accordingly, in light of the limitations which the writer will outline in the course of the thesis, the writer will propose that any importation of legislations from the UK, the

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[58] Section 5.4 of chapter 5

[59] Chapter 2

[60] Chapter 4/ section 4.3

USA or any other advanced jurisdiction be carefully applied to fit local circumstances of Iraq as a developing country.

In addition, there are difficulties which have arisen or may arise from the problems linked to a lack of special rules for the protection of CPs as distinct works from other literary works. For example, how can Iraqi law provide protection for the following category of persons: programmers, natural or legal persons, users or third parties? Iraqi law has attempted to provide protection for all parties by considering CPs to be literary works. The writer will enquire whether this protection is sufficient.

Further problems may be encountered when a program which has been created by the programmer obstructs the development of a CP and hinders investment in any country, particularly developing countries where the authors' rights approach is adopted. This approach focuses on the authors' rights[61] and not on the work itself as is the case in the UK and the USA.

How can Iraqi law overcome the obstructions that prevent investment in CPs? We pose a hypothesis that Iraqi law has failed to provide effective protection to the right holders in this area. The thesis will be focusing on four areas for exploration:

i) The nature and legal status of CPs;

ii) The scope of protection afforded by the law;

iii) Other modes, either in IP (patent law etc) or contract for the protection of works; and

iv) The enforcement of the best rules for the protection of CPs in the world through harmonising the Iraqi protection rules with the international criteria for protecting CPs, whether by legislative or other means.

Certainly, these areas involve testing the rules which subsist in the ARA 1971 for achieving the best protection for CPs against international standards. This study focuses on the owner rather than CPs themselves.

One important aspect of CPs' protection is the infringement of copyright.[62] Iraqi law defines copyright infringement but is silent on infringements of CPs; literal or non- literal copying of CPs. One is unable therefore to determine when copying infringes the rights of programmers,

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[61] Example of this is the requirement of originality and the moral right of the author. See chapter 3 /ss 3.2.1 &3.3.2

[62] This subject will be discussed in chapter 2 of this study.

users or third parties. Moreover, to what extent can copying a part of a CP be said to have infringed the law? When can copying be said to be substantial to amount to an infringement of the author's rights? Iraqi law does not tackle this issue and so one is unsure of what is meant by 'substantial part' in the case of CPs. The term is defined qualitatively and not quantitatively. In other words, it "depends much more on the quality than on the quantity of what he has taken" [63]Thus this problem remains in Iraqi law besides that of non-literary works.

How can Iraqi law resolve problems arising from the copying of programs, whether literal or non-literal? The writer will examine the UK [64] and the USA[65] jurisdictions, bearing in mind the limitations of applying laws from those advanced regimes in a developing economy like Iraqi.

The writer will be positing that the protection of CPs requires special provisions to create an optimal way for investment in Iraq. To attain that, the writer will be making recommendations for amendments to the ARA 1971 in its provisions relating to the protection of CPs to mirror international best practices and standards, and demonstrating a route for judicial harmonisation which does not require legislation.

However, before examining all the themes mentioned above, the writer shall endeavour to explain the nature and legal status of CPs in order to determine whether the holder of the right of a CP has real or personal rights because "property" is the first protection for CPs.[66] And before delving into the crux of this thesis, it is necessary the writer explain the importance of undertaking this study.

It is posited that the examination of this study could provide a platform on which other chapters will be developed. Thus, this study will examine the position of a program within the sphere of real property, immovable property, and personal property, movable property in Iraqi civil law and English common law because "property" is kind of protection for any tangible and intangible thing. It is sufficient to mention that there are fundamental differences between these two systems: English and Iraqi law- in the ambit of property law.

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[63] *Ladbroke (Football Ltd) v William Hill (Football Ltd)* [1964] 1 W.L.R. 273; [1964] 1 All E.R. 465; (1964) 108 S.J. 135.

[64] CDPA 1988, ss 17-27

[65] US Copyright Act of 1976: chapter 5. Copyright infringement and remedies, s 501 Infringement of copyright

[66] This item will be discussed in chapter 2

Finally, in brief it may be argued that this study will deal with copyright or authors' rights and other ways of IP from the outset. Subsequently it will investigate the principles of harmonisation and conclude with recommendations related to Iraqi and English law.

1.2.3. The aims and the goals

The writer's aim is to establish new frontiers in the understanding of the protection of CPs under Iraqi law and enlighten the reader on the rights of authors under Iraqi law. The writer also intends to investigate the levels of protection offered to CPs under Iraqi law and determine the ideal standards that should be applicable. The aims and the goals of this research could be summarised are as follows:

1- To review the research conducted on the last amendment to ARA 1971 in respect of protection of CPs.

2- Since the form of protection of CPs under Iraqi law and English law is as literary works, a further goal is to explain the provisions which govern literary works in both jurisdictions.

3- This thesis also addresses the following questions:

   (i)   To what extent are copyright and author right laws perfectly capable of protecting the right of CP holders?

   (ii)   Does the current legal framework under the ARA 1971 offer sufficient protection? How can we prove that? If not, would it not be better to borrow other means to provide good protection for CPs?

   (iii)   Can or should Iraq as a developing country rely on international law-TRIPS Agreement flexibility- to provide suitable protection for the right holders' CPs?

   (iv)   And finally, what recommendations should be made for Iraqi law to be fit with the standards level of protection for the right holders and the program?

4- Generally speaking, this study critically examines the forms of IP protection in order to discover which of them ideally can protect the right holders of CPs.

1.2.4. Methodology

Presently there exist various methods used in measuring the ways IP laws have been used to create preferable protection for CPs.

The writer's methodology is critical analysis, comparative study and extrapolation of the provisions related to the protection of CPs in common law and civil law.

In essence therefore this research is comparative. This methodology was chosen principally to address the shortcomings in Iraqi law. The writer hopes Iraqi legislator will benefit from

the experiences of advanced economies in enacting a law to address the regulation in a new area.

Comparative law methodology is very important in any research on protecting CPs and the rights of holders of the program. The subject also has an international dimension to the extent that there is no single legislation addressing the liability for infringement of the rights of CPs. This is because the production, distribution and purchase of CPs and the injuries they may cause, can have implications for other jurisdictions of the world.

This thesis adopts two methods in its comparison: Firstly, it compares the different rules of law applied to protect CPs. This comparison includes Iraq as a developing country with the UK and Europe as developed countries besides exploring the impact of the flexibility rules in the TRIPS Agreement on Iraqi law as a developing country. The second comparison is of different contexts of social culture and economic backgrounds in which English and Iraqi laws operate.

It will also attempt to analyse civil law as applicable in Egypt and France vis a vis common law as applicable in England and the USA.

It also focuses on the legal protection of CPs in authors' rights and copyright whether in Iraqi law (ARA 1971), English law (CDPA 1988) and international law. The analysis, criticism and comparisons serve to achieve the main aims and goals of the thesis as set out above. The comparison chiefly helps in determining whether or not the existing law in Iraq is sufficient, as far as protection of CPs within IP is concerned. The comparison and analysis of Iraq and the UK as well as other countries such as the USA and France and international law bring to the surface points of agreement and divergence between them as well as their advantages and disadvantages, weaknesses and strengths in comparison with one another. In the end, the thesis will highlight the positive lessons to be gleaned from these laws.

Finally, the criticisms highlighted in this research are targeted at helping lawmakers create a favourable legislative atmosphere for Iraqi law to protect CPs and appreciate the present flaws and respond accordingly where necessary.

1.2.5. The structure of the thesis

The thesis has been divided into six chapters. Chapter one contains the general introduction covering Iraq as a developing country and the study. Chapter two concerns the nature and legal status of CPs. It raises many questions in relation to the nature of CPs such as whether

they are tangible or intangible, are they goods or services or something else. Is a CP property? If the answer is positive, what kind of property is a CP? If CPs do not belong to one kind of property, can they be deemed *sui generis* ? and to what extent "property" as such could provide protection for the investment of CPs in Iraq?

In chapter three, this study attempts to test the provisions of copyright and authors' rights within English law and Iraqi law as well as studying laws from American, French and Egyptian jurisdictions. As stated above, Iraqi and English laws deem CPs to be literary works. And literary works are protected by authors' rights and copyright. In addition, Iraq has started to comply with the TRIPs Agreement, which stipulates that CPs be protected as literary works. This chapter has shown the requirements of protection within the provisions of copyright and authors' rights, originality and the requirement of expression. At the end of the examination of the provisions of authors' rights and copyright within the ARA 1971 and the CDPA 1988, a question arises regarding the ability of copyright or authors' rights to create a sufficient protection for CPs. If not, would it not be better to borrow other methods to provide proper protection for CPs?

The issue of testing other ways of protecting CPs forms the subject matter of chapter 4. The purpose of this chapter is to test and examine whether the other techniques for protecting of CPs are more efficient than copyright law, or can only have a supportive role. This approach has been adopted by many countries such as the USA which added patent law to protect CPs. This raises the question whether the Iraqi Legislature can take advantage of other avenues to enhance the protection of CPs. The heart of this chapter is a patent system which has been legislatively and judicially adopted in the USA and Japan. The European Patent Convention (EPC 1973[2000 revision]) has some restrictions on the patentability of CPs and English/EPC law does not confer patentability on CPs as such. Iraq is silent regarding conferring patentability on CPs.

In chapter five, it aims to seek harmonisation of the Iraqi legislative regime for CPs with the international law and European Directives. It is hoped that by so doing Iraq will benefit from the developments in the world, particularly in computer law since the objectives of all Treaties and Agreements are to promote harmonious development of economic activities and closer relations between member states. The question may arise whether Iraq as a developing country has the ability to harmonise its legal framework with developed countries like the UK or with the TRIPs Agreement and if the answer is yes, how can this be achieved? To answer

these questions, the first step will be to look at the harmonisation process. The second step will be to investigate the legal protection of CPs and finally, to avoid any conflict that may arise by virtue of importation of these laws into Iraq.

The final chapter presents the main results and conclusions of the study. It shows whether or not Iraqi law has indeed failed to provide the right holders with the protection they deserve, both in general and in comparison with English law and the other laws whether national or international. Recommendations as to improving the current legal situation in Iraq will also be made in this chapter.

Chapter Two

The Nature and Legal Status of Computer Programs

2.1. Introduction

This chapter focuses on certain preliminary issues which will help in understanding the protection of a CP. These issues can be summarised in three elements; defining the term of 'CP', exploring its nature and explaining how two systems in particular have classified a CP into the concept of "property", namely under English and Iraqi law.

Accordingly, three sections will be discussed in this chapter; firstly, defining the term of a CP into two parts (theoretically and legally); secondly, exploring the legal status of a CP in the area of property; and thirdly, with regard to theoretical level, the nature of a CP is a significant issue to understand the theme in the context of this thesis because it may fundamentally affect vital issues such as how it may be categorised as a matter of law, and how it may be afforded legal protection .

On the other hand, some themes need to be analysed at the theoretical or practical level. Thus, the methodology of this chapter will be analysis of the following; (i) property, (ii) tangibility, (iii) intangibility, (iv) fixation of a CP, (v) classification of property, (vi) how CPs fit into the classification of property, and finally (vii) theoretically, if CPs do not fit into (v), namely they are not property, then it becomes necessary to consider whether a CP has any, and if so what, existence independent of contract. Should CP is property that would lead to raise another question relating to the ability of the rules of "property" as a means to protect the investment of CPs . Finally, the reason for studying this "property" as a way to protect CP is that the ARA 1971 before the last amendment in 2004 depended on the rules of property to protect a CP and its right holders. Thus, it would be important to study this kind of protection apart from the other ways of IP.

2.2. Defining the term CP

2.2.1. The theoretical definition (the broader and narrower definition)

Linguistically, a program was defined as "Express (a task or operation) in terms appropriate to its performance by a computer etc.; cause (an activity or property) to be automatically

regulated in prescribed way; incorporate (a property) into a computer etc. by programming".[67]

It is also defined that it consists of a set of instructions, in electronic form, given to the central processing unit (CPU) of a computer to ensure that the computer performs certain functions; these instructions are not in human readable form.[68] In other words, it is a series of instructions which control or condition the operation of a computer. It could be stored on magnetic, optical media, or in a semiconductor product such as 'computer chip'[69]. Thus, a program is merely information, in the abstract.

In fact, a CP has two meanings. The first meaning is called 'software' and it represents the broad meaning within the concept of CP. This term software embraces any recorded form of "digitised information" and as well covers graphics, sound recording, video recording, and computer programs too. The second meaning is called "a narrow sense"[70] and it is a sequence of instructions written to perform a specified task with a computer, which means that a program is only information.

A CP in the broad sense i.e. software, is not only the program but also all associated documentation and configuration of data which are needed to make these programs operable. A software system usually consists of a number of separate programs and configuration files which are used to set up these programs.[71] Therefore, each program is a part of the CP (software) in the broader sense.

It could be said that the term "software" has a vague meaning and is less accurate than a CP. It is usually used in the computer industry to indicate the program as such and was coined for

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[67] William R. Trumble and Angus Stevenson (ed), *Shorter Oxford English Dictionary, on Historical Principles*(5th edn, OUP 2002) Volume 2, N-Z, 2361

[68] Louise Carey and others, *Technology and IP Law* (1st edn, Tottel Publishing Ltd 2008)243

[69] See; David I.Bainbridge *Legal Protection of Computer Software* (West Sussex Tottel Pub 2008) xvii ,Manender Grewal , 'Copyright Protection of Computer Software*'*, (1996) E.I.P.R., 18(8), 454-458. European Int Redding P A, Report on the protection afforded Computer Software in the face of Computer Software Piracy, <http://www2.warwick.ac.uk/fac/soc/law/elj/jilt/1996_3/redding> accessed 30 September 2009

[70] Michael Gifkins, *Intellectual Property Rights in Software. A Practical Guide for professional & Business managers* (Swindon: British Cataloguing in publication Data 2000) 6. See *inter alia;* Elad Harison,' Software Application As Economic Goods*'*, (2008) Economic of innovation and new technology. Daehwan Koo, 'Patent and Copyright Protection of Computer Programs*'*, (2002) IPQ 25(6), 821-839

[71] Ian Somerville, "*Software Engineering"* (8th edn, Person Education Limited. Essex. 2007)5

this purpose.[72] The writer's view agrees with the narrower sense because the purpose of this study is to find proper protection only for the program excluding anything else associated with it such as graphics or sound recording. These might have been owned by other persons who are not the same owner of a CP. Thus, the term which will be examined under this study is 'CP'.

However, as mentioned earlier a CP is merely information. The relevant question here is, whether there is any difference between a CP and information. In other words, is there any difference between the idea and the expression of a CP? One may argue that a CP, which is information in principle, should be distinguished from normal information because a CP consists of valuable information embodied in a material form such as a CD. This material form is called "fixation" or expression. Copyright may subsist when a CP is fixed in a material form. In addition, they are instructions to be acted upon straightforwardly by computers to control exactly the computer's behaviour. Instructions are information therefore a CP can be defined as a set of instructions which are information. If a CP is solely information that means a program is only an idea. A CP, to be protected by copyright, must be not only information but also the form which embraces that information. It could be argued that the requirement of expression expresses the boundary between the existing CP which could be subject to copyright protection and the idea behind creating that program which could not be subject to copyright protection. This will be discussed in depth in the next chapter.[73]

Finally, a further issue is to identify where a CP starts and finishes. Briefly, it could be said that a program starts when its idea is captured and ends when this idea is materialised in the form of a CD. This question will be answered in the next parts of this chapter.

2.2.2. The legal definition

A theoretical definition may cause practical problems and for this reason, the legislator sometimes creates its own definition in order to circumvent this problem. For example, the term CP has been defined by certain legislations, such as the USA Copyright 1976, Canadian Copyright 1988 and the European Software Directive (hereinafter CPD) , as a set of statements or instructions to be used directly or indirectly in a computer in order to bring

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[72] Ken Moon, *'The Nature of Computer Program: Tangible? Goods? Personal Property? Intellectual Property'*, (2009) EIPR, 8, 1-19

[73] See section 2.2

about a certain result,[74] or as a set of instructions or statements, expressed, fixed, embodied or stored in any manner, that is to be used directly or indirectly in a computer in order to bring about a specific result.[75]This term includes programs in any form and preparatory design work leading to the development of a CP.[76]

Under both the CDPA 1988 and the ARA 1971, there is indirectly a legal definition to a CP. This can be inferred from their sections that a CP is a literary work which means any work, except a dramatic or musical work, which is written, spoken or sung, and consequently include a CP.[77] On may perhaps ask whether it is necessary that a CP should be defined by the legislation. The writer's opinion, if legislation does not have a definition for a CP, it would not mean that there is a flaw in that statute but it could be a proper approach as the legislator should not get into definitions which might cause a technical problem to come. Thus, the writer's view favours no definition of a CP for that reason.

2.3. The legal status of CPs

2.3.1. Introductory remarks

The legal status is important because property rights may be enforced differently from personal rights.[78]Thus, this section seeks to explain how English and Iraqi law have classified CPs into the "property" term. The answer could be found in the classification of property. "Property" can be classified into two kinds, real and personal (immovable and movable). The latter, i.e. personal or movable property can be classified into two kinds of property, choses in action and choses in possession. Hence, the question is; how can we classify CPs within these classifications? Furthermore, it would be significant to address the legal status of CPs in Iraqi and English jurisdictions

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[74] US Copyright Act 1976 (hereinafter U.S.CA1976), as amended 2007, s 101

[75] Canadian Copyright Act, as amended in 1988. See *inter alia* James Buchan and Sunny Handa , 'Copyright as it applies to the Protection of Computer Programs in Canada*'* (1995) IRIP&CL 3. Tom Allen and Wan Kwong Weng , 'Computer Software and Singapore's Law of Copyright*'* (1994) EIPR, 16(11), 500-505, at 502

[76] The CPD 2009 ,preface (7)

[77] CDPA 1988, s 3(b). ARA 1971, s 1(a). Here we are looking at private property, rather than public, common or collective property. See Jane Ball, The Boundaries of Property Rights in English Law, vol. 10.3 ELECTRONIC JOURNAL OF COMPARATIVE LAW, (December 2006), http://www.ejcl.org/103/article103-1.pdf

[78] See bellow 2. 3.3

There is no definitive determination of the nature of a CP under either Iraqi or English law. In seeking to identify the legal status of a CP, should a CP be classified as a thing and then protected as "property" under those legal systems? This question has not been properly considered either in Iraq or in England.[79]

It is convenient to ask whether there is any ambiguity in the determination of CPs' legal status in Iraq or England. The writer sets out to determine CPs' legal status within the area of property through two points. The first point is investigating the classification of property under Iraqi and English law while the second would seek to answer the question: to what extent property would provide protection to a CP.

2.3.2. Classification of property under Common and Civil law

Generally speaking, the law of property with regard to common law has stayed most characteristically different from the civil law structure. One of the distinctions between these systems is that the law of property at the common law is categorised around the main technical differences between real property and personal property,[80] whereas the civil law distinguishes between immovable and movable property. As the nomenclature of the civil law emphasises, the essence of property is tangibility for it is an uneasy use of language to speak in terms of 'moving' something which lacks physical substance. However, both the civil law and the common law have embraced some intangibles within their respective concepts of property. Hence, although here is not the place to embark upon a general investigation of the concept of property, it is necessary to notice that CPs have to fit somewhere within the respective personal/real property and movable/immovable property classifications if they are to be recognised, and enforced, as property. CPs could comprise a specific category classified as a sub-category of personal property (moveable property) or CPs could be classified as *sui generis*. If you accept CPs as *sui generis*[81] one would then conclude that there are three categories of property: real, personal and *sui generis*.

This division has led to the development of different remedies to protect two different varieties of property. One must first recognise the confusion generated by the meaning of the dichotomy between real property and personal property. The dichotomy in the civil law is

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[79] Moon (n72) 1

[80] Ugo Mattei, *Basic Principles of Property Law- A Comparative Legal and Economic Introduction* (Greenwood Press, 2000)7&8

[81] Which is the author's preferred option; see below p.47

completely different from the common law. In the civil law, real property and its rights protect a thing which an owner can utilise against everyone. On the other hand, personal property and its rights protect a person who only exercises his right against a particular person[82]; therefore, for example the owner of a CP has rights against the user under the terms of the contract which grant user rights to the user.

At the common law the classification of property into real property and personal property is a different classification from rights in *rem* and rights in *personam*. In other words, it is possible to have a personal right in relation to real property but it is unusual to have a real right in relation to personal property.[83] For example, the owner of a CP can be regarded as having a property right if his/her program has the form of fixation,[84] but this does not, of itself, answer the further question whether the owner of a CP has, for example, the right to 're-possess' the CP.

Thus, this could draw attention to the fact that a CP cannot be land as land is defined in existing English law, but rights in a CP could be rights in *rem* – that is an issue where English law has drawn a significant distinction between rights which are said to be proprietary in nature and rights which are said to be purely personal.

A personal right is "an entitlement which a person enjoys against another specific individual, and its central characteristic is that it can only be enforced against that specific person". It is often called by Latin terminology as a right '*in personam*', whereas a proprietary right is "a right existing in the item of property, or thing, to which it relates". This right could be enforced against the thing. Such rights are called rights '*in rem*' which means "in the thing itself", and its central characteristic is that it is capable of continuing through changes in ownership of the property to which it relates, so that it will be enforceable against the new owner or the new possessor of the property.[85] Accordingly, the types of proprietary right

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[82] Simon Gardner, An Introduction to Land law (2nd edn, Hart publishing 2009) 1&2

[83] Mattei (n80) 4-8

[84] See chapter 3, section 3.2.2

[85] John Stevens and Robert A. Pearce, *Land Law* (3rd edn, Sweet & Maxwell 2005) 4. See also, Martin Dixon, *Modern Land Law* (7th edn, Taylor & Francis Group 2010)3 & et seq. Kevin Gray and Susan Francis Gray , *Elements Of Land Law* (5th edn, OUP 2009) 8 et seq

capable of existing in law in personal property are only two: ownership and possession, usually for a limited period of time.[86]

2.3.3. CP and the legal classification of property

According to the classifications of property and the rights of property above, two questions could be raised in this area of research; first, what the consequences are resulting from the difference between rights in *rem* and rights in *personam* , and second, what the position of CPs is under the classification of property based on common and civil Law.

2.3.3.1. The consequences which result from the differences between rights in *rem* property and rights in *personam*

The first consequence of a right being classified as a right in *rem* is that an action comes to be treated as "real" if someone acquires possession of a thing from the court, while a right in *personam* is that an action comes to be treated as "personal", if someone gets damages, and as "mixed" if someone gets both.[87]

It has been said that the law of personal property remains primarily remedial in character, whereas real property is in essence structured around conveyance.[88] On this basis, the second consequence might be that the owner of personal property has the right to demand compensation to remedy the damage caused by loss of profits due to the infringement of copyright or patent, for example. On the other hand, the land owner has the ability to recover his land if someone entered without any legal permission.

It could be said that there are three types of properties, real, personal and *sui generis*. The writer argues that a CP could be classified as personal property or *sui generis* in terms of using the rights and transmissibility but it is not property itself.

The third consequence of a right being classified as a right in *rem* confers the authority to the owner of this property such as land to exercise all the characteristics of ownership. In contrast, the right in *personam* grants a person authority against a specific person, which is called a

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[86]Sukhninder Panesar, *General Principles of Property Law*(1st edn, Pearson Education Limited 2001) 57

[87]W.T Murphy &Simon Roberts , *Understanding Property Law* (4th edn, Sweet & Maxwell 2004)56. Sir Robert Megarry and Sir William Wade , *The Law of Real Property* (Charles Harpum, Stuart Bridge and Martin Dixon (ed), 7th edn, Sweet & Maxwell 2012) 93 et seq

[88]Murphy & Roberts (n87) 57. Mattei (n80)9

debtor, to demand recognition of his right from that person who causes damage to the owner of a thing. A CP could be deemed as personal property or *sui generis*, as mentioned above; thus, the owner of a CP can demand that the infringer gives compensation for the act of infringement without demand for recovering the program as the owner of the program has a personal right which does not enable the owner to recover his/her program as a right in *rem* does.

These rights result from remedies according to the principle "*ubi remedium, ibi jus*".[89] This principle would grant the right holders remedies whether considering a CP as real or personal property. However, a CP is not real property; thus, if a CP is considered as personal property, that principle would enable the law to give a remedy when it is appropriate. In other words, whenever the common law gives a right or prohibits infringement, it also gives a remedy. Indeed, it is a vain thing to imagine a right without a remedy, for want of right and want of remedy are reciprocal. The pertinent question is: which kind of remedy would be preferable to a CP in case of infringement according to the classification of rights? And why? One may argue that a right in *personam* would be appropriate to the right holders and the technology because if the law allowed to the right holder restoring his program from the infringer that would hinder the advance of technology of CPs and not lead to develop the programs in the short term.[90]

In terms of the civil Law, rights issued from real property grant to a person authority directly on the specific thing; therefore, for example a person who owns land, has the right to manage, enjoy, and dispose of it during his life, whereas the right which results from personal property grants a person the right of enjoyment against another specific individual.[91] Furthermore, under the ICC, the owner of a CP has a real action because Iraqi law permits the owner of a movable or immovable thing to recover it from the illegal owner.[92] This analysis could apply to the English common law, theoretically, in terms of the case of chattel as a personal property. However, irrespective of the position of chattels, classifying a CP as *sui generis* would enable the law to give rights in *rem* to the owner of the CP and hence enable the owner to recover that program from the infringer.

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[89] Megarry & Wade (n87) 93

[90] This subject will be discussed in the next chapter section 5.3

[91] Iraqi Civil Code (hereinafter ICC), ss 67 & 69

[92] ibid s 246

To sum up, it is easy to say that the owner of a program could have a right in personal property or a right in *personam* and a proprietary right in terms of granting the qualities of ownership and possession. In this case, the owner of this program would solely demand compensation or injunction if his program was damaged or copied without licence from him.[93]

2.3.3.2. The position of CP under the legal classification of property

Having said that real property (immovable) is land and everything attached to land, and personal property (movable) is everything else-the latter is a residual category.[94] As regards chattels, which are in principle personal property, they would have the rights of real property when they become fixtures.[95] The question may arise in this research as to the differences between those terms in the area of property, and which one of them is apt to apply to a CP.

Personal property is usually moveable, of relatively short lifespan and not amenable to division into multiple interests, which means for example that the ownership would remain with the owner even if a thing was hired, but possessed of a value readily measurable in money and therefore easily tradable.[96]Possession, for example, can be given to another for a limited time and/or for limited purposes: a CP can be hired; this action does not remove 'ownership' from the owner of that program. Ownership can be enjoyed to the exclusion of others, shared, given away, or sold.[97] Personal property could be applied to CPs in terms of the movement from one owner to others. The owner of the program can assign his/her program to others and prevent them from using his program without a licence.

Although a program is an intangible thing in principle, it would not be protected at all as property unless it has a material form. This form is called "expression" which consists of data.[98] This embraces a set of ideas in this program and it would be on the computer screen. Accordingly, it could be said that a program is a moveable thing.

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[93] See section. 3.6.3 of the next chapter

[94] Sarah Worthington , *Personal Property Law* (Portland Oregon 2000) 4

[95] Murphy & Roberts (n87)56&57

[96] Robert Goode, *Commercial Law* (2nd edn, Harmondsworth1995) 33

[97] Worthington (n94) 17

[98] See section 3.2.2 of chapter 3

Practically, a CP is transferable which might contradict the traditional concept of a moveable thing which involves a material transfer of a thing.[99] The prime example for this case is the transferring of a CP via the Internet to the purchaser. This operation leads to the purchaser possessing the program at the point of the downloading of the program. It would come into existence when it is downloaded. During this operation, namely the stream of electrons, the right holder becomes the owner of the program. Thus, the purchaser has a personal right as personal property to his program once downloaded. However, purchasing a CP online is merely a contractual agreement or a licence. Thus, there is no property that could be granted during the transfer of the program to the purchaser, because the contractual agreement or licence permits the creation of a new program, independent of all other copies of that program, and that creation exists only on the downloading being complete.

In addition, if a program is not personal property or a movable thing, it could be difficult to argue that the program is 'goods' because goods, in principle, cannot be transferred from the vendor to the purchaser unless those goods are personal property.[100] On the other hand, the CPs contracted for could be contracts for service rather than goods. For example, if a CP is provided as a component of a contract under which computing equipment and other goods are also provided, in this case it could be classified as a contract for the supply of goods. In contrast, if a CP house is engaged to write another CP to a particular specification, it could be classified as the product of a contract for the provision of services rather than a contract for the supply of goods.[101] This means that the CPs are not identical. For example, the supply of programs online cannot be a supply of goods because of the lack of the characteristic of tangibility or touching which distinguishes goods from each other. This result could be drawn from the ways of delivering. A CP sometimes may be acquired pre-loaded on a newly purchased computer. In this case, this program will be deemed goods. On the other hand, if this program is acquired online and downloaded into a pre-owned computer, it would not be considered goods because there is no tangibility in delivering that program.[102]

To sum up, a CP can be classified as *sui generis* property under Iraqi and English law even though a CP is an intangible thing, in principle, because it is possible, as property is presently

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[99] B.J.Holmes, *Basic Programming* (3rd edn, Guernsey, Channel Island: Guernsey Press Company Ltd 1989) 68&69

[100] Moon (n72) 6

[101] Chris Edwards, *Information Technology & the Law* (2nd edn, Macmillan Publishers Ltd 1990)7

[102] Moon (n72) 8

characterised under English and Iraqi law, to have intangible property in some cases, e.g. company shares, choses in action etc.[103] Thus, the owner of a CP has no property right but he/she has personal right enforceable only against the party to a contract. In addition, the terms of the contracts or licence would be a contract of service rather than merely grant property itself. However, the rules of personal property can be applied to a CP in terms of the movement from the vendor to the purchaser. This is indicated by the CDPA 1988 which stipulated that 'Copyright is transmissible by assignment, by testamentary disposition or by operation of law, as *personal or moveable property* '.[104] Consequently, a CP can transmit as a personal or moveable thing because it is a literary work which is a type of copyright.

2.3.4. To what extent would property provide proper protection to CP?

To answer this question, this section distinguishes between the program as such, namely as information, and the whole program, i.e. when it is fixed in a material form.

2.3.4.1. Property and a CP as such

As mentioned earlier in the first part a CP is information, in principle.[105] This result was underlined by the US Copyright Act of 1976, which defined a CP as " a set of statements or instructions...".[106] This raises the question whether information, particularly confidential information, can legally constitute a property right. If a CP as such is not property, it would perhaps explain why certain legislations such as the UK Patent Act 1977[107] and the European Patent Convention1973[108] do not grant patent protection to it.[109]

ICC stated that the owner of an intangible thing can have the rights of property (ownership).[110] Thus, the owner of information has rights of property. It is evident that the owner of information of CP has rights of property in respect of his information. This means

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[103] *National Provincial Bank v Ainsworth* [1965] 2 All ER 472. Also see, Land Registration Act 1925, s.70 (1)(g)

[104] CDPA 1988, s 90(1)

[105] Section 2.2.1

[106] S 101

[107] Hereinafter : UK PA 1977, s 1(2/c)

[108] Hereinafter :EPC, Art 52(2/c)

[109] This subject will be examined in chapter 4

[110] S 61

that the owner of this information has all the rights of ownership such as selling that information.

Conversely, both the criminal and civil courts have ruled in the UK and the Commonwealth that there is no 'property right' in information of any work.[111] However, this raises the question whether this information could be taken and used freely. If we assumed that information of a CP could be taken freely, that means this action would lead the holders to lose their rights to this information. One may argue that information of a CP is valuable; thus, it would be different from the normal information and granting protection for information would strengthen protection for the right holders of a CP.

It could be concluded that, even though English case law stated that there is no property right in information contained in a CP because there are no legal means to protect this information in programs, information should be protected as confidential information.[112] However, there is difficulty in terms of when one bought confidential information[113] of CP; can the owner regain this information? In principle the owner of this information cannot regain it because it is only ideas and the laws do not protect ideas. However, the writer's view favours the approach where commercial information is granted limited property rights allowing for alienation and a trespassory right against commercial competitors only. One may argue that the legal ground for adopting this view is "equitable principles".[114] This could be applied under English and Iraqi law.[115]

2.3.4.2. Property and the whole of program

There are three meanings for property: the first meaning emphasises the relationship between people and things, whereas the second is merely the right in the thing, i.e. a property right in a thing, and the final meaning refers to the thing itself. Thus, property rights are often referred

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[111] *Boardman v Phipps* [1967] 2 A.C. 46 at 128 per Lord Upjohn, "*Oxford v Moss* (1979) 68 Cr. App. R. 183 (theft of examination paper with intent to return it); and *R. v Stewart* (1988) 1 S.C.R. 963 (comprehensive analysis by Lamer J. giving the unanimous judgment of the Canadian Supreme Court on attempted theft of list of names and addresses of employees of a hotel). Interestingly, the legislature in New Zealand made the theft of trade secrets a crime, provided they are embodied in a document, by the Crimes Amendment Act 2003. A similar proposal was made in the UK 1997 Law Commission Consultation Paper 150, "Legislating the CriminalCode: Misuse of trade Secrets", but the Commission has yet to issue a report. See Moon (n72) 9

[112] This will be discussed in chapter 4

[113] Hereinafter : CI

[114] Moon (n72) 9

[115] This will be discussed in chapter 4, section 4

to as rights in a thing or rights against a thing. For example, if 'A' owns a CP, he has a right against that program. In other words, he has a right that imposes a prima facie duty on the rest of the world.[116]

The writer's view is that a CP is a contract of service or mere licence agreement. However, it is personal property in terms of assignment because the CDPA (s90) says that copyright of any literary work is transmissible by assignment… as personal or movable property. Therefore, it could be concluded that a program could be deemed to be a chose in possession and a chose in action because a CP is a tangible or (corporeal) moveable thing, if it is fixed in a material form such as a CD in terms of assignment. And at the same time it is a kind of intangible (or incorporeal) property similar to a debt.

On the other hand, if we consider a CP as an innovation which complies with the provisions of patent, in this case, the UK PA1977 has stipulated that "any patent or application for a patent is personal property (without being a thing in action)"[117] It seems that patent may solely be conferred for a thing which has tangibility i.e. is a chose in possession. Therefore, if we considered that CPs are only intangible things, it would follow that no patent could be granted for CPs. However, CPs comply with the provisions of patent when they are deemed tangible things. This can explain why there is no patent in respect of a CP as such because it is not property but only information.[118]

In addition, a CP is a literary work that must be capable of being owned by the owner because property is a (power) relationship between the owner and his thing. Thus, the owner of a program cannot use his program without the concept of property. Finally, all laws consider copyright and patent as property rights, which allow the rights holders to possess and use them according to the general rules of property (ownership).

Accordingly, the writer argues that a CP must be protected as a personal property right in general and IP in particular whether this IP is copyright, as it has been stipulated by the CDPA 1988 and the ARA 1971, or patent, as it has been stipulated by the USA law and Japanese law.[119] Additionally, a CP as a thing could be protected by any type of right; therefore, it could fit with the theories which seek to explain the nature of property or property rights in a manner consistent with the nature of program. However, solely the courts

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[116] Ben McFarlane , *The Structure of Property Law* (Hart Publishing 2008)22

[117] S 30(1)

[118] Moon (n72) 8

[119] This issue will be deeply discussed in chapter 4, section 4.2.3.2

(or the legislature) have the ability to determine whether a thing has or has not the status to attract such property rights.[120] It could be argued that property rights can accommodate CPs. To support this point of view, the Civil Law Jurisdictions particularly in Iraq grant property right to intangibles things as does the common law. ICC stipulates that a thing in the area of dealing can be deemed property regardless of whether that thing is tangible or intangible[121]. Accordingly, the owner of a CP has property rights because a program is *sui generis* which grants the owner of a program a right in *personam* and a proprietary right. These two rights enable the owner to exercise the characteristics of ownership including the characteristic of possession. The latter enables the owner to recover his program if his program is infringed by others.

As mentioned earlier under the English approach, 'property right' does not embrace information in a CP but it embraces the program as a whole.[122] Accordingly, what difference would it make if there was property right in one but not the other of information and program such as language? Property right in a CP could assist the right holders demanding compensation from the infringer and restore the program if it is unique. Furthermore, the sale of a whole computer system is a sale of goods as the transaction takes place on the internal and external contains of the program. Therefore, it could be concluded that a CP is not property itself because it is an intangible thing but the owner of the program has rights as personal property in spite of CP being a mental creation. However, this mental creation would be personal property when it has fixation.

2.4. The nature of CP

2.4.1. Introduction.

The investigation in this section is deliberately at a theoretical level, analysing the issues mentioned in the introduction to this chapter. The first issue to be examined is the concept of 'property' and the linkage as a matter of theory between this term and a CP. Property implies tangibility[123] but the common law has not been theoretically 'pure'. This is true in both real property and personal property. For example, land is obviously tangible but estates in land,

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[120] Moon (n72) 10

[121] ICC, s 61

[122] See sections 2.2 and s.3.4.1

[123] See Alastair Hudson (ed), *New Perspective on Property Law, Obligations and Restitution* (Cavendish Publishing Limited 2004) 9

the fee simple etc[124] are equally obviously intangible, as are rights of way. In personal property, debts and company shares (among others), for example, have been accepted as falling within the concept property despite their classification as intangibles.[125]

Accordingly, one must ask whether it matters a CP is tangible or intangible in this context, namely the classification of property. The law stipulates that a CP exists when it is fixed in a material form.[126]However, it is not easy for what exists is a stream of electrons not wholly dissimilar to an electric current.

Thus, it may be useful to pose many questions in this section;

(i)   Is a CP a thing?

(ii)   If so, the question is, how can be an intangible thing be property?

(iii)   If not what is it?

(iv)   As regards purchasing a CP from a vendor via the Internet, where and when does the CP exist?

1- Does it exist when the program downloads?

2- Theoretically, is there any legal protection or any kind of property that could be applied during the downloading of the program?

3- In other words, could that be deemed a thing?

4- If it is not a thing, the question is here, can it be property?

5- If a CP does not fit into any kind of property, i.e. that it is not property, and then it becomes relevant to investigate whether a CP is best understood as a contract for service or mere licence agreement.

2.4.2. Property and a CP

2.4.2.1. The concept of ownership and CPs

First of all, it is convenient to begin by defining 'ownership'. It has been defined as "the exclusive right to use, possess, and dispose of property.... ownership may be corporeal, i.e. of

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[124] See Charles M. Haar & Lance Liebman, *Property and Law* (3rd edn, Little, brown& Company(Canada) Limited 1977)153 & seq

[125] Aileen Mcharg (ed), *Property and the Law in Energy and Natural Resources* (OUP 2010) 23. See also Alison Clarke & Paul Kohler, *Property Law* (1st edn, CUP 2005)18

[126] CDPA 1988, s3(2)

a material thing, which may itself be a movable or an immovable; or it may be incorporeal, i.e. of something intangible, such as of copyright or patent...."[127]; therefore, according to that definition, this term can apply to literary works such as CPs.[128]

Having defined 'ownership', the relevant questions here are: why do we need to investigate the term of 'ownership' in the context of CPs? And what are the consequences that flow from being able to assert 'ownership'?

In relation to the first question, it could be said that identifying the incidents of ownership in the context of CPs, it would be useful to know to what extent these incidents could be applied to the CPs and how the right holders of that program can use, possess and dispose of his/her program. The second enquiry could be answered through the assumption that there was no ownership on CPs. This raises the question, how can someone own a CP?

In his work, Making Law Bind, Honore[129] identified some standard incidents of ownership. These incidents may be regarded as elements in the notion of ownership but they are not individually necessary conditions for the person who wants to be designated the owner of a particular thing.

1- The right to possess. This right means exclusive control of a thing and the right to remain in control. In other words, other people cannot use a thing without permission from its owner. The possessor is given a real right, valid against people generally to remain undisturbed. The protection of the right to possess is achieved only when there is a rule allotting exclusive physical control to one person rather than another, and that not merely on the basis that the person who has such control at the moment is entitled to continue in control.[130]Thus, how can we apply this to a CP?

As we will see a CP, in principle, is an intangible thing as we cannot touch it and possession needs physical control. In a practical way, however, we can often deal with it in commercial life as personal or moveable property because it often has material form, such as a CD, which allows it to be capable of ownership. However, what is the situation when a CP does not have "material form" such as the stream of electronic

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[127] Martin E & Law J(ed), *The Dictionary of Law* (OUP2006) 376

[128] For more detail regarding ownership , see Megarry & Wade (n87) 93 et seq

[129] Tony Honore, *Making Law Bind-Essay Legal and Philosophy* (OUP 1987)

[130]ibid166&167. Andrew P. Bell , *Modern Law of personal Property in England and Ireland* (Butterworths & Co Ltd1989) 35

when downloading? Here it can be said that the right holder can exercise possession[131] even though there is no material form because the contract will give the purchaser the right to possession. Applying possession to a CP does not need fixation in material form as we will see the next sections relating to the concept of tangibility and intangibility.

In addition, the owner of a program does not need to possess it physically because he/she can exercise his/her right on it whether his/her exercise has been performed by himself or on behalf of him/her. Therefore, the possessor of a CP has the right to possess his/her program although the program is an intangible thing. [132]

As for the physical control on a CP, there is no problem as long as a program has the ability to transmit in any way to others by selling, hiring, and so forth. [133] This possession enables the owner or possessor to prevent others using it without licence.[134]

To conclude, the right holders can possess a CP even though it is an intangible thing as a personal or moveable thing although this transmissible does not mean we can possess that program physically because the owner of a CP can possess it without any physical control as long as he/she has the ability to exercise the possessory interest in property.

It may be useful to test the above by considering the 'pledge' which is a security interest created by delivery of tangible property to the pledgee as a security for the payment of a debt or performance of another obligation.[135] Under this definition, we cannot pledge a program because it conflicts with the nature of a program which is an intangible, and the main component of the pledge system is that a thing must be tangible. Indeed, the pawnee obtains possession; this is a right that could be used against third parties and the pawnor himself.

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[131] See the next paragraph.

[132] See section 2.4.3 of this chapter

[133] This could be illustrated in case of an assignment of copyright. CDPA 1988 (s 90/3) stipulates that "an assignment of copyright is not effective unless it is in writing signed by or on behalf of the assignor."Thus the transmissibility of a CP can be proved through writing.

[134] We will investigate this subject in infringement of author's right/ Chapter 3, section 4

[135] Hugh Beale, *The Law of Personal Property Security*(OUP 2007)39 .See generally, Hudson N P A, *Pledge' in N Palmer and E McKendrick(eds), Interests in Goods*(2nd edn, 1998)

Therefore, a programmer or the owner of a program cannot pledge his/her program according to the nature of pledge. On the other hand, if 'A' has copied and modified this program which is owned by 'B', and 'B' has pledged his program to 'C', the latter cannot possess this program because 'A' has become the owner, through the modification of the genuine program even though he/she illegally obtained ownership of it. Therefore, it is extremely difficult to argue that a program has the ability to be pledged according to the nature of pledge as the pawn could not be applied to the program unless the program was fixed in a material form. This form makes the program goods in which case the program could be pledged in theory.

2- The right to use. This right refers to the owner's personal use and enjoyment of the thing owned. [136] Under this right the owner has the right to use his/her things absolutely.[137] Accordingly, an owner of a CP may use and enjoy it as he/she has the right to do so. By way of example, the right holder as the lawful user may make any back up copy of a CP when that is necessary for him to have for the purpose of his/her lawful use. [138]

3- The right to manage. It may be held by one person or shared at the same time between several persons.[139] It gives an owner the validity to license others to use his/her thing through lending or borrowing, for example. This right overlaps with the previous right but the right to use refers to the owner's personal use and enjoyment of the thing owned. By way of example of the above, an owner of copyright in a CP has the validity to license his/her program to another.[140]

4- The right to the income. To use or occupy a thing may be regarded as the simplest way of receiving an income from it, of enjoying it[141]. For example, a CP can be exploited for income. The owner of this program, whether he/she is a programmer or company, has the right to obtain income from granting possession of this program such as by sale, hire...etc.

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[136] Murphy T & others (n87) 52. Honore (n129)167

[137] To prove that , see ICC, s1048

[138] This can be found in CDPA 1988, s 50A-D

[139] Murphy T & others (n87) 53

[140] S 90(4)

[141] Honore (n129)169

5- The right to the capital. This right consists of two bases; the power to alienate the thing and the liberty to consume, waste, or destroy the whole or part of it. We can imagine that 'A' has a program and he destroyed his program; meanwhile 'B' has copied it, without permission from A, before destroying it. However, the relevant question here is; can the owner of the program have the ability to regain this copy from 'B' to destroy it? 'A', as owner, can theoretically regain his copy from 'B' according to the principles of ownership which gives 'A' the right to protect his property. However, this assumption would properly hinder the development of CPs as quite often researchers need CPs for scientific research. Additionally, there is a question that might be raised regarding proving that program belongs to 'A'. It could be said that the best way to resolve this problem, i.e. copying program for the purpose of fair dealing, is to compensate the owner without returning the program.[142]

Another question which could arise at this point is; can the owner of a program have the ability to consume his/her program as he/she likes? Theoretically, the owner has the right to utilise his/her property as he/she wants provided that his/her utilising was not against the law. For example, the owner of copyright has the right to sell, hire and so forth but he/she cannot prevent using it for fair dealing.[143]

6- The right to security. Under this right, any transmission of property should be consensual, and this term is called the right to security.[144] However, many cases result in expropriation of property by government such as expropriations for public interest. In principle, when expropriation takes places, adequate compensation should be paid[145]. Nevertheless, in some systems such as English law[146], a private individual may destroy another's property without compensation when this is necessary in order to protect his own person or property from a great danger and such a rule is consistent with security of its exceptional character.[147]

7- The incident of transmissibility. The main principle in freehold property is that it has unlimited duration. This principle consists of two elements; the interest can be transmitted to the holder's successors, and the second it must not be determined for

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[142] This point will be discussed in the section of remedies of infringement in the chapter 3

[143] CDPA 1988, s 28 & ARA 1971, s 14

[144] Murphy (n87) 187-196. Honore (n129)171

[145] ICC, s 1050

[146] See : *Cope v.Sharp* [1912] I KB 496; *Cresswell v.Sirl* [1948] I KB 241

[147] Honore (n129)171

limited time.[148] As mentioned earlier a program is a moveable thing[149] and will not last for unlimited time. It could be argued that a CP does endure after all tangible things such as furniture or cattle which do not last forever; thus, there is no difference between these things and a CP. Thus, the owner of a CP can transmit his/her program to others but his/her program has not the second element of freehold property because a program is a movable thing and it ends when the protection of a CP is expired for limited time under the law.

8- The incident of absence of term. This right is related to unlimited duration which was mentioned in the previous right. This means property should not be certain to determine at a future date or on the occurrence of a future event which is certain to occur. This right is also inconsistent with the nature of a CP because there is a limited period for a CP, and then it would vest to the public interest.[150]

9- The duty to prevent harm. The rights of the owner to manage, enjoy or consume, and dispose of a thing owned as he/she wants, is subject to the circumstances that not only may he/she use it to harm others. However, he/she must prevent others using the thing to harm other members of society.[151]

10- Liability to execution. A good case can certainly be made for expropriation by the State. Expropriation is merely exclusive on certain cases. Indeed, it would lead to restrict the liberty of the owner on his/her property. Therefore, it tends to be restricted to special classes of property. It occurs in every mature society.[152]By way of example, Iraqi law has banned expropriating the rights of an author on his/her work. However, it has allowed the expropriation of his/her copies which has been released on the market, and it has not allowed the expropriation of his/her works which are not published before his/her death.[153]

11- Ownership and lesser interest: There is no doubt ownership is the greatest interest in a thing recognised by the law more than other lesser interests such as easement, short

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[148] ibid172

[149] See 2.3.3.2

[150] See 114

[151]Murphy (n87) 53&54

[152] Honore (n129)175

[153] ARA 1971, s 16

leases, licences, special property, mere detention and so forth.[154]As for the position of a CP, an owner has many interests on his/her program such as the right to manage, enjoy and dispose.

It could be inferred from the above analysing of Honore's incidents that a CP can be viewed as capable of being fitted into these incidents and hence it can be 'owned'.

2.4.2.2. Is a CP a thing?

The purpose of this section is to investigate whether a CP is a thing, and if so what kind of thing it is.

There are two kinds of things; those that are capable of ownership such as a land, a car, a CP and so forth, and things which are incapable of ownership such as air[155] and water[156].

A CP is a thing because the owner of program has the characteristics of ownership, which allow the owner of that thing having a right to use or enjoy it provided that this thing is legally eligible i.e. it must not be owned by a government,[157]and it must be within the area of legal dealing.[158]In other words, the owner of the CP has a right to use his/her program because there is a power relationship between the owner and his program. Therefore, there is no property right without thing. For example, the owner of an idea has no property right as an idea is not a thing and so easy to spread and so hard to control.[159] However, one must distinguish between the concept of "idea" and the concept of "information". In essence "an idea" is a mental term but information is a transmissible term. Thus, "an idea" as such cannot be subject to any protection as a person having that idea does not assert the incidents of

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[154] See; Edward Hector Burn & other, *Modern Law of Real Property* (17th edn, OUP 2006) 111 , Steven J & Pearce R (n85)22. McFarlane (n65) 526 et seq, Honore (n129) 175

[155] Daniel H. Cole , *New Forms oF Private Property: Property Rights in Environmental Goods*, (1999)<http://encyclo.findlaw.com/1910book.pdf > Accessed 14 December 2010

[156] Sandra B. Zellmer & Jessica Harder, *Unbundling Property in Water* (2008)<http://works.bepress.com/cgi/viewcontent.cgi?article=1000&context=sandi_zellmer > Accessed 23 July 2008

[157] In England, thing must not be owned by the Crown, see Alastair Hudson, *Equity and Trusts* (6th edn, Routledg & Cavendish 2010) 1176

[158] ICC, s 61. Egyptian Civil Code 1948 (hereinafter :ECC 1948) s 81

[159] M.A. Lemley, "Ex Ante versus Ex Post Justifications for Intellectual Property" (2004) 71 U. Chi. L. Rev. 129, 129. It was indicated by Carole Deschamps , 'Patenting Computer-Related Inventions in the US and in Europe: the need for domestic and international legal harmony', (2011) E I P R , 33(2), 103-114

ownership whereas information could be subject to protection (for example via IP) as information could be subject to the incidents of ownership and capable of transmissibility by writing or electronic form.

In other words, the concept of ownership could apply to information. Thus, the owner of this information can prevent the others from using it without any permission. For example, if someone wrote a program, before the fixation of that program in a material form, the programmer would have a property right to his/her information even though information cannot be possessed by touch. The programmer has this property right because information is not only an idea inside the brain but also it is a product of necessary communication.

There are two categories of things which are excluded from legal dealing: first, if these things cannot be possessed in accordance with their nature such as air, water and so forth, they must be excluded from legal dealing. Of course, if this air or water could be possessed e.g. water which has been filtered and put in a bottle for selling, they would be capable of ownership. Second, the law bans the dealing in certain things for legal reasons; illegal drugs for example.[160] It could be said that items with the first category are incapable of being classified as property by their very nature , whereas items in the second category are deemed by the relevant law, are matters of policy, incapable of being classified as property , although they could become classifiable as property if that policy changes. As a result, in order for those things to be accepted as the subject matter of commercial dealing legally, they must be eligible for dealing. If those things were outside the province of legal dealing, they would be incapable of ownership whether those things are corporal or incorporeal.

Accordingly, a CP may be outside legal dealing in at least two cases: firstly, if this program contains general information for society[161] and secondly if the law bans dealing in this program; for example, because that right violates the security of State or government.[162]

To sum up, the current study has found that a CP is a thing as it has the most characteristics of ownership that have been mentioned previously. However, if that program was electronically transferred by the Internet, it could be said that a CP is not a thing because the

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[160] Abd AlRazak Al-Sanhori , *Civil Law,Part one* (Cairo: Dar Alnhada Alarabia, 1988) item 227 and see also, Abu Alsaud, Alwased in Civil Law,(Cairo : Aldar Aljamia, 1990) 431

[161] CDPA 1988, s 29. See Abd Rhman Al-Khawji , *The Legal Protection of Software* (Cairo: Dar Al-Jama, 1997) 49

[162] Asal Al-Sadam, 'The Civil Protection of Computer program' (Dissertation, Babel University 2000) 4

transferring of a CP is intangible, as we will see in the next item. The operation would be merely a licence to use this program .This leads us to investigate the second subject relating to the concept of tangibility and intangibility of a CP as we need to investigate how one can have real or personal rights on an intangible thing.

2.4.3. A CP and the concept of tangibility and intangibility

The relevant question here is: which kind of property could apply to a CP at a theoretical level? Clearly a CP is not tangible real property because it is a movable thing as we will see in the next section. However, could it be said to be 'tangible personal property'?

'Tangible personal property', means personal property that can be seen, weighed, measured, felt or touched, or that is in any other way perceptible to the senses[163], such as a car, and are called choses in possession. "Choses in possession" are tangible or (corporeal) moveable things[164] such as goods. On the other hand, there is a second type of personal property known as "choses in action", which embraces different types of intangible (or incorporeal) property such as debts, goodwill, CPs, and various forms of IP (copyright, patent, trade mark, and so on). Thus, a CP could be a commodity (good) if it has fixation. This material form leads one to consider that program as being a tangible thing –a chose in possession. However, if the way of delivering a CP was not in material form that program would be merely intangible personal property-choses in action- such as purchasing a CP via internet. Thus there are different kinds of CPs. These programs could be goods, contract for services or something else such as a licence.

It could be said that there is no need for this dichotomy between the two categories above because the owner of choses in possession or choses in action has property rights therefore it could be agreed with the common law approach when many cases have been reluctant to accept the dichotomy and in particular its consequences for the validity and usefulness of the *choses in action* category[165]. Thus, it could be agreed with the point of view that "choses in action does not appropriately and consistently describe all property which is not possession or tangible".[166]

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[163] Moon (n72) 3

[164] F.H. Lawson and Bernard Rudden, *The Law of Property* (OUP 2002) 3. Bell (n83)21.

[165] Moon (n72) 11-13

[166] ibid12

Therefore, researchers add that there is further kind of intangibles which is pure intangibles, which cannot be touched in any case. They are a sub-classification of choses in action (i.e. intangible moveable), include also copyright and debts.[167] It could be said that the pure intangibles are a mere type of a chose in action. Accordingly, there is a double intangibility on CP, the program as such and copyright, and in this case there is intangible property. This property should be treated differently from any other kind of property. This supports the writer's opinion that the most appropriate category for a CP is as *sui generis* property.

As for choses in action, if a CP can be stored and downloaded by means of a portable disk, this disk would constitute a chattel, then it may amount to 'goods' for the purpose of a supplier's strict liability for the quality and fitness of goods under the Sale of Goods Act 1979 or the Supply of Goods and Services Act 1982.[168] This means that a CP has to comply with the implied terms as to quality and fitness for purpose. However, what would the provision be if the program was transferred by an electrical signal? This leads to double intangibility, the CP and the transferring of it. In this case a program cannot be classified as goods under "the principles derived from the goods versus services cases".[169] Accordingly, the supply of programs online is a licence agreement as we cannot say this case is under a supply of goods unless the programs are fixed on a disk or other physical storage to which the purchaser takes title. This raises the enquiry regarding the protection of a CP over the transferring if one infringes a CP via piracy, how can we protect that CP? It could be argued that the rules of licence or the contract can be granted to the parties of a program as well as the provisions of copyright because the requirement of expression exists which grant the program copyright protection.

Having already noted that a CP is a good if it has a form of fixation in that program because it is merely information, in principle, before the fixation and information is an intangible thing because mental products are intangible things which prevent CPs being goods. This can give rise to deeming those programs to be personal property because if programs are not personal property it could be difficult to argue that they are goods as the sale of goods law is built on the view of property in goods and title passing from seller to buyer. This approach is consistent with the CDPA 1988 which has considered the transmissibility of copyright as

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[167] Worthington (n94) 5

[168] M.G.Bridge, *Personal Property Law* (3rd edn, OUP 2002) 7 &.8

[169] Moon (n72) 8

personal or moveable property.[170] However, this law has not referred to the nature of a CP being either tangible or intangible.

It could be concluded that the subsistence of copyright upon a CP will exist only after the fixing or recording of that program in a form such as a CD. Before that, it exists only as an idea which is not protected by copyright. Copyright may not apply to the owner of this idea. Thus, copyright will not subsist unless the work has the requirement of fixation.[171]

In conclusion, a CP could be classified as *sui generis* in terms of assignment as personal property (choses in possession and choses in action). However, it is not property as such because intangible things such as CPs do not inevitably lead to grant the proprietary right. This means that a contractual arrangement, such as a licence, governs the relationship between parties to the contract and does not create proprietary rights. This grants the licensee the right to use the program. Also, the personal right exists between the licensor and licensee but cannot bind anybody else. Hence, the nature of the contract, a licence, would be a contract for services rather than to create a species of property itself. In other words, it can be argued that programs can be best understood as contracts for service or mere licence agreements rather than goods because the meaning of property can be applied to things which are intangible in principle such as CPs. The consequence which results from this conclusion is that the right holder has only the right of personal property because it does not allow him/her to recover his program as a landlord does. However, the program has the qualities of ownership and possession in terms of property as it has been mentioned earlier.

2.5. Evaluation of "property" as a way to protect the investment of a CP

If a CP is "property" regardless the classification of the property, the question is here to what extent "property" as such could provide protection to the investment of a CP in the realm of competition law.

Protecting a CP by the rules of Civil Code was the only protection before the amendment ARA 1971 in 2004 because, as I indicated in the last chapter,[172] there was no clear protection for CPs before that time. Thus, the Judge had to apply the rules of property and the

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[170] S 90

[171] Moon (n72) 3

[172] See s 1.1.1 /2

contract[173] to protect the right holders of a CP. However, this property was arguably insufficient to provide suitable protection to the right holders and the program itself because ordinary property is deficient. The deficiency is because property can protect the original or copy of a CP as a thing[174] but not prevent copying or communication to the public.[175] This was remedied by amendment ARA 1971 in 2004 to make CPs as form of literary works.[176] On the other hand, property in general may be too strong in that because it can be used to prevent access to code. That access may be necessary for competition and further innovation, e.g. by studying or making compatible applications within copyright. This situation may be helped by defences such as decompilation.[177] If these are not sufficient, comptetion law and remedies have been used to provide access to code and other technologies. This law, namely competition law, has also been used to other access to real and personal property. In addition, there is another reason for deficiency which is civil law actions seek to cover damages and issuing injunction by the court not in relation to copying or communication to public.[178]

The basis of a free market is competition between firms because such competition is believed to deliver efficiency, low price, and innovation. Also, competition rules seek to promote effective and undistorted competition in the market. This does not mean that in a free market economy every sector is left to unbridled completion.[179]Software industry must be leave to free market economy since this industry would be developing through the principle of competition as we will explore in the next chapter.

Competition law remedies can generally be categorised into two groups: structural and behavioural. Structural remedies tend to be available to competition authorities in most established jurisdictions.[180] They give rise to a structural change in the market and are usually

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[173] See s 4.3 of chapter 4

[174] See s 2.4.2.2 of chapter 2

[175] See s 3.3.1.4 of chapter 3

[176] See Appendix 1 of the thesis.

[177] See s 3.2.2.4.2/4 of chapter 3

[178] See s 3.6.3 of chapter 4

[179] Alison Jones & Brenda Sufrain, *EC Competition Law, Texts, Cases, and Materials*(3rd edn,OUP, 2008)1 et seq. Also, Giorgio Monti, *EC Competition Law* (1st edn, CUP, 2007) 440, D.G.Goyder &others , Goyder's EC Competition Law(5th edn, OUP, 2009) 8

[180] Thomas Hoehn & Alex Lewis, 'Interoperability remedies, FRAND licensing and innovation: a review of recent case law'(2013) E.C.L.R. 34(2), 101-111 at 102

characterised by divestiture commitments. Behavioural remedies may also provide access to the market. Some behavioural remedies can be further subcategorised as "quasi-structural" where they have a structural effect on the market but do not, per se, involve a divestiture. [181]

Interoperability[182] and open interface remedies are essentially access remedies. They allow third-parties access to the technology of a dominant undertaking or a merged entity that, but for the remedy, would significantly impede effective competition. They can be characterised as quasi-structural. This means that the remedy is behavioural in essence but has a structural and long-lasting effect on the market. It often encompasses the licensing of the notifying parties' IP to competitors in order to allow for the competitor products to sufficiently interoperate with that of the merging parties. It can also include divestment of an intellectual property right to an independent body, or a commitment to implement a particular protocol on existing and future products .The commitment to provide interoperability information can be seen to remedy competition concerns by removing barriers to entry which then allows competitors to use the merging entities' licensed IP to create products that work in harmony with them, consequently increasing the sale of rival products to compete effectively with those of the parties.[183]

In terms of judicial aspect, the best example for competition law regarding interoperability is: Microsoft Corp v Commission of the European Communities (T-167/08 R).[184] The applicants (O, W, X, Y and Z) sought leave to intervene in proceedings in which a corporation (M) sought to annul a decision of the respondent Commission by which it imposed a periodic penalty payment on M for abuse of its dominant position. M developed and marketed software products worldwide. By a decision in 2004,[185] the Commission concluded that M was in breach of the EC Treaty (Nice) Art.82[186] by refusing to supply its competitors with

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[181] ibid102

[182] This will be discussed in the case " decompilation". See s 3.2.2.4.2. See also, Kai-Uwe Kuhn & John Van Reenen, 'Interoperability and market foreclosure in the European Microsoft case' in Bruce Lyons, (ed), *Cases in European Competition Policy: THE Economic Anaylysis* (1st ,CUP, 2009)57

[183] Hoehn & Lewis (n175)103. Kuhn & Van Reenen (n176) 58&59

[184] [2009] 4 C.M.L.R. 16

[185] *Microsoft Corp v Commission of the European Communities* T201/04 R 2 [2005] 4 C.M.L.R. 5; [2005] E.C.D.R. 19; [2005] Info. T.L.R. 179

[186] The following shall be prohibited as incompatible with the common market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition

certain interoperability information and to allow them to use it for the purpose of developing competing products on the market for work group server operating systems. M failed to comply with the Commission's requirement to cease that abuse behaviour and, by a later decision, fixed a periodic penalty payment in respect of M's failure to comply. M sought to annul that decision and applications to intervene in the proceedings were brought by O, who were representative associations of undertakings, and W, X, Y and Z, who were legal persons claiming an interest in the outcome of the proceedings. O submitted, essentially, that they had a direct interest in the outcome of the case because their objects included representing the public policy interests of the computer software industry and protecting their members; that they had been permitted to intervene in previous proceedings involving M; and that the forthcoming judgment raised new questions on the licensing of technical information to competitors.

The court decided that it should be recalled that the Contested Decision was adopted by the Commission because it considered, in particular, that the licence terms on which Microsoft was prepared to allow its competitors to have access to the interoperability information were incompatible with its obligations under the 2004 Decision and could therefore prejudice their commercial interests. That being so, it is sufficient to note that Microsoft does not deny that Oracle has a commercial interest in the success of the version of Linux distributed by Red Hat since, according to Microsoft, Oracle's Unbreakable Linux offering is a support program for that operating system. Microsoft has not claimed that Red Hat's operating system is not in competition with Microsoft's own operating systems. The annulment of the Contested

within the common market, and in particular those which: (a) directly or indirectly fix purchase or selling prices or any other trading conditions; (b) limit or control production, markets, technical development, or investment; (c) share markets or sources of supply; (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

Any agreements or decisions prohibited pursuant to this Article shall be automatically void.

The provisions of paragraph 1 may, however, be declared inapplicable in the case of: - any agreement or category of agreements between undertakings; - any decision or category of decisions by associations of undertakings; - any concerted practice or category of concerted practices, which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which does not: (a) impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives; (b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.

Decision could therefore affect the commercial interests of Oracle, at least as an indirect competitor of Microsoft, through its interest in the success of Red Hat's operating system. To the extent that Oracle offers other products that compete with those of Microsoft on the relevant markets its interests could also be directly affected, as a competitor of Microsoft, by the outcome of the present proceedings.[187]

Thus, it could be argued that property as such cannot be suitable protection for the investment of a CP. In addition, it could not provide protection for special cases such as infringement the right holders of a CP as a literary work. The question is that to what extent that IP, such as copyright, patent etc, protection could provide accurate protection better than property under the concept of common law and civil law. IP protection will be investigated the next chapters.

Conclusion

The results of this study indicated that it is difficult to classify a CP using the traditional types of property whether real or personal. It has neither the qualities of real property nor personal property as the concept of 'property' needs actual occupation. However, the writer can argue that a CP is *sui generis* property but it is not property itself because the owner of a program can have only the property right in terms of the ownership and the possession. Thus, the meaning of property in a CP is different from other things. The best example for a non-property CP occurs when purchasing a program online.

As regards the kinds of rights which are granted to the owner of the program, in principle he/she has a personal right or right in *personam*. However, he/she can also have the qualities of ownership and possession which are parts of the qualities of a proprietary right or a *right in rem.*

Accordingly, a CP is not property as such under either Iraqi or English law but it is *sui generis* property whether it is fixed or not on material form because the concept of property, according to these laws, protects people who are in actual occupation. Thus, the owner of a CP has only personal right enforceable only against the party to a contract and the terms of that contract or licence would be a contract of service. However, the rules of personal property can be applied to a CP in terms of the movement from the vendor to the purchaser.

The most important limitation lies in the fact that the English approach does not grant property right to a CP as such, before the fixing of the program, as it is only information

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[187] [94]

which could not encompass a property right. The writer agrees with the approach, which considers information as property right because information is a link between idea and the program. Thus, it could be said that information is a transmissible term. This term is valuable thus it can be argued granting property right would protect information from infringement.

Regarding the theoretical level, one of the more significant findings to emerge from this study is that a CP is a thing. Thus, what is brought into being by a computer programmer is a thing, even if it is a mental product which means that a program is only information. In other words, it is an intangible thing. This leads to make a linkage between the programmer and his/her product. However, there is a case where the program could be deemed not a thing. It is the case of purchasing the program via the Internet. The transaction could be merely a licence to use this program. Thus, a CP does not fit into the classification of property. However, it can be argued that a CP is *sui generis* property in terms of assignment as personal property (choses in possession and choses in action).

Finally, to evaluate the ability of "property" as a way to protect a CP, it could be concluded from this debate that property as such is deficient to provide suitable protection for CPs because civil competition law actions seek to cover damages and issuing   injunction by the court. Also, "property" as such could not provide protection for special cases such as infringement the right holders of a CP as a literary work.

Chapter Three

The scope of copyright protection for CPs guaranteed by the ARA 1971 and the CDPA 1988

3.1.Introduction

In the previous chapter, the writer established that protection a CP under the rules of property is deficient because it does not provide protection to CP as a literary work such as copying that work. This conclusion has a considerable implication on the types of protection of CPs. However, because CPs are intended to be reproduced, a right specially to control this is needed enforceable against the world, whereas a commercial or "free software" model is preferred. Copyright is the main protection currently conferred on CPs. It is property right which subsists in the literary works[188]and CPs are subject to this protection.[189]

The objective of this chapter is to determine whether the rules of copyright or author's right can provide suitable protection for CPs or whether they need some amendments to cope with the advent of technology which introduced CPs in the light of Iraq's needs as a developing country. To examine this, Iraq's author's right law will be compared with that in Europe – under CPD 1991- and the UK , the USA, France as developed countries to remedy the flaws in Iraqi law (ARA 1971)

The methodology used in this chapter is a critical analysis of the statutory provisions for the protection CPs under common and civil law. The regimes in Iraq, EU -under the European Directive (CPD 1991, 2009), the UK, the USA and France – French Law Intellectual Property Act (hereinafter FLIPC)- will be object of our comparison.

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[188] CDPA 1988, s 1

[189]See: CDPA 1988, s 3(1, b), ARA 1971, s 2(2). The Jordanian Author's Right Act 1992 (hereinafter JARA 1992), s 3 (8). FLIPC ,s L112-2 (13) . Austrian Copyright Act 1968 (hereinafter : ACA 1968) s 10(1). The Egyptian Intellectual Property Rights Act 2002 (hereinafter :EIPRA) s 140(2)3. In France, the Bill which issued on the third of June 1985 granted protection of author's right to a CP. This protection is not only granted from the legislature but from the French judicial as well through the Appeal of Paris Court in November 1982 . It has held that 'creating a program to operate into a computer, this creation can consider as literary work because the creator of this program has made effort in choosing a way to show it among the difference ways'. See *inter alia* Colombet C , *Propereité Litteraire et Artistique et Droits Vooisions*(Ninth Edition, 1999)87, it was translated by Google translate form French to English. Mohammed Hassan , *The New Approaches in Protection of the Computer Programs* (Dar Al-Nhda Al-Arabia 2001)33

With reference to the questions outlined in chapter 1, the writer attempts to tackle this chapter by addressing the following issues:

a) To what extent are these copyright or author's right laws appropriate to protect the right holders of CPs?

b) If neither copyright nor author's right is appropriate, would another technique be more appropriate for the protection of CPs? In other words, if we found that the regimes in (a) are inadequate, the writer shall be attempting to find whether we can borrow a more effective and suitable approach for the protection of CPs

c) Should copyright or author's right be modified?

d) Should differences between developed countries and developing countries be taking into account in proposing a legislative model for the protection of CPs in Iraq?

e) How are these questions related to the theme of the thesis?

We have already highlighted that the purpose of this research is to investigate to what extent the rules of copyright or author's right can protect CPs in Iraq, it is worth noting that CPs have certain features which make them *sui generis* from authors rights and copyright.

Thus, the first enquiry is as such the main target of the research question in this thesis. As regards the questions (b), (c) and (d), they represent the theoretical level in this chapter. Furthermore, strict enforcement of rules may be discouraging investors into Iraq's growing economy since there are some vital societal differences between developing and developed countries.[190] For example, the Appendix of BC) allows the developing countries to impose periods of protection for works less than the period which is granted in the developed countries.[191] Thereby the question (d) was raised for this purpose.

3.2. The requirements of copyright protection for CPs under international law, EU, the UK and Iraq

There are two requirements to activate the provisions of copyright or author's right on any work including CPs, originality and expression. These will be explored under international law (BC and TRIPs), CPD 1991,2009, the UK (CDPA 198) and Iraqi law (ARA 1971), as follows

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[190] See chapter 1/1.1.2

[191] See Art 21, and I of the Appendix of the amendment of this Convention in 1971, Paris.

3.2.1. Originality[192]

Although it is not explicitly mentioned in BC,[193] originality is the core of copyright.[194] Therefore, there is no clear definition to the concept of originality. An original CP has to be the result of three requirements which are skill, judgment and labour as we will see. The work subjects to the protection of copyright law must not be copied from another work. However, defining "originality" whether under traditional copyright or author's right would be important for identify the meaning in both regimes. Thus, the writer will show these definitions then proceed investigation the laws above.

This section is intended to analyse the meaning of originality in a CP under copyright and author's rights and what the level of originality appropriate for Iraq is?

3.2.1.1. Defining originality under traditional copyright and author's right

Originality is a significant concept within copyright and author's right. Not only because it identifies the scope of legal protection by "drawing a line" between the works that are protected by law and the works that are not protected, but also because it plays a primary role in the practical analysis of author's rights infringement. The reproduction of a work that is not original cannot, by definition, be considered a violation of anyone's rights.[195]

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[192] The term of originality used by the Muslim scholars in this context is *'ibtikar'*. Al-Darrini defines *'ibtikar'* as something which is new; not being a reproduction of previous works. Although he did not advance any test as to the requirement of originality, he is careful to observe that absolute originality will never arise as knowledge is built on the accumulation of past stocks of information. The *'isaiah'* (the strength of originality) in copyright, he argues, is relative. See *Al-Darini, Fathi et.al, Haag al-Ibtikar fi al-Figh al-Islami al-Mugaran,* (1984),*Muassasah al-Risalah,* Beirut referred by Mohammed Azmi , 'Intellectual Property Law and Islam in Malaysia'(PhD thesis, Queen Mary &Westfield College,1995) 152. Also, see Mohammed Azmi, 'Authorship and Islam in Malaysia: issues in perspective' (1997) IRIP&CL, 28(5), 671-706,section 2.1

[193]See; J.A.L. Sterling , *World Copyright Law* (3rd edn,Sweet& Maxwell 2008)765 et seq. Sam Ricketson and Jane Ginsburg., *International Copyright and Neighbouring Rights*(2ndedn, OUP 2006) Section 8.05

[194] See *inter alia* David Bainbridge, *Intellectual Property Right* (8th edn, Essex: Pearson Education Limited 2010), Lionel Bently & Brad Sherman, *Intellectual Property Law* (3rd edn,OUP 2009), Paul Torremans, Holyoak and Torremans *Intellectual Property Law* (6th edn, OUP 2010), Ian J Lloyd, *Information Technology Law* (5th edn, OUP 2008), Ilanah Simon, 'South African Supreme Court rules on Copyright in Software and Computer-Generated Works ', (2006) JIPL &P, 1(11),696-699.

[195] Agustin Waisman, *'Revisiting Originality'*, (2009) E.I.P.R. 31(7), 370-376, at 372

Accordingly, for any work to be qualified for protection via copyright in general, it has to be original.[196] This does not mean that the work must be completely new in the sense of novelty as with a patent;[197] mere copying is insufficient.[198] Thus the first requirement for any work is must be "not being copied. This requirement imposes a responsibility on the person claiming copyright to prove the expenditure of his/her own skill, labour and effort which is the reason for granting that work protection in the first place.[199] Whereas the second requirement, that the work must be created by its author, means he/she must have exercised at least some 'labour, skill, and judgment' in its creation.[200] This phrase is a form of words of no great accuracy because the courts sometimes use the phrase disjunctively, indicating labour, skill, or judgment[201], and sometimes cumulatively as labour, skill, and judgment.[202] When can a work be said to be original?

As mentioned earlier, in order for a work to be original, the author must have exerted the requisite labour, skill and effort in creating that piece of work.[203] There is not, however, a definite term or measurement for the above. Instead much will depend on the facts of the case. The bar for originality will also be raised or lowered depending on the types of works in question.[204]

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[196] CDPA 1988, s 1(1a). *Hyperion Records Limited v Sawkins* [2005] EWCA Civ 565 [31]. Also, see Colombet(n137)24 ets,

[197] Novelty means the invention must be new. It must not already have been available to the public, see Bainbridge (n194) 40.

[198] ibid 41 & et seq. CDPA 1988, s 3 . *Gormley v EMI Records (Ireland) Limited* [1998] 1 IR 84, [1999] 1 ILRM 178.See *inter alia* Allen T & Weng W (n75) 52

[199] Gerald Dworkin & Richard D. Taylor, Blackstone's guide to the Copyright, Designs &Patents Act 1988: the law of copyright and related rights (Blackstone Press Limited1989)21. See *inter alia* the case of *University of London Press v University Tutorial Press* (1916), Paterson J said: ".... the work must not be copied from another work- that it should originate from the author."

[200] Catherin Colston & Jonathan Galloway, *Modern Intellectual property Law* (3rd edn, London& New York: Routledge, 2010)261

[201] *Ladbroke* (n12) 469 (Lord Reid)

[202] ibid; *Interlego v. Tyco*[1988] RPC 343, 371. See *inter alia* Bentley & Sherman (n194) 95

[203] Patricia Akester,'International Copyright and the Challenge of Digital Technology' (PhD thesis, University of London London/Queen Mary College 2002)156. Elizabeth Adeney, 'The mask of the author - anonymity and pseudonymity in two common law countries'(2000) IRIP&CL4, 31(7/8), 913-949

[204] Colston &Galloway (n200) 292. Also, see *JHP Limited v BBC Worldwide Limited, Trustees of the Estate of Terry Nation* [2008] EWHC 757 (Ch) [28]

This leads to two consequences: firstly, it rules out mere ideas from the area of legal protection according to the principle which rules out ideas from legal protection in the case of literary or artistic works[205]. Hence, that justifies why ideas cannot be subject to the provisions of copyright or author's right. Secondly, 'originality' connotes the sense that the work was not copied from another. This does not mean the same as in patent law.

As for the originality of a derivative or compilation work where the author starts from an existing work, in order for this work to be deemed original the following must be applicable:

1- The labour must be of the right kind: this means that some degrees of individuality must have been exercised. A simple tracing of a pre-existing work (involving some labour) is not original in the above sense and therefore falls foul of this requirement[206] as does a composite program when downloaded by copying an existing computer program.[207]

2- The effort must bring about a material change in the works: this means that the author of the new works must impose on the pre-existing works some extra character and material change. The new works must be differentiated and distinct from the original works.[208] On the contrary, where the change on the prior work is material, it would be original to the extent of originality conferred on new editions of literary works[209], compilations, anthologies, translations[210], adaptations of existing materials[211], as well as arrangements of music, and engravings[212]. A ready example would be the translation of a CP from one language into a foreign language, English to Arabic.[213]

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[205] ideas are solely intangible things and are not property as has been explained in chapter 2, CDPA 1988, s1(1a)

[206] *Interlego AG v. Tyco Industries* [1989]AS 217 , 268 (Lord Oliver) ' only certain kinds of skills' labour and judgment confer originality'. *British Northrop v. Texteam* (Blackburn) [1974]RPC57 [68] ' a drawing which is simply traced from another drawing is not an original artistic work' . *Rexnold v.Ancon* [1983] FSR [662], [664] ' 'improbable that copyright would be given to a mere tracing', .*Davis(Holdings) v. Wright Health Group* [1988] RPC [403],[409] ' casts made from models are not original' and 412 'tracing not original'. See more Bentley & Sherman (n194) 99

[207] See section 3.4.3.3 of this chapter

[208] *Macmillan v. Cooper* [1992] 40 TLR [186], [188]. Carey L (n68)197

[209] *Black v. Murray* [1870] 9 Macph 341, 355

[210] *Byrne v. Statist* Co [1914]1 KB 622; *Cummins v. Bond* [1927] 1 Ch 167

[211] *Warwick Films v. Eisinger* [1989] 1 Ch 508

[212] *ZYX Music GmbH v. King* [1995] 3 All ER 1

[213] ARA 1971,s.4

It could be argued that within common law jurisprudence, the traditional test of originality is a low one, as it "… does not imply originality of idea and thought in the sense that nobody has thought of it. It is sufficient that the work originated from him and is not copied from others".[214]

Under ARA 1971, protection is conferred on the authors of original literary, artistic and scientific works, whatever their types, methods of expression, importance and purposes.[215]

Therefore, the author's character generates his/her right on his/her work, whether it is absolutely original, i.e. its components are original and do not quote or depend on another work, or compilation, that is derived from other sources or based upon an existing work such as a translation, abridgement or new edition.[216]

It is now intended to discover to what extent the requirement for originality can be applied to CPs:

3.2.1.2. Originality in CPs

First of all, it is important to mention a fact that the requirement of "originality" in a CP in the UK law was already existed before issuing the CPD 199 , thus the British law (CDPA 1988)treated the requirement of "originality" without reference to the CPD 1991 and also without reference to any preceding or existing norm under international law. The writer thinks there are three questions should be addressed in this regard;

1- How could the CPD 1991 have treated "originality" in CP?

2- Was a standard of "originality" in the CPD 1991 already existed in the other European countries?

3- What is the potential impact of the meaning of "originality" in CPD on the British approach?

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[214] See case *Ladbroke (Football) Ltd* (n8)291, Lord Pearce that the word ' original' requires: .. only that the work should not be copied but should originate from the author

[215] ARA 1971, s 1. See also Stefan Mentzer, 'What You Need to Know Before You Filea Copyright Infringement Lawsuit*', (2012) IP&TLJ, 24, at 4&5

[216] Mohammed Lotfi, *The Practical Source of Literary and Artistic Work* (Cairo: Dar Al-Thaqafh, 1993) 27. See Also, Colston & Galloway (200)292. Bentley & Sherman(n194) 99.

5- Finally, what are the options as to the required level of originality under Iraqi law, and which route, if any , should be chosen?

These questions will be in three sections, as follows

1. International and EU

A CP is protected by the TRIPs Agreement as a literary work under the BC. This Agreement grants that protection only to source and object codes.[217]The meaning of originality is not clear under the TRIPs agreement because there is no explicit definition for originality under BC. However, it could argue that international law left to any country whether is part from WTO or not to make rules to protect CPs according to the meaning of originality of literary work.

In EU, the originality requirement has in fact been referred to only in Art.1(3) in the CPD 1991, 2009;[218] Art.6 of Directive 2006/116 on the term protection of copyright and certain related rights (codified version, the Term Directive) with regard to photographs; Art.3(1) of Directive 96/9 on the legal protection of databases (the Database Directive). In these legislations, the originality requirement was harmonised to take account of the special features or the special technical nature of the category of work in question and was held to be found whenever a work was "its author's own intellectual creation".[219]Thus, copyright within the meaning of Article 2(a) of Directive 2001/29 the harmonisation of certain aspect of copyright and related rights of the information society (hereinafter Infosoc) is liable to apply only in relation to a subject-matter which is original in the sense that it is its "author's own intellectual creation".

It could be said that the concept of originality in that the work must be the 'author's own intellectual creation'. The CPD which contains the requirement for originality provides that the subsistence of in CPs is original if the program was original in the sense that it was the author's own intellectual creation.[220] The CPD 1991 set a standard for "originality" that was already the norm in some Member States in Europe such as France and German.[221]

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[217] Art 10 (1)

[218] See chapter 5 /s 5.3.3.3

[219] Eleonora Rosati, Originality in a work, or a work of originality: the effects of the Infopaq decision (2012) 33(12), 746-755, at 747

[220] Art 1(3). This article goes on to confirm that no other criteria shall be used to determine the eligibile for protection. See Bainbridge (n194) 64

Despite this definition, the contemporary tendency is to look for skill and judgment in the creation of a literary work. The significance 'labour' or 'effort' had in the process of creation now seems to have lightened because whether the application of labour alone can lead to copyright must be regarded now with some uncertainty. Therefore, one may argue that a CP is "original if it is the author's own intellectual creation and that two standards are one and the same".[222]

One may also argue that the standard of originality in CPs has a specific meaning: that CPs are original if the creator makes an intellectual effort. This exertion should differ from other literary works when the courts apply that originality to a CP, because it has some characteristics which are different from other works such as the technical way of its creation. The prime example is in the case of translation or adaptation of existing materials. Thus, the CPD requires that the program must be the intellectual creation of the programmer.

The previous chapter suggested that CPs could be classified only as instructions. For example, a programmer writing a CP establishes the instructions that need to be given to the computer in language understandable to the programmer, and this language is known as 'source code'.[223]

When a computer receives these instructions, they would be in the form of languages known as machine codes or object codes which are sets of electronic pulses that the computer will recognise.[224] This term includes the lower forms of notation which may be intelligible to trained users but which do not require the presence of a compiler or assembler in the computer system in order to translate them into operating instructions for the computer, for example, binary and hexadecimal notation.[225]

The key issue is the compilation of the source code into object code. In this case the programmers do not usually translate the source code into object code on a manual, line-by-line basis. If they did so, the object code would be 'original' enough to establish the

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[221] Bainbridge (n194)63

[222] ibid44. *Forensic Telecommunications Services Ltd v Chief Constable of West Yorkshire Police and another* [2011] EWHC Ch [80]

[223] Samuel R. Baker & Joseph F. Caruso, *Protection for Computer Programs* (Baker& McKenzie (ed) *Computers & Software,* 1990) 79. See also, chapter 2, s.2.1 &3.4.1

[224] Carey L (n68) 242

[225] Caruso S (n207)79

programmer's copyright in it. One may argue that a computer does not need to distinguish between source codes and object codes in terms of protection since both of them are essential components to CPs. This we will see when we examine the scope of protection of CPs in terms of content.[226]

After explaining the technique of writing CPs, we will attempt to define what is meant by '*author's own intellectual creation*' and determine what the common and civil Law jurisdictions provide for this phrase and how its criteria can be defined.

There is no suitable definition at common or civil law for the word 'own', however its inclusion shows that it is the programmer's own work which is entitled to protection and not a copy from someone else's CP.[227] However, if someone has developed an existing work, how does he/she own the development? It could be argued that if there is sufficient skill or judgment expended preparing for its creation that would confer copyright protection on this program.[228]

The phrase '*intellectual creation*' is more reflective of the civil law system of author's rights than common law notions of copyright. It might prove sufficiently flexible to allow a measure of discretion in this area of the CPD. It is uncertain, however, whether the Directive's legal protection of CPs will serve its objective of eliminating 'differences in the legal protection of CPs offered by the laws of the Member States which have direct and negative effects on the functioning of the common market as regards CPs.'[229] Thus, this raises the question relating to the potential impact of these divergences on the intra-community trade on the European countries, it could be said, theoretically, that the divergent notions for the level of originality by Member States could pose barriers to intra-community trade. In practical term, however, there is no indication that the lack of harmonisation of the concept of originality would cause any problems for the function of the Internet Market with respect to other categories of works such as compositions, films or books[230]

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[226] See section 3.2.2.4.2

[227] Bainbridge(n69) 65

[228] *Microsense Systems Ltd v Control Systems Technology Ltd* [1991] Ch (Patent Court) [15]

[229] Lloyd (n194) 351

[230] Rosati (n219) 747

2. The British law

Originality was treated under the CDPA 1988 before issuing the CPD 1991. It could be said that there is difference between the concept of originality to CPs in the British law and the European's Directives in general and the CPD in particular.

As stated the CPD considers that a CP should be protected if it is original in the sense that is the author's own intellectual creation[231]but English law has not adopted that phrase explicitly. That to my mind is a shortcoming in the CDPA 1988 since it used this phrase to determine the originality of a database.[232]It could have thus been able to apply the same phrase as a determinant of the originality of CPs. [233] However, the test to be applied in the CDPA, is that a CP is original if it is original in the sense of being the author's own intellectual creation.[234]

In addition, there is a fact that the UK has no legislation against unfair competition. This means that the IP rules in general and copyright in particular –especially in the concept of originality by the software Directive (CPD), could accomplish a further task, where no other forms of relief are available [235]

In addition, the British approach of not distinguishing between the works is to the writer the better approach. This means, in the light of the influence of EU law on British copyright law, one may wonder whether the presence of two different originality standards in UK copyright undermines the overall coherence of the system, and, if so, which of the two approaches should prevail. The writer's view that the concept of originality under the CPD 1991 has imparted additional protection to the field of commerce, because the UK law is devoid of rules as regards unfair completion. Thus, it could be argued the notion of originality with concept of the Directive could enhance the protection of this commodity in the UK, namely the CPs. Accordingly; applying art 1(3) of the CPD has positive impact relating protection of CPs in the field of competition law.

However, one of the more significant findings to emerge from this debate is that the concept of originality should be interpreted in accordance with the CPD. The UK (of course) has a

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[231]The CPD 1991, Art 1(3A)

[232] CDPA 1988, s 3A(2)

[233]Bentley & Sherman(n194) 94

[234] Art 1(3) of the Directive confirm that no other criteria shall be applied to determine the computer program's eligibility for protection, see Bainbridge (n69) 64.

[235] Rosati (n219) 538

duty to implement the Directive. Accordingly, the lack of a definition of the concept of originality in the CDPA 1988 makes it entirely possible to discharge that duty.[236]The English Court of Appeal used the standard of intellectual creation in *Hyperion Records Ltd v Dr Lionel Sawkin*s, when it has stated that "the general policy of copyright is to prevent the unauthorised copying of certain material forms of expression (literary, dramatic, artistic and musical, for example) resulting from *intellectual exertions of the human mind*".[237]

One may argue that a CP, unless trivial or made up of a selection of commonly known or public domain elements requiring no skill or judgment in their selection or arrangement, should be considered to be an intellectual creation if sufficient effort or skill has been expanded upon its production.

3.   The Civil law (France, German and Iraq)

There are two threads as regard the originality of CPs. The first thread denied that CPs have any characteristic of originality because they are of a technical nature imposing reality of limited options between the ways or languages used in designing a program. This prevents a program being 'original'. However, this thread did not deny legal protection to the producers of CPs, because they invest their money and effort in producing those programs, even though this tread does not reach the rank of originality. Therefore, the owners of those programs have protection according to the general provision which must apply to the final stage of protection of CPs. As for the stages prior to the final stage, they have no protection because - in their opinion- they are deemed to be mere ideas excluded from the scope of protection.[238]

The opposite thread has considered the requirement of originality in relation to a CP being a literary work. It considers that all the stages of the producing of a program require intellectual effort implying originality.[239] Originality could be found in the methods or the ways which have been used by the programmer. Thus, a program's creation is similar to the translation of CPs from one language to another where the translator satisfies the test of originality through his method of expression or quotation.

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[236] Torremans (n194) 533

[237] *Hyperion Records Limited v Sawkins* [2005] EWCA Civ 565 [28]

[238]V.Khater, *La Protection Juridique Du Logiciel Dans Le Card de La Propriete Sutelluelle dan les pays de Langne Arab* (Nantes: Nantes University, 1995) 191-193, Al-Sadam (n162) 71

[239]A Lucas & P Sirinelli , 'LÒriginalité en Droit d'auteur', (1994) No 23 JCP; Gautier P, 'Less Critéres Qualitatifs Pour la Protection Littéraire et artistique en Droit Francais, RIDA', (1994) No 5. 511

There is nothing preventing a program being original even if its author has quoted some of its components from another program providing that the results, namely the ways of making the program, of this new program are different from the original program, therefore choosing those results causes that program to be original.[240]

Having said the concept of originality in the European's Directives approach is that " the author's own intellectual creation". The meaning of originality requirement is akin to the French and German concept of copyright (droit d'auteur), in which protection is granted to works which bear "l'empreinte du talent créateur personnel ". The droit d'auteur approach thus differs from the traditionally loose British standard of originality, which is said to be found whenever sufficient "skill, judgment and labour" have been exerted on a work.[241]

The question which is related to the options as to the required level of originality under Iraqi law (ARA 1971) , and which route , if any, should be chosen. It could answer this question through a fact that the ARA 1971 has applied the term 'originality' to all literary works without indicating the specific meaning of this term in respect of the protection of CPs. It may be argued that the concept of originality in Iraqi law is that a work would be original if it is the result of 'a personal effort'.[242] Thus, CPs need to be qualified as original works; their creator must have exerted himself a bit more than one who has composed a piece of music as a program has great value more than other works. Civil law countries are more concerned regarding authors as individuals and less interested in economic rights.[243]In addition, the ARA 1971 grants protection only for source code and object code.[244] It could be argued that

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[240] The Commercial Court of Paris, 1985 has stated that the significant thing is that any work must express of the effort of its creator.. I t has been indicated by Khalid Abd Al Rahman , 'The Legal Protection of Logical Entities'(PhD thesis ,Cairo: Ain Shams University, 1992) 424

[241] Rosati (n219)747. See also See W. Cornish, D. Llewelyn and T. Aplin, *Intellectual property: patents, copyright, trade marks and allied rights*(7th edn Sweet & Maxwell, 2010), pp.441 et seq.

[242]ARA 1971, s 6 "As long as the work has the originality, arrangement, organisation and selection or any personal effort , it will deserve the protection"

[243] Claudia Roggero, Colourisation and the right to preserve the integrity of a film: a comparative Study between civil and common law(2011) Ent. L.R, 22(1), 25-30

[244]Allen T & Weng W (n75) 52. See also *Ibcos Computers v Barclays Mercantile Highland* [1994] FSR 275(Copyright can exist in the source code of a computer program, provided that it has sufficient originality. ARA 197, s2(2)stipulates ' A computer program , whether source code of a program or object code , must be protected as a literary work'. The same approach exists in Jordanian Author's Right (1992) s 3(8) , but EIPR

the level of a CP originality in the scope of ARA 1971 has not fully determined –scope for interpretation.

Accordingly, Iraqi law has chosen the route of French and German approach. This route was selected before the enactment of the CPD 1991. The writer view that Iraqi law should stay on with the French approach which is a kin to the CPD 1991 because: 1- French law is the source of Iraqi law, 2-Iraqi law has no legislation prevents the unfair competition; and 3. the rules of originality should be applied on all the works whether CPs or others.

Finally, the last discussion in this section is an investigation as to how the test of originality is to be applied. Should a subjective test or an objective test be used? If we use a subjective test this means that an inexperienced programmer would obtain protection and an experienced programmer would not obtain protection.[245] The better test should be objective in the writer's opinion since it provides for all persons whether they are expert or not, because that connotes responsible skill.

Ultimately, the conclusion would be that the existence of the requirement of originality for CPs must not be different from other works since CPs are works and all works should attract the same requirements. The ARA 1971, on the other hand, did not given any special consideration for CPs which have been considered literary works, a CP is deemed original if a personal effort is spent on it.

This conclusion is, firstly, consistent with the logic of the laws in Iraq, which do not impose strict rules for the protection of CPs. The ambiguity of the concept of 'intellectual creation', may affect the meaning of originality. Secondly, any suggestion to the contrary will generate a paradox within the law: a legal provision permits or imposes originality while a court prohibits it according to another legal provision, where this paradox exists the construction which Courts give to the meaning to 'intellectual creation' will vary from that of legal scholars.

2002 has not identified the part of a computer program which must be protect when stated in s 140(2) ' This enactment protects a computer program as a literary work'.

[245] Al-Sadam (n162)73

3.2.2. Forms of expression

3.2.2.1. Introduction

The writer pointed out that mere ideas not reproduced in a form do not attract copyright protection. Copyright law only protects a work that is reduced into a form called 'expression'. It is this expression of an idea that is protected by BC.[246] Each Member State, in this Convention, has the right to determine the requirements of works or of categories of works that will be protected by copyright when reduced in some material form.[247]

Following the BC, the TRIPs Agreement provides that 'expression' is embraced by copyright protection not the idea itself.[248] However, it is seemingly difficult to distinguish between an idea from its expression since the latter is merely evidence of the subsistence of copyright on the work, especially with CPs.

To what extent is the requirement for expression a pre-condition for the conferring of protection on CPs? Furthermore is there any relationship or connection between granting that protection and any spiritual dimension of that expression which affects the senses of the recipient? If so, is that relationship an obstacle to granting legal protection for a CP? These questions will be additional questions besides the questions raised in the chapter one. To those questions, the writer now turns:

3.2.2.2. The meaning of expression in copyright and author's right

The substantive overlap between the requirements of originality and expression is derived from the notion that any originality in a work must be expressed in a way that transmits the idea from the mind of the author to the outside world.[249]

This overlap leads to making the requirement of expression part and parcel of the requirement of originality independent of the ways of expression. This requirement derived its existence implicitly from the provisions which indicate explicitly the requirement of originality.[250] Copyright protection in some legal regimes, a ready example is: s. 3(2) of the CDPA 1988,

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[246] Art 2(1)

[247] Art 2(2)

[248] Art 9(2)

[249]Nasr Khater, 'Reading in Author's Jordanian Rights ' (1997) 12 Mu'tah for Studies &Research 372

[250] ARA 1971, s 2

require fixation for the grant of this protection to works such as a fixation of CPs in a CD, or it could be without fixation online such as purchasing a copy of CP via the Internet.[251]

In addition, it is an important subject in respect of granting protection to CPs since the expression confers the characteristics of property which involves the tangible thing to be applicable where fixation is required. The requirement of expression brings CPs within the ambit of property. This can enable CPs to be granted copyright protection. In addition, the 'expression' requirement can further give rise to the exclusion of mere ideas from the legal protection of intellectual property as mentioned in chapter 2.[252]

Therefore, we should distinguish between general ideas which have been excluded from protection by copyright and the expression of those ideas which have been protected by copyright.[253] The benefit of this distinction is to identify the scope of protection by drawing a line between copyright and other protection, particularly patents.[254] Therefore, this subject involves research in two areas: statutory and case law as follows.

3.2.2.2.1. **The statutory level**

British law (the CDPA 1988) does not distinguish between ideas and expressions. Chapter 1 of the CDPA (S3/2) states that "Copyright is a property right which subsists .... In the following description of work" and presents a list of protectable descriptions. It requires fixation to apply copyright protection. One may argue that fixation is a part of expression as the latter includes the fixation manner. For example, if one purchases a CP from the Internet, the relevant question here is: when will copyright subsist? This question was raised in the previous chapter.[255] According to the CDPA 1988, copyright protection will subsist when the program is fixed. That means there is no copyright protection during the period of transition. It is submitted that this is a flaw in the CDPA. Nevertheless, personal rights can provide protection to purchasers because they protect tangible and intangible things. Since CPs are

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[251] Chapter 2/2.4.3

[252] Section 4.3.2. See also Philippe G, *La Protection des Logiciels par la propriété littériaré et artistique,* 1986, p.197

[253] William Cornish (ed.) *Cases and Material on Intellectual Property* (Sweet & Maxwell 2006) 287

[254] Perttu Pessa , *Evaluating the Idea -Expression Dichotomy Rhetoric or a Legal Principle?* , lessons in *LLM Information Technology Law Materials* (London: Queen Mary & Westfield Collage 1992)166.

[255] Section 2.2.1

intangible things before fixation and one cannot perceive them in material forms, the rules of personal right can grant them protection.

The same approach can be found in U.S.CA (US Copyright Act) which stipulates that "copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression now known or later developed from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device".[256] This law indicates explicitly that copyright excludes any idea, procedure, process, system, method of operation, concept, principle or discovery, regardless of its form of description or illustration, from protection.[257]

The ARA 1971 confers protection on authors of original literary, artistic and scientific works, whatever their type, method of expression, importance and purpose.[258] It can be said that Iraqi law does not identify the manners of expression for CPs. This approach is being applied to FLIPC too.[259]

One may conclude that statutes, with the exception of the USA, do not identify the manners of expression of ideas. It could be argued that this approach is sensible since the ways of expression are different, for example, writing, painting a picture, CD etc, according to the nature of the work. Also, these ways are developing all the time. This makes including and identifying all forms extremely difficult since it is impossible to guess what the future would bring regarding the form of expression of works.[260] Furthermore, since protection is granted to intellectual work irrespective of the types of fixation, one may argue that the trend of the Iraqi Statute when it identified the forms of expression may properly be criticised for making a list of the manners of expression even though the list is not intended to be exhaustive. It is supposed to follow the international trend which states that protection includes any works, literary or artistic, irrespective of the ways of expression.[261] Therefore, embracing new works

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[256] U.S.CC, s 102(a). See also Mentzer (n215) 5

[257] ibid, s 102(b)

[258] ARA 1971 ,s 1(1)

[259]FLIPC s L.111-1,2. It is translated by http://www.wipo.int/wipolex/en/details.jsp?

[260](1)*Creation Rcord Limited* (2) *Sony Music Entertainment (UK)* (3) *Noel Gallagher Plaintiffs v. News Group Newspapers Limited* [1997] EWHC Ch 370 [15]

[261] The BC, Art 2(1)

in traditional manners would be easier with cinematic works which appeared at the end of 19th century.[262]

Several questions may arise in this debate: what, if any, element of permanence is there in the concept of expression? If a person speaks his idea, is that an expression? If yes the question would be why? If not, then why not? If a person gets his/her idea on to a temporary folder in a computer, is that expression? Why/ why not? It could be said that protection, whether in copyright or author's right, excludes mere ideas , the procedures, the methods of design and running, principles, discoveries and data even though those are expressed, described and listed in a work.[263] This judgment may apply to the case of a person who has his/her idea from a temporary folder in a computer; this act of that person is not deemed an expression. Likewise, a person who speaks his/her idea, does not thereby give an expression, because it is solely an idea and copyright does not subsist in a literary, dramatic or musical work until it is recorded in writing or otherwise. This was how fixation was described in the CDPA.[264] It is submitted that the non-reference to other ways of expression in the CDPA 1998 is a flaw that should be addressed. Those questions will be answered in the next section.

3.2.2.2.2. The case law and doctrine level

The first case in the USA focused on a question whether the copyright owner in a book describing and illustrating a book keeping system can claim an exclusive right to use and implement that system.[265]

In another American case, the judge tried to explain the difference between an idea and expression where the facts included a comparison between the plots and characters of a

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[262] This has happened in respect of computer programs, when the courts in Canada , Italy, Austria and Holland applied the provisions of copyright upon computer programs according to legal articles which existed without any special provisions of computer programs, see Asmdan Ahmed,*'The Legal System of protection of Computer Programs'*, (1987) 12 Alhoqok Majal 29 et seq, Al-Sadam(n162) 78

[263] EIPRA, s 141. CDPA 1988, s3(2)TRIPs Agreement, Art9(2) There is no text in The ARA 1971 refers explicitly to excluding mere idea from protection.

[264] CDPA 1988, s 3(2)

[265] *Baker v Selden* 101 US 99 (1880). This precedent has been explained and analysed constantly during the years, and judges and scholars still have different opinion on its meaning. It is a good example of a decision which has later been separated from its original context to serve a general purpose, here as a test in substantial similarity assessment. Pessa(n254) 166, 171(note:6)

popular play and a subsequent movie[266]. He (Judge Learned Hand) concluded that there is no clear line of demarcation between an idea and its expression by developing the "…so called 'abstraction (or patterns) test' which illustrates the process from expression to idea as a spectrum and shows the difficulty of drawing the critical line". [267]

The ECL (English case law) is concerned with the originality of expression rather than with idea itself.[268]However, the distinction between the idea and expression differs from the position in USA case law.[269] The basic distinction in the ECL is that copyright assumes the work to be permanently fixed in some material form. Consequently, the ideas have been held to be equivalent to unfixed works in the creator's mind. [270] The ECL has frequently emphasised the ambiguity of the principle that 'there is no copyright in ideas'[271] and tried to circumvent this obstacle by redefining or completely ignoring the distinction and reaching the conclusion in other ways.[272] The non- existence of a law protecting mere ideas might suggest that, "to use Judge L. Hand's language, the ' boundary' should in the UK be fixed closer to the ideas in the 'spectrum' than in the US".[273] This does not necessarily give wider protection

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[266] *Nichols v University Pictures Corporation,* 45 F 2d 119(2c Cir. 1930)

[267] The judge in this case is Judge Learned Hand, who is famous for his thoughtful copyright judgements, referred to some earlier decisions and stated then sceptically: 'Nobody has ever been able to fix that boundary, and nobody ever can' see n.196 at 121. Later in *Peter Pan Fabrics v Martin Weiner Crop*., 274 F 2nd 487 (1960) he described a decision concerning substantial similarity of two works says that it was inevitably ' ad hoc' . Pessa (n254) 167

[268] *University of London Press v. University Tutorial Press* [1916] 2 Ch 601. Bentley & Sherman (n194) 95.

[269] *Geo. ward (moxley) ltd v. Sankey* (1988) FSR 66. *(Whitford J) , LB (Plastic) Ltd v. Swish Products Ltd*, [1979] FSR 145 (H.L.)

[270] In many cases the protection for a particular expression has been denied because of a lack of , or insufficient fixation : Adam Ant's make up in Merchandising Crop. Of American v. Harpbond [1983] FSR 32 (CA), a ' sand mobile' in Komesaroff v. Mickle [1988] RPC 204 , and reference has not so much been made to the need of particularly distinctive expression.

[271]Copyright protection must not extend to ideas. The fact that the court was considering a computer program did not preclude a mere "idea" as to what the program should do from being excluded as having nothing to do with the nature of the work' **,** see *Nova Productions Ltd v Bell Fruit Games Ltd* [2007] Civ 219 EWCA [31]

[272] See Lord Hailsham of St Marylebone LC in *LB (Plastic) Ltd v. Swish Products Ltd* [1979] FSR 145 (HL) . *In Elanco v. Mandops* [1980] RPC 213

[273] Pessa (n254)167

under English law because the courts appear to find new ways to the desired target when strict interpretation of existing rules would lead to an 'unfair' solution.[274]

In the ARA 1971 (s 6), the tendency to separate ideas and expression is connected with the originality requirement, whereas at common law the tendency is to require originality in the form of minimum 'skill, labour and judgment' –that the work is not copied and originates from the author[275].The 'creative step' requirement in Iraqi law is the most important requirement for granting author's right protection regardless of the manner of expression whether these works are literary, artistic or scientific. It depends on the nature of the works, for example there are manners of expression by writing, painting etc.

Thus, there is a difference between the requirement of expression and fixation. The fundamental principle is that copyright protects the expression of ideas, not simply the idea. However, fixation is not an act in intellectual creation. Therefore, the first (expression) is always necessary, whereas the second (fixation) is required in the UK law but not everywhere.[276] The UK copyright legislation follows the logic of the BC, which does not expressly *allow fixation* to be required, even for copyright purposes. The default position under the Convention is clearly that no such fixation is required. The CDPA 1988 emphasises that the role of fixation is to give potential infringers notice of the parameters of the monopoly and to give evidence of that monopoly when the matter comes to be litigated.[277] Thus, the way of expression is merely evidence as we mentioned earlier.

This leads us to ask whether there are any specific factors in relation to CPs which differentiate them from other works in terms of applying the requirement of expression to CPs. It is therefore appropriate to investigate the ways of CPs may be expressed, and to that the writer now turns.

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[274] ibid167

[275] See e.g. *University London Press v. University Tutorial Press*[1916] 2CH. 106 at [60], *blacklock v. Pearson* [1915] 2 CH. 376, as contrast to the insufficiency of originality in *Libraco v. Shaw* [1913] 30 TLR 22 and *Francis Day v. Twentieth Century Fox* [1940] AC 112 [123] and *Exxon Corp. V. Exxon Insurance Consultant Int. Ltd*, [1982] RPC 69 (CA)

[276] The CDPA , s3(2)

[277] Elizabeth Adeney,'Unfixed works, performers' protection, and beyond: does the ACA1968 always require material form?*'*, (2009) IPQ, 1, 77-98, at 77

3.2.2.3. The forms of expression of CPs

The manner of expression of a CP differs according to the stages of the creation of the program. For example, at the source code stage, writing a program in a language such as BASIC or a simple language to control a calculator program, the final design and the form of expression of a program would be capable of attracting legal protection if the program has originality. The final expression is represented in the stage of translation to the language of a computer through symbols and signals which are fixed in a CD.[278]

It may be argued that the language of a program fixed on a CD containing symbols and instructions is not directed at humans but to a device, thus one may argue that this language represents a form of expression. However, this raises the question to what extent this requirement, i.e. an expression, is important to CPs

If we considered a program is addressed to the device not to the human being, it would not exclude this program from legal protection as one can be aware of that program whether by making it appear upon the screen of a computer or through its functions which could be achieved by a computer in the same way such as music works which cannot be understood by laymen unless they are performed on musical instruments.[279] Consequently, a CP must have a way of expression which could transfer it to other people.[280]

On the legislation level, as mentioned earlier the BC allows each Member State to decide upon fixation requirements of works or of categories of works.[281] British law has identified the fixation requirement of works.[282] However, the Directive stipulates the expression of CPs is only protected but does not identify the form of expression. Thus, ideas and principles

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[278] Al-Sadam (n162) 50

[279] Alrhman K A, 'The Legal Protection of Logical Entities' (PhD thesis, Cairo: Ain Shams University 1992) 202&203. See *inter alia* , Aid Albatania, 'The Legal system of Contracts of Computer Programs' (PhD thesis, Baghdad University, 2002)78& et seq. Al-Sadam (n162) 78 & et seq

[280] The First Paris Court (1983) has stated that a program has a right to protection granted by Author's Right Act even though it is not directed to the human being straightforwardly. This case was mentioned by Alrhman (n211) 243

[281] Art. 2(2)

[282] S 3(2)

which underline any element of a program, including those which underlie its interface, are not protected by copyright under this Directive.[283]

This has been subjected to judicial scrutiny. For example, in *Navitaire Inc v Easyjet Airline Co and another,*[284] Pumfrey J siad*:*

"The Software Directive is a harmonizing measure. I must construe any implementing provision in accordance with it: if the implementing provision means what it should, the Directive alone need be consulted: if it departs from the Directive, then the latter has been incorrectly transposed into UK law".

Therefore, one may opine that the British approach has been appropriate since it did not refer to the requirement of expression explicitly because the latter can be extracted from the requirements of originality. The CDPA has only referred to the way of fixation.[285] Likewise, Iraqi law has not referred to this requirement either.

To recap, it is extremely difficult to determine the ways of expression of CPs. The better way the writer thinks to provide protection for CPs is to rely solely on the requirement of originality without the added requirement of expression, since this could clash with scientific and technological development in future. It is equally difficult to argue against the requirement of expression since the purpose for it is to distinguish a work that is capable of conferment of protection from an idea which is not protected.

Also, it is significant to grant the personal property right and real property right to the right holders on CPs because no rights whether rights in *rem* or in *personam* could be granted to the right holder if CPs were not fixed on material form. These issues were clearly explained in the previous chapter. Hence, the idea itself of a program would not be protected by copyright or author's right because it has not the characteristics of property.

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[283] Para 11. See also, The Court of Appeal, Lord Justice Lloyd, has stated that 'The Directive does not say that mere ideas by way of preparatory design work are to be protected. As I have said it makes it clear that for computer programs as a whole (which includes their preparatory design work) ideas are not to be protected. What is protected by way of preparatory design work is that work as a literary work – the expression of the design which is to go into the ultimate program, not the ideas themselves.' see *Nova Productions Limited* (n211)

[284] [2004] All ER (D) 162 (Dec)

[285] S 3(2)

Finally, how can the questions raised in this section help us a better understanding of the questions raised in chapter 1? It could be argued that copyright rules could be appropriate for protecting CPs. However, these rules are allocated for the program which is fixated.

Although the rules of property (ownership) may protect owners of program when programs are purchased via the internet, this flaw may lead to the owners losing their rights to the program.

In addition, it may be important to import from regimes protecting patents, CTs etc a better way to protect CPs. While it may be argued that there is no connection between granting that protection and the spiritual dimension of that expression, in the area of CPs, which influence the senses of the recipient because a CP has characteristics which differ from the characteristics of other works such as books. CPs are more commercially valuable than other works due to the unusually high cost of designing them.

3.2.2.4. The scope of protection of CPs
3.2.2.4.1. Introduction

As we explained in the last section, idea is not protected by copyright because it does not have the requirement of expression. Accordingly, there are certain elements full literal taking because they are only ideas .This could be called "literal copying idea".

On the other hand, there are certain acts not taking full literal taking without necessity to do so. These called non-literal copying such as the reproduction of the function but not the exact code of, temporary copying etc. These will be explored in this section to examine the question relating to the impact of imitation the function of that CP, for example, to boost the local economy in Iraq. The writer will investigate regarding the cases in term of content of CP.

In order to eliminate any ambiguity which might surround the protection of CPs in terms of their being literary works because it is important to investigate which part of CPs can be protected. This will be in the first part whereas non –literal copying ideal will be explored in the second part of this section.

3.2.2.4.2. The protection of CPs in terms of content

As we explained that idea itself is not protected by copyright if one copied this idea. CP has elements but these are not all protected by copyright. Thus, one can take these elements he/she would not be infringer.[286] This is kind of copying called "literal copying" idea. The writer will explore these elements, as follows

1. Protected elements

There are two approaches in relation to protecting the elements of CPs. The first approach considers a program to be merely a series of coded instructions for computers to obey and represents a logical solution to problems.[287] This approach depends on some data which have solely been operated by a computer. This leads to providing protection solely for data which have been directed exclusively to a computer.

The second approach adopts the broad definition of a CP as embracing source and object code of a program This approach is found in the ARA 1971 (as amended) and [288] the TRIPs Agreement.[289]However, the CPD does not refer explicitly to these elements.[290] At the same time, some legislations, such as the CDPA 1988, are silent on the definition of CPs.[291]

The question arises at this point, is there any potential to copy source code and object code in the scope of infringement of CPs?

First of all, one could envisage copying a source code through transferring a program from source language to device language without any modification on it. Copying of object code includes storage of a program in electronic form (magnetic disk or CD), and also transferring the content of a disk to another via a computer. Therefore, loading or running a CP typically

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[286] See the section 3.6

[287] B.J.Holmes (n99) 3. US definition of computer program depends on this approach , see s 101. Jordanian law also goes with this approach, see JARA 1992 , s3(8). See also Non-author, 'Copyright Protection of Computer Program Object Code ', (1983 and Revised 2000/12/18) 96 (issue 7) : pp 1723-44 *Harvard Law Review*, 1723

[288] S 2

[289] Art 10

[290] Recital: (7), the term 'computer program' shall include programs in any form, including those which are incorporated into hardware

[291] S3(1b).EIPL 2002 , s 140(2)

requires the copying of either part or all of the programs from a disk (or other permanent storage medium) to RAM and central processing unit ('CPU').[292]

In relation to all forms of copyright work, copying includes making copies which are transient or incidental to some other use of the work[293]. Accordingly, this provision entails the act of loading a CP into a computer only for the purpose of running. A program will be considered to be making a copy of that program, although this 'copy' will be lost as soon as the computer is switched off. Therefore, any unauthorised use of a CP will infringe the copyright in that program.[294]

2. Programming languages in a CP

The main target of programming languages is writing CPs. There are fundamental concepts of such programming languages. The first base is a notion of variable which is very common. It is a store in which different significance can appear from time to time, and its contents can be read. In most programming languages each variable has a type, which controls the values that can appear in it. Each variable is introduced in a declaration which names the variable and identifies its type.[295] Documentation for programming languages contains "details for the commands, statement, syntax and other information used by programmers to write a program". Standard sub – routines, templates and algorithms, for example, may be available for a given language[296]

Programming languages are also not protected by copyright under the Directive[297]. Thus, it could be concluded that programming languages are excluded from the protection granted for CPs since the European legislature wanted programming languages to be free from any restriction.

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[292] Chris Reed &John Angel (ed.) Computer law: the law and regulation of information technology (6th edn, OUP 2007) 370

[293] CDPA 1988, s 17(6), U.S. CA 1976,s 101, has considered infringement could take place, in the scope of a computer program, on permanent fixed not transient fixed.

[294] Bainbridge (n69) 28&29. See also Albatania (n279) 86&87

[295] J.B.Wordsworth, *Software Development with Z* (Montreal, Quebec: Addision-Wesley Publishers Ltd 1992)190

[296] Bainbridge (n69) 70

[297] Recital 11

British law (CDPA) is silent but the case law approach referred to exclusion programming languages from protection because they are only ideas. For example, in, *Inc v Easyjet Airline Co and another* [298] indicates explicitly computer languages should be excluded from copyright protection. Pumfrey J explains :

'If the policy of Council Directive (EEC) 91/250 (on the legal protection of computer programs) was to exclude both computer languages and the underlying ideas of interfaces from copyright protection, it should not be possible to circumvent those exclusions by seeking to identify some overall function or functions, which it was the sole purpose of the interface to invoke, and relying on those instead'

In addition, he went on to say that:

'I think the problem should be approached in the following way. To define a series of commands and their syntax to be recognised by the computer is to define a computer language. It is exactly the same as defining a language such as BASIC or a simple language to control a calculator program. A program consists of a statement or series of statements in that 'language'. Thus, to take the availability command as an example, one would say that the language includes an availability statement that starts with the letter 'A' and one of the permissible forms of which is A[date][City-Pair] . An example of a statement that will be parsed as an allowable statement to control the computer in accordance with this language is A13JUNLTNAMS.' It could be said that to exclude 'computer language' , it must be determined by an expert in the field of CP not the judge himself.

In SAS Institute Inc v World Programming Ltd; the court stated that "The programming language is a functional element which allows instructions to be given to the computer. Programming language must be regarded as comparable to the language used by the author of a novel. It is therefore the means which permits expression to be given, not the expression itself. It cannot be regarded as the expression of a computer program and thus be eligible for copyright protection under the Directive."[299]

It could be concluded that the English Case Law (ECL) is compliant with the Council Directive's trend by not protecting programming languages under copyright protection. However, the question is here, how can one identify the language of CPs?

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[298] [2004] EWHC 1725 (Ch) [87]

[299] *SAS Institute Inc v World Programming Ltd* [2012] E.C.D.R.1 [H17]

However, U.S.CA has conferred protection for programming languages,[300] because some use commands and statements which are mainly English words, together with variable names, punctuation, letters, numbers and mathematic symbols. In addition, many languages allow the insertion of comments by the programmer, for example, to describe the function of part of the program.[301]

Iraqi law gives no definition or protection for programming languages. The law is silent regarding this point. However, it could be concluded from s 2(2) that protection is only to CPs in source code or object code. Therefore, the ARA 1971 has ruled programming languages out from protection.[302]

The question arises at this point, whether programming languages can be deemed to be intellectual creations. As long as they are used to write CPs they would not be intellectual creations since there is no real intellectual effort involved. They do not reach the standard of effort, skill or judgment which confers the character of intellectual creation whether taking the narrow view, which considers they are used by computer programmers to write CPs which in turn controls the computer, or a wider view that they also include instructions entered by a person interacting with CPs in operation.

3. Logic and algorithm

Logic could be defined as "the system or principles underlying the representation of logical operations and two valued variables by physical signals, esp. as in a computer; the (esp. Conceptual) forms and interconnections of logic element in a computer etc; logical operations collectively, as performed by computer etc".[303]

This concept i.e. logic, has been denied protection by the Directive.[304] Also, the ECL has denied protection for logic as mentioned earlier in the previous case.[305]

As for an algorithm, it is defined as "any well-defined computational procedure that takes some value, or set of values, as input and produces some value, or set of values, as output. An

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[300] S 101

[301] Bainbridge (n69) 70

[302] See *inter alia* JARA 1992, s 3(8). EI P R 2002, s 140 (2)

[303] William R. Trumble (n67) 1625

[304] Para 14

[305] *Navitaire* (n224) [87]

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algorithm is thus a sequence of computational steps that transforms the input into the output. In other words, it is a tool for solving a well-specified computational problem. The statement of the problem specifies in general terms the desired input/output relationship. The algorithm describes a specific computational procedure for achieving that input/output relationship".[306] Commonly, algorithms could be expressed in flowcharts and diagrams before the relevant code or program is written. At this stage algorithms are unprotected by copyright. The Directive excludes algorithm from protection;[307] algorithms are ideas which cannot be protected under copyright.[308] Nevertheless, this exclusion of algorithm from protection would not prevent copyright being conferred if there is a method to display algorithms and contain explanations or flowcharts created originally. This means that copying a flowchart, for example, without licence from the owner of CP would infringe copyright.[309]

3.2.2.4.2. The application of the idea/ expression dichotomy in case of so- called non literal copying and its impact on the local economy of Iraq

Introduction

Iraq as a country with potential to develop its software industry needs to strike the right balance between protection of interests of creators and competition law and those of users including second generation creators. However, Iraq has no antitrust or competition law.[310] Accordingly, it is better, for Iraqi legislator, to have balances within IP laws than use external force of competition law.[311] This means that competition law will be eliminated by this study. That balance can be achieved by proper delineation of:

a- threshold criteria for protection: (i) which should not be ideas[312] and (ii) appropriate level of originality[313]

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[306] Thomas H Common , *Introduction to Algorithms* (3rd edn, the MIT Press 2009) 5

[307] Para 14

[308] Bertrand André, *Le Concept d Òriginalité en Droit d' Auteur et son Application aux Logiciels : Droit francais et Droit compare,* (1986)71

[309] Bainbridge (n69)73 & 74

[310] Iraqi Commercial Act 2003< www.osc.army.mil/supportingdocs/Iraqi_Comm_Law.pdf>

[311] See more details :Valentine Korah, 'Antitrust Consideration :Refusal to License Intellectual Property in the U.S. and EC' in Christopher Heath& Anselm Sanders (eds), *Spares, Repairs and Intellectual Property Rights* (Wolters Kluwer ,2009) 183

[312] See the previous section

[313] See s 3.2.1 of this chapter

b- scope of rights, which should not extend to function, temporary copying

c- defences such as decompilation, exhaustion, abuse of right

As regards abuse of right which was referred to in French IP law[314], it was served by doctrine "abus de driot"[315] which may be employed by Iraqi Civil Code harmonisation technique.[316] However, in relation to CPs and the Infosoc Directive the general doctrine has largely been replaced for France by harmonised principles in particular temporary copying and exhaustion.

The fourth points, function, temporary copying, exhaustion and decompilation, above will be examined in this section because they could have considerable influence on the developing countries' economy in general and Iraq in particular. They are not kinds of infringement as we will see.[317] The influence of EU law on interpretation of ARA 1971 could lead to boost the local economy by providing areas of freedom in competition. Accordingly, these acts will explore as follows.

1. Imitation the function of a CP[318]

It could be argued that the ability to imitate function of a CP may be useful for Iraq but not to the extent of undermining protection of local creation. This could be proved in international law, European law and judicial authorities. According to the Art 1(2) of the CPD 1991 that copyright law does not protect the function behaviour of a CP. This rule is incorporated in international instruments. The background history of Art.9.2 of the TRIPS Agreement, which states that "copyright protection shall extend to expressions and not to ideas, procedures, methods of operation or mathematical concepts as such"

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[314] See the sections in IP French Law 1992: L121-3, L22-9 and L11-3

[315] See *Football Dataco Ltd v Sportradar GmbH* [2013] EWCA Civ 27, at102 et seq . Abus de droit is a French term meaning, "abuse of right". Under abs de droit, a person may be liable for harm caused by doing something which s/he does not have a right to do. The following are the rights that are prohibited to use in an abusive manner: 1.A right that is principally intended to cause harm; 2.A right that is used without a legitimate interest in justifying judicial protection; 3.A right used in bad faith; 4.A right that is contrary to basic rules of morality or fairness. See http://definitins.uslegal.com/a/abus-de-droit/

[316] See S 1(3) . More details , see chapter 5

[317] S 3.5.2

[318] This issue was mentioned in s 3.5.2.2

As regards the European judiciary , the Court of Justice of the European Union (CJEU) in *SAS Institute Inc v World Programming Ltd* (C-406/10) May 2, 2012"[319] was asked for a preliminary ruling on certain aspects of copyright protection in relation to CPs under the CPD 91/250 and Infosoc Directive 2001/29. The claimant in the main proceedings (S) developed an integrated set of CPs (the SAS system) which enabled users to write and run their own application programs, known as scripts, in order to adapt the SAS system to work with their data. Such scripts were written in a language which was peculiar to the SAS system. The defendant (W) produced a system which was capable of running the scripts developed for use with the SAS system. W did not have access to S's source codes. Instead, by means of observing and testing the SAS system, W reproduced its functionality by using the same programming language and the same format of data files. S claimed that W had copied the manuals for the SAS system, thereby indirectly copying the computer programs comprising the SAS components, and was therefore in breach of the copyright in the manuals and in the SAS components. Further, S claimed that W had breached the terms of a licence relating to a version of the SAS system which W had lawfully purchased, but which restricted the licence to non-production purposes. The ECJ was asked to determine, essentially, (i) whether The CPD 91/250 Art.1(2) was to be interpreted as meaning that the functionality of a computer program, and the programming language and format of data files used in a CP in order to exploit certain of its functions, constituted a form of expression capable of copyright protection; (ii) whether Art.5(3) of that Directive was to be interpreted as meaning that a licensee of a CP was entitled to observe, study or test the functioning of that program in order to determine the ideas and principles which underlay any of its elements, where that person carried out acts covered by the licence with a purpose that exceeded the terms of the licence; (iii) whether Infosoc Directive 2001/29 Art.2(a) was to be interpreted as meaning that the reproduction of elements in a CP or manual of certain elements described in the manual for another protected program constituted a breach of the copyright in the latter manual.

The court confirmed the function of a CP is only idea which is not protected by copyright protection. The CJEU noted that Art.1(2) of CPD does specifically state that the ideas and principles underlying any element of a CP, including those underlying its interfaces, are not protected by copyright under the CPD. This is supported by Recital 14 of the Preamble,

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[319] *SAS Institute Inc v World Programming Ltd* [2012] E.C.D.R. 22

which states that, to the extent that the elements comprise ideas and principles, they are not protected by copyright. Only the expression of those ideas and principles is protected.[320]

The last judicial approach in Europe explained that the important of imitation the function of a CP in the scope of this case.

The CJEU has recently ruled in that case that "neither the functionality of a computer program nor the programming language nor the format of data files used in a computer program constitute a form of expression of that program, and thus these elements are not protected by copyright under the Software Directive (91/250)"[321]

The court, according to the Art 5(3) of CPD 199, held that a licensee of a CP is entitled, without the authorisation of copyright owner, to observe, study or test the function of the program in order to determine ideas and principles which underlie any element of the program where the licensee carries out acts covered by the licence and acts of loading and running necessary for the use of the program provided that these acts will not lead to infringe the copyright of the right holders of a CP.[322]

The court gave its reason for that through explaining the purpose of Art 5(3) of the CPD which is to ensure that the ideas and principles which underlie any element of a computer program are not protected by the owner of the copyright by means of a licensing agreement.[323] It also highlights that this Article reflects Art.1(2) which sets out the idea/expression dichotomy.[324]

Finally, this case has developed a set of integrated software programs which allow users to perform statistical analysis and other processing tasks (the SAS system). The base program of the SAS system allows users to write and run their own programs, and to manipulate their own data inputs. The user programs need to be written in SAS's proprietary computer language to function with the SAS system.[325]

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[320] ibid [42]

[321] ibid [39]

[322] Ibid [AG4]

[323] ibid at [H9]

[324] ibid at [H10]

[325] See more detailed about this case: Pamela Samuelson &others , Does copyright protection under the EU Software Directive extend to computer program behaviour, languages and interfaces?, E.I.P.R. 2012, 34(3), 158-166. Patricia Akester, SAS Institute Inc v World Programming Ltd, Case C-406/10 – exploratory answers, (2012)E.I.P.R. 34(3), 145-157. Daniel Gervais & Estelle Derclaye, The scope of computer program protection after SAS: are we closer to answers?(2012) E.I.P.R. 34(8), 565-572

According to this case, the idea itself is not protected by the law whether national or international. [326] This means that the functionality of CPs could be taken literally for developing another program or in other products because copyright protection protects the text not the behaviour.

The question is to what extent taking the idea of CP, to develop the computer industry in Iraq as a developing country and other developing countries through imitation the function of a CP, could boost the local economy by providing areas of freedom in competition.

First of all, imitation should not lead to abuse the IP by infringement. The prevention of IP abuse is one of important requirements in the TRIPS Agreement, which has set preventing the "abuse of intellectual property rights (IPRs)" and enhancing "international technology transfer" as one of its key principles.[327] Art 8 of the TRIPS Agreement explicitly provides (emphasis added):

"Appropriate measures, provided that they are consistent with the provisions of this Agreement, may be needed to prevent the *abuse of intellectual property rights* by right holders or the resort to practices which *unreasonably restrain trade* or adversely affect the international *transfer of technology*"

It could be said this Art 8 allows the WTO Member States to make the measures which they think appropriate to prohibit IP abuse and any other conduct that may "unreasonably restrain trade or adversely affect international transfer of technology".[328]Thus, Iraq could use this Art through French style "abus de driot" through the principle of harmonisation.[329]

Should read the Art 8 carefully we will find out that the IP abuse has been used as a competition law term (breach of competition law) rather than an IP law one.[330] This means that using the function of a CP and make a similar program would not lead to abuse IP and then not breach the rules of competition law because there is not protecting for the function of

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[326] See 3.2.2 of this chapter

[327] See the TRIPS Agreement articles 7&8. Article 7 requires that the protection and enforcement of IPRs should "contribute to the *promotion of technological innovation* and to the *transfer and dissemination of technology* ", the enhancement of "social and economic welfare", as well as a sound balance of rights and obligations of producers and users of technological knowledge.

[328] Art 8(2)

[329] Chapter 5

[330] George Yijun Tian, Competition law and IP abuse prevention in Australia: a comparative study (2011) W.I.P.O.J. 2(2), 217-234, at 219

program under whether the CPD or the TRIPs Agreement. It could be argued that Art (8) could help to a large extent in developing the economic growth of developing countries in the field of computer industry. This was confirmed by a study conducted by United Nations study which has pointed out that [Art 8 to a large extent reflects the view of many developing countries such as India, during the Uruguay Round negotiations, that "a main objective of TRIPS should be to provide mechanisms to *restrain competitive abuses* brought about by reliance on *IPR protection* "],[331]i.e by IPR owner.

On the other hand, Art 40 of the TRIPs Agreement contains a special section on the "control of anti-competitive practices in contractual licences" which focuses on anti-competitive licensing practices and conditions that restrain trade. Thus, this Article imposes an obligation on Member States to act on "licensing practices or conditions pertaining to IPRs, which *restrain competition* " if they "have adverse effects on trade and may *impede the transfer and dissemination of technology* ".[332]

It could be concluded that the Agreement referred to the term "IP abuse" which has been used in anti-competitive sense. Competition law was used by the TRIPs as a main legal instrument to prevent and provide remedies for IP abuse activities. On the other hand, the main obligation which must be done by the Member States of the Agreement is to make special law and policies to "define the concept of abuses through appropriate domestic measures"[333]and to establish specific principles to determine and prevent abuses because the Agreement has only established general rules regarding the dealing with IP abuse, anti-competitive activities and technology transfer issues and left the detail to the Member States.[334]

The main object of being a Member State for any developing country is to benefit from the promoting technology transfer as part of the objectives of the TRIPs Agreement. Unfortunately, in the most the developing countries, including Iraq, have not developed sophisticated laws and policies to enforce competition law.[335]On the other hand, in developed

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[331]UNCTAD-ICTSD, *Resource Book on TRIPS and Development* (2005), p.127, at

http://www.iprsonline.org/unctadictsd/ResourceBookIndex.htm [Accessed March 30, 2011]. Ibid, 219

[332] TRIPS Agreement Art.40.1. See also UNCTAD-ICTSD, *Resource Book on TRIPS and Development* (Cambridge: CUP, 2005), p.554.

[333] UNCTAD-ICTSD, *Resource Book on TRIPS and Development,* 2005, p.548

[334] George Yijun Tian (n330)219.

[335] UNCTAD-ICTSD, *Resource Book on TRIPS and Development,* 2005, p.543 (introducing negotiation history of Art.8). See ibid ,220

countries, particularly in the United States and the EU countries, have sophisticated laws and policies on co-ordinating the nexus between IP and competition laws and enhancing technology transfer have developed over the past two decades.[336]

Studying the possibility of European law and international law to protect a CP as a literary work and excluding the idea from the protection, this means that the functionality of a CP is not protected by the copyright law.

ARA 1971 referred to the protection of CP which includes source code and object code. Thus, the function of a CP is excluded from the protection. It could be argued that one can imitate the function of CP to make another program which can do the similar function. Iraq, as developing country, can benefit from the rules of TRIPs and European approach through the principle of harmonisation which will be studied later.[337] These provisions could prevent anti-competitive. Also, it could be argued that non- literal copy of functionality could lead to make other programs in the field of computer industry, on condition that would lead to no abuse of IP. This leads to boost the local economy through the freedom of competition.

2. The exhaustion of rights and the notion of online exhaustion

One significant characteristic of an economic right[338] is that an author can benefit monetarily from his/her work through distribution right. The importance of this right can be found in the commercial utilisation of CPs. Other works such as books, musical works, painting etc are directed to the senses of a human and his mind. The best way to utilise CPs is to grant licences to third parties to use them on the payment of an agreed amount to the owner of the program.

It could be said that the distribution right for a CP is exhausted, but when? And is there exhaustion right of distribution of digital copies online?

Exhaustion means the exploitation of rights in IP subject matter as a consequence of the legitimate transfer of the title in the tangible article that incorporates or bears the IP asset in question. [339]

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[336] ibid 220

[337] See chapter 5/ 5.4

[338] See s 3.3.2.1 of this chapter

[339] Non-author, Intellectual between Exhaustion of Intellectual Property Rights and Competition Law (2011) WIPO, CDIP/4/4 REV./Study/INF/2. P.4

It occurs, according to Art 4(2) of CPD, once a CP has been put on the market by or with consent of the owner. This means any act, including by sale or otherwise.[340] This means exhaustion leads to make "used" a CP as an idea which is not protected by copyright protection.

Thus, the distribution right for a CP is exhausted once, by transfer of ownership, physical copies of a CP, such as CD or DVD, are put into circulation with permission of the right holder.[341]"Putting into circulation" means any act through which the copy is disposed of and made accessible to the public.[342] This means that copy is only idea which could be taken to make another program.

If a CP was sold to a purchaser in good faith, the question is to what extent that purchaser can argue according the principle of exhaustion right. In other words, what is the level of protection should be granted under copyright to that purchaser as a third party?

According to the exhaustion doctrine which was stated by the Art 4(2), the lawful-user provision operates so as to give third parties rights to use and redistribute the software in question. Theoretically, there is nothing in the law that expressly prohibits a copyright-owner from exercising his right so as to prevent acts of redistribution. Legally, however, the right to control the distribution can only be limited once exhaustion has occurred, that is, the act of putting the program into circulation for the first time and with the rights –owner's consent. It could be argued that exhaustion of the distribution rights is a precondition for attaining the status of a lawful user. It follows that if the effects of exhaustion can be avoided, the principle aim of open source models can effortlessly be accomplished.[343]

In addition, it could be said that there is no "vertical" distribution chain; each individual act of acquiring the work would take place under an immediate contractual agreement. That agreement may exclude the occurrence of exhaustion because the copyright-owner can still control the conditions under which the work is put into circulation.[344]In other word, that a contractual restriction preventing a licensee from reselling can be enforceable in contract; and that therefore a model contractually binding the acquirer would automatically prevent the

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[340] Guido Westkamp, 'The limits of open source: lawful user rights, exhaustion and co-existence with copyright law' (2008) IPQ, 1, 14-57, at 45

[341]Friedrich Ruffler , 'Is trading in used software an infringement of copyright? The perspective of European law', (2011) EIPR , 33(6), 375-383, at 378. See also , Westkamp (n340) 21 &36

[342] Westkamp (n340) 46

[343] ibid 34

[344] Ibid39

occurrence of exhaustion for lack of consent. However, the current jurisprudence on exhaustion tends to prefer market freedom.[345] This means that could boost the local economy of Iraq and developing countries in general because it could use the exhausted right of a CP to make other programs or using it in other products.

As regards the question of online exhaustion in cases where programs are delivered to a customer online, is the principle of exhaustion could be applied?

It could be said, legally, according to Art 4(2) of CPD, at the first glance, that the principle of community exhaustion applies only to the transfer of tangible media incorporating a CP. Thus, this Art does not include digital copies of that program because the electronic distribution of any work whether a CP or other works such as books, films, etc. does not give rise to the exhaustion doctrine according to the Infosoc Directive (Art3) and WTC (Art 6) which falls under the scope the right to make a work available to the public rather than under the distribution right.[346]

However, it could be answered the question above through the decision which was held by the Grand Chamber of the European Court of Justice (ECJ) in case *UsedSoft GmbH v Oracle International Corp(C-128/11) (July 3 2012),*[347] that a software licence which is granted for an unlimited period in return for a fee constitutes a sale of that copy of the software program, exhausting the copyright owner's right to object to the resale of that particular copy. This applies whether the software is sold on a physical medium or downloaded. However, where the licence covers multiple copies the licensee is not permitted to divide the licence and resell the rights to individual copies. This judgment brings a degree of clarity to this area of law on the specific facts of this case, but more fundamentally demonstrates a commitment by the ECJ to ensure that technological change does not reintroduce territorial restrictions in Europe. On March 14, 2011, the Bundesgerichtshof (Federal Court of Justice of Germany) lodged a reference for a preliminary ruling with the Court of Justice of the European Union in connection with a copyright dispute between Oracle International Corp and UsedSoft GmbH Oracle, which mainly distributes its software via downloads.

Three questions were raised in this case:

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[345] See In re Perfume Bottle [2001] GRUR 51 (BGH). It has been mentioned by ibid 40. Also the cases bellow

[346] See Tatiana-Eleni Synodinou, The principle of technological neutrality in European copyright law: myth or reality?,(2012) E.I.P.R. 34(9), 618-627, at 624. For an analysis of the challenges to the principle of exhaustion in the digital environment, see Y. Gaubiac, "The exhaustion of rights in the digital environment" (2002) 36(4) Copyright Bulletin 2, <http://unesdoc.unesco.org/images/0013/001397/139700e.pdf >accessed June 28, 2012.

[347] UsedSoft GmbH v Oracle International Corp (C-128/11) [2012] E.C.D.R. 19 (ECJ (Grand Chamber))

1. Is the person who can rely on exhaustion of the right to distribute a copy of a CP a 'lawful acquirer' within the meaning of Art 5(1) of the CPD2009/24?

2. If the reply to the first question is in the affirmative: is the right to distribute a copy of a CP exhausted in accordance with the first half-sentence of Article 4(2) of the CPD 2009/24 when the acquirer has made the copy with the rightholder's consent by downloading the program from the internet onto a data carrier?

3. If the reply to the second question is also in the affirmative: can a person who has acquired a 'used' software licence for generating a program copy as 'lawful acquirer' under Art 5(1) and the first half-sentence of Art 4(2) of CPD 2009/24 also rely on exhaustion of the right to distribute the copy of the CP made by the first acquirer with the rightholder's consent by downloading the program from the internet onto a data carrier if the first acquirer has erased his program copy or no longer uses it?

It could be said that the second question is related to the principle of exhaustion. The court ruled that "Article 4(2) must be interpreted as meaning that the right of distribution of a copy of a computer program is exhausted if the copyright holder who has authorised, even free of charge, the downloading of that copy from the internet onto a data carrier has also conferred, in return for payment of a fee intended to enable him to obtain a remuneration corresponding to the economic value of the copy of the work of which he is the proprietor, a right to use that copy for an unlimited period."[348]

As regards the first and third question , the court ruled Arts 4(2) and 5(1) must be interpreted as meaning that, in the event of the resale of a user licence entailing the resale of a copy of a computer program downloaded from the copyright holder's website, licence having originally been granted by that rightholder to the first acquirer for an unlimited period in return for payment of a fee intended to enable the rightholder to obtain a remuneration corresponding to the economic value of that copy of his work, the second acquirer of the licence, as well as any subsequent acquirer of it, will be able to rely on the exhaustion of the distribution right under Art 4(2) and hence be regarded as lawful acquirers of a copy of a computer program within the meaning of Article 5(1) and benefit from the right of reproduction provided for in that provision.[349] This means that the principle of exhaustion may apply to delivering a CP online. However, international law-TRIPs Agreement- is silent regarding the exhaustion of rights. This means the exhaustion of right is not existed in the field of international law. Iraqi law

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[348] [72]

[349] [82]

has not referred to the principle of exhaustion of a CP. It could be argued that Iraq could benefit from the principle of exhaustion because it resembles imitation the function of a CP because Iraqi law does not prevent to import any work to Iraq through translating that work from the foreign language to Arabic language. Thus, the exhaustion of rights could be existed in Iraq in case of translating that program to Arabic language.[350] This program could be used in other products

3. Decompilation

The modification of a CP embraces acts of translation, adaptation, arrangement, and any other translation of a CP. These acts in general require the consent of the right holders.[351] One of the most important acts of the right of modification is "decompilation- reverse engineering".[352] It could be defined as translating or rewriting object code of a CP into its source or assembly language version. It grants access to detail regarding a program.[353]This exception allows the information acquired through reverse engineering to be made available to others only by the person who undertook the reverse engineering or who acquired these information through reverse engineering.[354]

Thus, one the purpose of decompilation is to enable others to write a new program which can be used in conjunction with the first program or transfer data from it.[355]

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[350] S 4 of ARA 1971

[351]The CPD, art 4 (b). CDPA 1988, s16(e). ARA 1971 , s 8(2)

[352] Reverse engineering emerged in the United States, *Computer Associates Int'l Inc v Altai, Inc* 982 F. 2d 693 (2d Cir. 1992). Interpreted US copyright law as not extending protection to interfaces necessary to interoperability. *Sega Enterprises Ltd v Accolade, Inc* 977 F. 2d 1510 (9th Cir. 1992)ruled that reverse engineering of computer program code for a legitimate purpose such as extracting interface information from another firm's software was a fair and non-infringing use of that code. For more detai , see Pamela Samuelson, The past, present and future of software copyright: interoperability rules in the European Union and United States**,** E.I.P.R. 2012, 34(4), 229-236, at 234

[353] IlhanYilmaz, 'Copyright in the European Union with special reference to Turkey' (PhD thesis, University of Exeter1998) 331 and also Bainbridge (n69) 88

[354] Noppanun Supasiripongchai. The development of the provisions on the protection of technological protection measures (TPMs) in the light of the prospective Thailand-United States Free Trade Agreement (FTA) and its possible impacts on non-infringing uses under copyright exceptions in Thailand: what should be the solution for Thailand?(2013) C.T.L.R. 19(1), 21-43, at 35

[355] Bainbridge (n 69)88

The CPD has defined decompilation as 'the ability to exchange information and mutually to use the information which has been exchanged'.[356]

It is fair to conclude from this definition that the provision of the CPD that forbids decompilation of CP code except insofar as it is 'indispensable to obtain the information necessary to achieve the interoperability of an independently created computer program with other programs, provided that the following conditions are met...'. [357] Pursuant to this paragraph this act could be made in two cases:

A- Decompilation is indispensable to obtaining the information necessary. In this case, the authorisation of the right holder would not be needed. However, if there are other ways to obtain the information, it would be illegal to use this act according to this Article. For example, if information is available by recourse to Article 5 (3), viz by observing, studying or testing the CP, this would make decompilation illegal.

B- This act is permitted to achieve 'interoperability' of an independently created CP. The term "interoperability" means the ability of CPs to exchange information and of such programs mutually to use the information which has been exchanged.[358]

The independently created CP can also interoperate "with other programs". The purpose of this paragraph of Article (6) is "to make it possible to connect all components of a computer system, including different manufactures, so that they can work together"[359]

According to Art 6 of CPD 2009, there are three conditions for decompilation of a CP, as follows:

1- It must be performed by 'the licensee or by another person having a right to use a copy of a program, or on their behalf by a person authorised to do so'.[360]

2- Information has not previously been readily available to the authorised persons to do these acts.[361]The interpretation of the term "readily available" is left to the decompiler and eventually the courts. For example, "publication of the information may be

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[356] Recital 10. The Infosoc Directive 2001/29/EC relating to on the harmonisation of certain aspects of copyright and related rights in the information society has not referred to the decompilation.

[357] Art 6(1). See Pamela Samuelson, The past, present and future of software copyright: interoperability rules in the European Union and United States (case comment) (2012) E.I.P.R, 34(4), 229-236, at 231

[358] The Digital Millennium Copyright Act of the United States (US DMCA) s.1201(f)(4)

[359] Recital 15

[360] Art 6(1/a)

[361] ibid 6(1/b)

considered readily available. Also an offer to provide for the information, e.g., when included in the license agreement would seem to be readily available, albeit not, previously".[362]

3- The act of decompilation has been confined to 'the parts of the original program which are necessary in order to achieve interoperability'.[363] In actual fact, this provision is derived from the preliminary stipulation, namely "indispensability" and "interoperability".[364]

According to the second paragraph of that Article, the provisions above shall not permit the information obtained through its application in the following situations:

1- It cannot be used for purposes other than to achieve the interoperability of the independently created CP.[365]

2- The information cannot be given to other third persons, except when necessary for the interoperability of the independently created CP.[366]

3- The information cannot be used for the development, production or marketing of a CP substantially similar in its expression, or for any other acts which infringe copyright.[367]

It could be concluded from that discussion that considered together, Arts 5(3) and 6(1) embody a simple rule: decompiliation- reverse engineering - to study functionality is fine because it is only an idea, but decompilation- reverse engineering - to study program code, internal structure, and other expressive aspects of the literary character of programs is forbidden, except when indispensable to interoperability.[368]

The CDPA 1988 implemented decompilation in s 50(B) through defining it as converting a CP expressed in a low level language into a version expressed in a higher level language or incidentally in the process of so converting it, to copy it. There is no restriction to parts of a

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[362] Yilmaz (n353) 332

[363] Art 6(1)(c)

[364] See *SAS Institute Inc* (n299) [AG83]

[365] Art 6(2)(a)

[366] Art 6(2)(b)

[367] Art 6(2)(c).

[368] Supasiripongchai (354) 40

CP in section 50(C) although it does state that the act of decompiling must be confined to that necessary to achieve the 'permitted objective'. [369]

In judicial aspect, *SAS Institute Inc v World Programming Ltd* stated that it must be considered that the WIP ""was entitled to perform an act of decompilation in order to achieve interoperability between the SAS System and its WPS System".[370]

The question is what is the effect of decompilation –reverse engineering- on developing countries, Iraq as a sample?

It could be said that decompilation- reverse engineering- is very significant for developing countries because it plays as an important instrument for technology transfer and because the engineers in these countries will try to disassemble the advanced technological products from developed countries in order to learn regarding them. Thus, it allows a person who has lawfully obtained a copy of a CP in order to identify and analyse the elements of the program that have not previously been readily available to the person engaging in the circumvention activity for the solo propose of achieving interoperability of an independently created a CP with other programs.[371] It could be argued that Iraq as a developing country could develop its computer industry through technology transfer which was mentioned by the TRIPs Agreement.[372] This target could help the developing countries to develop their technology and one of this is the decompolaition even though it is not stated by the Agreement.

It could suggest that Iraq could be benefit from this exception even though it does not state in ARA 1971 through the principle of harmonisation whether the international laws or European law as we will see in chapter 5.

4. Temporary copying

Under the CPD 1991, the main purpose of the exclusive rights of the author is 'to prevent the unauthorised reproduction of his work'.[373] However, the acts of loading and running a program, including error correction, are basic rights under the Directive. This means if these acts were necessarily for the program to be used they could not be prohibited by contract. A

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[369] Bainbridge (n69) 90

[370] *SAS Institute* Opinion of A.G. Bot, November 29 [2011] at 83

[371] Supasiripongchai (n354)35

[372] Art 8/2

[373] Recital 13. See also Recitals 32&33, 38 and Art 5of the Infosoc Directive 2001/29/EC

CP cannot be run without loading it into the computer's temporary memory. Therefore, an exception is "technically necessary for the use of that program".[374]

According to Art 2 of the Infosoc Directive 20091/29/EC, the reproduction right is the most fundamental of all copyright exclusive right. This means that this right extends to any form of copying including temporary copying. [375]

The question here, what is the mandatory exemption for temporary copying? And does this exception apply to CPs?

According to the Art 5(1) of the Infosoc Directive 2001/29/EC, the only mandatory exception is that for temporary copying. It permits temporary acts of copying which are:

1-transient or incidental and

2- an integral and essential part of a technological process

3- whose sole purpose is to enable

(a) a transmission in a network between third parties by an intermediary or

(b) a lawful use of a work, and

4- which has no independent economic significance.

It could be noticed that the Directive has referred to a number of exemptions from infringement which member states may allow, but only one of those exemptions is mandatory: the exemption for transient copies. The intention of the exemption is to exclude from liability transient copies of works made on networks as files are exchanged through the Internet, where that temporary copying has no economic significance.[376] It could be argued that the temporary copying could be solely idea to develop other programs on condition that copying has no important economy. This case could help Iraqi industry computer to develop this industry.

However, the temporary copying does not apply to CPs because of the application of Art 1.2 of the Infosoc Directive 2001/29.[377] Thus, the rules of Art 4(1/a) of CPD shall apply to a

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[374] Recital 13

[375] See Michael Hart, The Copyright in the Information Society Directive: an overview, E.I.P.R. 2002, 24(2), 58-64, at 58

[376] Alexander Ross, Implementation of the Copyright Harmonisation Directive in the United Kingdom (2004) Ent. L.R., 15(2), 47-51, at 49. See also, Marie-Christine Janssens, Implementation of the 2001 Copyright Directive in Belgium(2006) IIC, 37(1), 50-62.

[377]….. this Directive shall leave intact and shall in no way affect existing Community provisions relating to:

(a) the legal protection of computer programs

temporary copying which not allowed for making a temporary copyright without permission of the author.[378]

The writer's view is not against the European approach because making a temporary copy could infringe the right holders of CP if one made it without permission of the owner of a CP. This provision is similar to the provisions of "making available right" in Infosoc 2001/29/EC.[379]

However, Art 5(2) of CPD excluded the case of the making of a back- up copy by a person having a right to use the CP may not be prevented by contract in so far as it is necessary for that use.[380]This copyright was referred to in the case of making of a back –up copy which will be studied in the scope of which cannot be contracted out in chapter 5.

The British law (CDPA 1988) has already this sort of broad reproduction right.[381] This Act allowed to a lawful user of a copy of a CP to copy that program (permanently or temporary) if necessary for his/her lawful use and is not prohibited under any term regulating the circumstances under which his/her use is lawful. It also stipulated that copying must be necessary to the lawful use to copy for error correction.[382]

Art 5 of the CPD refers to the "lawful acquirer" who can perform the acts which have been laid down in Art 4 if those acts are necessary for the use of a CP in accordance with its intended purpose without the permission of the owner. Accordingly, the acts of loading, displaying, running, transmission and storage of the program in accordance with article 5 (l) do not require the owner's permission.[383]

The second paragraph uses the phrase 'a person having a right to use the computer program' instead of the term of 'lawful acquirer'. It could be concluded that this Article refers to any person who can use a CP, reproduction or a back-up for example, according to this Article if it is necessary for use.

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[378] Art (4/1,a) of CPD 1991 &2009 "1. Subject to the provisions of Articles 5 and 6, the exclusive rights of the rightholder within the meaning of Article 2 shall include the right to do or to authorise:

(a) the permanent or temporary reproduction of a computer program by any means and in any form, in part or in whole; in so far as loading, displaying, running, transmission or storage of the computer program necessitate such reproduction, such acts shall be subject to authorisation by the rightholder;"

[379] See the fourth content of this section

[380] This exception will be studied in the scope of exceptions which cannot be contracted out

[381] S 50C

[382] S 50C(1,2). Also, see Bainbridge(n69)94

[383] SAS Institute Inc (n 299)[AG96]. See also, Westkamp (n340)22

The CDPA 1988 has adopted the term 'lawful user' under the harmonisation process. It defined this person in s 50A (2) as 'a lawful user of a computer program if (whether under a licence to do any of the acts restricted by the copyright in the program or otherwise), he has a right to use the program'.[384]

The French IP 1992 referred to the act of reproduction in its legislation. This law basically prohibited reproducing any work without the consent of its author or of his/her successors.[385] However, if that act is reserved strictly for the private use of the lawful user, the author cannot prohibit that user reproducing a work including a CP.[386] The ARA 1971, too, referred to make a copy for private use to any work including CPs.[387]

On the other hand, the ARA 1971 does not allow for any person to reproduce a work without permission from the author.[388] This means the author holds the exclusive rights on his/her work and without the written permission from the author or his/her successors, no person can do any of the acts above, especially reproduction.[389] Thus, any person, whether a 'lawful user' or not, cannot reproduce the program without permission from the owner of that program even if this act is necessary. One may argue this could be a deficiency in this law which should be amended to be compatible with the development of a CP. The writer can argue that it would be useful to harmonise Iraqi law with the CPD 1991 via French law which is the source of Iraqi Civil Code. This harmonisation could remove this flaw as we will see in chapter 5.

3.3. Activities restricted by copyright in CP

Several questions could be raised:

a) What types of rights do programmers or right holders have against others in relation to a CP?

b) Are the traditional provisions within the scope of copyright and author's right sufficient?

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[384] The Infosoc Directive 2001/29/EC refers to the term 'lawful user', see recital 33 &Art 5(b). See also, *SAS Institute Inc. v World Programming* Limited[2010] EWHC 1829 (Ch)

[385] S L.122-4

[386] S L.122-5(2), S L. 122-6

[387] S 13

[388] S 8 (1)

[389] ibid

c) In case of assignment, is there any influence on the authority of the programmer, particularly the moral rights?

d) Finally, does the programmer need the moral rights which have been granted to the authors of other works?

These questions will be discussed in two parts: economic rights and moral rights.

3.3.1 Economic rights

3.3.1.1. Introduction

According to the copyright and author's right provisions,[390] the owner of a work has the exclusive right to benefit from utilising his/her work. Therefore, the owner of CPs is entitled to exploit his/her program. All IP laws, whether in international law, EU, the UK and Iraq, refer to the economic rights.

The BC and WIPO Copyright Treaty 1996 (hereinafter WTC) refers to the exclusive rights for the authors, such as the right of production, translation, exploitation.[391] As for the owner of a CP, he/she also has certain exclusives rights in CP. These rights have been mentioned in the TRIPs Agreement,[392] the CPD 1991.[393] It could be said there are 4 important economic rights which have been mentioned in these laws. Accordingly, these rights will be explained, as follows.

3.3.1.2. Right of reproduction

The statutes identify several ways of utilization of CPs in general without any specific references to them. For example, the CDPA 1988 provides that the owner of copyright in a work has the right to copy, issue copies to the public or to perform, show or play his work in the public.[394] He/she also has the ability to use these rights. If someone uses them without any licence, he/she will infringe the copyright in that program.

Reproduction of CPs is one of these ways to utilize CP for the right holders. It can be defined as the creation of one or more copies of a CP or of a substantial part thereof in any material

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[390] CDPA, s 16. ARA 1971, s 7

[391] BC, Arts :3,8 and 9. WIPO , Arts : 6,7 and 8

[392] Art 11

[393] Art 4.These rights will be explained in chapter 5

[394] S16. ARA 1971, s 8

form.[395] Under the CDPA 1988, the owner of the copyright in a work has the exclusive right to make a copy of his/her work.[396] Elsewhere, this Statute has defined the meaning of copying in relation to a literary work, as reproducing the work in any material form. The last phrase i.e. "any material form" by s 17(2) includes storing in any medium by electronic means[397], for example, by making a copy of CPs on a magnetic disc. Therefore, recording a copy of any CP in modern computer storage falls within the meaning of copying. However, electronic storage as a means of reproducing a CP in a material form means that a program recorded on a CD ; for example ,will infringe[398] unless the recording was made with the copyright owner's licence.This is why a licence is required in order to use another person's CP [399].

The reproduction of CPs has many forms; it could be literal or non-literal. For example, when loading a program into the machine would reproduce the work.[400] Thus, taking the whole program or a substantial part thereof brings the reproduction[401]

In the case of the right of reproduction, the company which uses many devices must have a number of copies corresponding with the number of devices which use those copies. This company may have another copy of that program and store it on all computers which are owned by that company only if it has a licence to do so.[402]

3.3.1.3. The right of modification

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[395] Reproduction of a work is "the making of one or more copies of a work or of a substantial part of it in any material form, including sound and visual recording. The most common kind of reproduction is printing an edition of the work. The right of reproduction is one of the most components of copyright", WIPO Glossary223

[396] S 16(a). See *inter alia* Sterling (n193) 475

[397] S 178 . There is no definition for reproducing the work in the scope of the ARA 1971

[398] This subject will be investigated comprehensively in the next section.

[399] Bainbridge (n194) 144,David Bainbridge, *Introduction to Computer Law* (5th edn, Pearson Education Ltd 2004) 29. See also: Anne Fitzgerald , 'Case Comment Australia: copyright - meaning of reproduction in material form in context of copying computer program on hard disk and into RAM*'*, (2011) EIPR, 4(2), 60-75

[400] *Sony Computer Entertainment v. Paul Owen and Others* [2002] EWHC 45(Ch).

[401] This will be explored in s 3.4 of this chapter. See also, Maurizio Borghi, 'Chasing copyright infringement in the streaming landscape*'*, (2011) IRIP &CL, 42(3), 316-343

[402] Bainbridge (n 399) 81

The modification of a CP embraces acts of translation, adaptation, arrangement, and any other alteration of a CP. These acts in general require the consent of the right holder.[403]

Making an arrangement or altered version of a CP comes within the restricted act. As for translation, a special meaning for the right of modification of CPs in the CDPA 1988 states that[404]: 'In relation to a computer program a 'translation' includes a version of the program in which it is converted into or out of a computer language or code or into a different computer language or code.' If a high- level source code of a CP is converted into an object code program this action would be a modification of the source code program and therefore a restricted act.[405]

It can be argued that the meaning of translation is too wide as it appears to catch a version of a source code program written in a different high-level language from that used for the original program. This meaning can be extended to a manual translation. For example, if 'A' has written a CP using BASIC and 'B' rewrites the program in COBOL, the latter would be a modification of the BASIC program because it has been converted into a different computer language.[406] And 'B' would become the owner of the modified program. This grants 'B' a personal right to his program because he has ownership of his program.

Translations of CPs encompass "…acts of compilation, disassembling or decompilation. Even the changing of a CP from one programming language to another, the change from source code to object code or vice versa and converting a CP designed for a mini-computer to the one which will run on a PC micro-computer are also subject to authorisation as an act of adaptation"[407] and "any change or adjustment to an existing program such as additions, deletions and rearrangements are considered restricted acts and require authorisation".[408]

With implementing the CPD 1991/2009,[409] the legislatures in the UK[410] and France[411] have granted lawful users permission to make some modifications to programs. These include the

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[403] The CPD, Art 4(b), CDPA 1988, s 16(e), ARA 1971 s 8(2)

[404] S 21(4)

[405] Bainbridge (n399) 41

[406] ibid 42

[407] Yilmaz (n353)322 & 323

[408] ibid

[409] Art 5

[410] S 50 (a,b&c)

possibility of correcting errors and the program development and increasing its effectiveness in line with user demand and the prospects for a new use. Additionally, modifications required to engage in such businesses permitted by law, may be made to the extent that they are consistent with the purpose of the authorisation, or promotion of scientific development. That would not threaten the rights of an author (or the right holder on the program).

3.3.1.4. The making available right to the public[412]

This right gives an author to place his/her program within the public domain directly and publicly in whatever way he/she chooses.

The WTC 1996 allows the author of literary work, such as the owner of CPs, to "enjoy the exclusive right of authorisation any communication to the public of their work…, including the making available of their works".[413]

In Europe, the Infosoc Directive 2001/29/EC of the European Parliament and the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society (InfoSoc) refers to this right through permitting authors to transmit their works to the public by "wire or wireless means."[414]

This Directive refers to the right of communication to the public because this right has not been referred to the CPD 1991.

Article 3 has indicated that authors have a right to authorise or prohibit the communication to the public of "any" communication to the public of their works, by wire or wireless means,

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[411] S L.122-6-1

[412] The BC1971 Paris Act covered this right incompletely through a tangle of occasionally redundant or self-contradictory provisions on ' public performance'; and other forms of transmission. See: D.Vaver & L.Bently (ed.) *Intellectual Property in the New Millennium, Essays in Honour of William R.Cornish.,* (CUP 2004)234. On the other hand, WIPO Copyright Treaty (WCT) has referred to this right in Article 8 ' .. authors of literary and artistic works shall enjoy the exclusive right of authorising any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access these works from a place and at a time individually chosen by them", for further studying, see: Mihály Ficsor, *The law of copyright and the Internet : the 1996 WIPO treaties, their interpretation and implementation* (1stedn, OUP 2002)493

[413] Art 8

[414] Recital 23

including the making available to the public of their works in such a way that members of the public may access them from a place and at a time individually chosen by them.[415]

To analyses this right, we must explain the purpose of making this right and when it should be made as well as to what extent this right could be exhausted. Finally, the question is related to the possibility to apply this article to CPs?

The main purpose of making this right in this Directive is to protect the transmission and distribution of copyright works other than in physical form to members of the public not present at the place where the communication originates. This right extends communication to the public of copyright works through online means of distribution (e.g. the Internet).[416]

This Directive did not define the meaning of a public or private communication. However, it stated that "the mere provision of physical facilities for enabling or making a communication does not in itself amount to communication within the meaning of this Directive".[417]

If we start analysis the first item of article 3(1), we will find out that it granted the authors an exclusive right to permit any communication of their works by wire or wireless means, including making them available to the public in such a way that members of the public may access them from a place and at a time individually chosen by them (e.g. online). In addition, the second sub-section of that article gives the authors to authorise or prohibit the making available to the public. However, this Directive in article (5.3) covers exceptions from the reproduction and communication to the public rights. It includes an exception for illustration for teaching or scientific research.[418]

It is interesting to note that the Directive makes it is clear that no act of making available exhausts the copyright owner's or performer's making available right. [419] Thus, it is now unlawful to re-sell a legally burned CD containing downloaded content, whereas it is lawful to re-sell a pre-recorded CD of the same content.[420]

Finally, to answer the question which is related to the possibility of applying this right to a CP is that it could be possible to the owner of a CP to prevent anybody to use his/her CP

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[415] See also, Recital 23

[416] Hart(n375)58

[417] Recital 27

[418] Art. 5.3 (a)

[419] The Directive, Art.3.3

[420] Alexander Ross, Implementation of the Copyright Harmonisation Directive in the United Kingdom (2004)Ent. L.R. 15(2), 47-51, at 49

without permission from him/her for using it for the communication to the public because a CP is a work and not regulated by the CPD 1991, as I indicated above.

The question could be raised is that what the situation in the UK is? Since the British legislator has to harmonise its law, which is a Member State in this Directive, with the provision of the Directive.

The UK government has finally introduced Regulations [421] to implement the Directive. Accordingly, the Regulation introduce into English copyright law the new concept of "communication to the public" to cover many works including literary work, such as CPs and the act of communication to the public becomes one of the acts restricted by the copyright the works.[422] Also, the Regulations partially define the act of communication to the public by stating that "references in this part to communication to the public are to communication to the public by electronic transmission, and in relation to a work include: the making available to the public of the work by electronic transmission in such a way that members of the public may access it from a place and at a time individually chosen by them".[423]

It could be argued that the making available right is the right to place a copyright work on a website or other electronic destination in such a way that members of the public may access the work when they choose. It is granted to copyright owners by way of section 20(2).

Accordingly, the CDPA 1988 has implemented Article 3 of the Directive under the principle of harmonisation. However, it could be noticed that section 20 (2) used expression "electronic transmission" while article 3(1) of the Directive uses "by wire or wireless means". The reason for this change is not clear. However, it may stem from the fact that for the UK draftsmen, "by wire" has historical connotations to telegraphy, a technology which has been superseded by the internet and other modern communication technologies and which plays no role in the activities art.3.1 of the InfoSoc Directive regulates. However, the word "transmission" in s.20(2)(b) leads to uncertainty. The term "by electronic means" is used in various places in the CDPA, for instance in s.17(2), where it states that copying includes "storing the work in any medium by electronic means". Therefore, the current uncertainty could have been avoided by using the word "means" instead of "transmission" in s.20(2)(b) of the CDPA. [424]

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[421] The Copyright and Related Rights Regulations 2003 (SI 2003/2498)

[422] CDPA 1988, s 20 (1,a)

[423] ibid, s20(2,b)

[424] Haflidi Kristjan Larusson, Uncertainty in the scope of copyright: the case of illegal file-sharing in the UK, E.I.P.R. 2009, 31(3), 124-134, at 126

French law has implemented this Article, namely 3(1) of the Directive, into its legislation according to the principle of harmonisation.[425] In addition the FLIPC considers that running a program on the screen of a computer is a communication right.[426] It could consider that the right of communication includes placing a work in the public via wire or wireless means which assists people to see and hear the work from the centre of transmission .[427]

Iraqi law also stated that the author has the authorisation to allow or prohibit his/her work to the public before the publication. [428]Thus, the owner has the authority to permit or prohibit making available to the public of his program.

Finally, rights holders may show their programs directly and publicly to the public by the utilization of computers.[429]

To recap, economic rights are personal property. Those rights are provided by copyright rules as well as the rules of civil or common Law. The target of explaining those rights was to examine the ability of copyright and author's right to protect CPs and how the right holders can exert their rights on the program.

3.3.2. Moral rights

3.3.2.1. Introduction

Moral rights are dedicated to protecting intellectual property rights of authors and preserving the relationship between authors and their works because the work is the core of human intellectual effort. Therefore, in order to protect the author's personality, the bond between an author and the work must be preserved.

The term "moral rights" is used to denote those essentially non-economic rights that remain with an author even after assignment of the copyright.[430] Such rights are personal to an author

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[425] S L. 122.6.1

[426] S L. 122.6.1

[427] Albatania (n279) 77

[428] S 7

[429] An assignment of copyright is not effective unless it is in writing signed by or behalf of the assignor. See : CDPA 1988, s 90(3), ARA 1971, s 8 ,JARA 1992 s13, EI P R 2002 s 149, FLIPC 1992 s 13-2

[430] BC, Art 6bis. See inter alia Adeney (n277) 10

or creator of a work and are capable of exercise separately from the right to economic exploitation of the work.[431]

Internationally, moral rights are embodied in the BC which referred to two kinds of moral rights: the right of attribution (paternity) and the right of integrity.[432] This doctrine is a compromise between the civil law and common law views of moral rights.[433] Whereas, the civil law countries such as France and Iraq have added two further rights, the right of disclosure and the right of withdrawal.[434]

The CPD does not deal directly with moral rights through making reference to the ownership of copyright in the employer-employee context, providing that the creation of the program by an employee 'in the execution of his duties' allows the employer to exercise 'all economic rights in the programs so created.'[435]The CDPA 1988 has adopted the doctrine of the BC, the above two kinds of moral rights. However, the CPD and the CDPA 1988 have not granted moral rights of programmers; hence, in this section we will investigate to what extent the European and British approach is right as regards not granting moral rights to the programmer? In addition, this section will explain the situation in Iraq and other civil law countries such as France as regards the moral right. It is necessary to explain those kinds of moral rights and explain to what extent those rights could be applied in relation to a CP.

3.3.2.2. The right of attribution (paternity)

The right of attribution permits an author to ensure that his/her work is consistently attributed to him/her by name.[436] Therefore, an author has only the right to attribute to himself/herself his/her work and to have his/her name listed on all produced copies every time the work is

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[431]Chris Reed &John Angel (n292)390 & 391

[432] Art 6bis

[433] Rajan M 'Moral Rights in Information Technology: a new kind of "personal right"?'(2006) IJL&IT, 12(1), 32-54 , at 36

[434] See *inter alia* Lauriane Nocella, 'Copyright and moral rights versus author's right and droit moral: convergence or divergence*'*, (2008) Ent. L.R. 2008, 19(7), 151-157. Emir Aly Crowne Mohammed. , 'Moral rights and mortal rights in Canada', (2009) JIPL&P, 4(4), 261-266, at 263

[435] Art 2(3). See also, Rajan(n433) 40

[436] Vivant Michel, *Le Logiciel au Pays de Merveilles,* J.C.P. 1985.I.3208, No.3

put forward to the public, unless the work is mentioned incidentally during a news representation of current events. [437]

The right of attribution provides an author with advantages. Firstly, the right to claim authorship of a work which he/she made. Secondly, the right to prevent the use of his/her name when he is improperly identified as the author. Finally, the right to prevent the use of his name in connection with a work which he/she made but which has been mutilated or distorted in a way 'prejudicial' to his 'honour or reputation'.[438]

The question now arises whether we can apply this right to CPs. The CDPA 1988 has not granted the programmer the right of attribution to his/he a CP.[439] It could be said that this exclusion springs from the restrictions on moral rights protection in the UK, which includes provisions as stringent and unusual as a requirement that moral rights should be asserted before they can recognised. On the other hand, the CDPA has developed a rational policy basis for excluding CPs, especially from its moral rights scheme.[440] It could be also said that this policy is to deny programmers any moral rights in order to prevent any obstacle which could hinder the development of CPs. Accordingly, one may argue that this view, i.e. the CDPA 1988, has taken a good approach because it would allow the developers of CPs to make their developments on programs without any restrictions or obstacles. Additionally, CPs have greater value than other works making it unfair to equate them with other works.

3.3.2.3. The right of integrity

This right aims to provide authors with the right to prevent some modifications and the destruction of their works. [441]It equates to the right to have the work respected which is found in FLIPC. [442]

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[437] ARA 1971, s 10, EIPR 2002, s 143 (3), JARA 1992, s 8(a,d)

[438] William A. Tanenbaum, 'US copyright law after the Berne, moral rights and 1990 amendments', (1991) EIPR, 13(12), 449-465, at 454

[439] S 79(2). Adeney (n277)14

[440] Rajan (n433)41

[441]Tanenbaum (n438) 8

[442] FLIPC s L.121-1   Cour de Cassation, First Civil Chamber, has stated that 'Whereas the "sequel" to a literary work is concerned with the right of adaptation; subject to respect for a right to the name and integrity of the adapted work, the concept of creative freedom prevents the author of a work or his heirs from banning a sequel to it after their monopolistic exploitation rights have expired' *Plon SA v Hugo* [2007] E.C.D.R. 9

Currently, the problem is that digital alterations can make the integrity of a work vulnerable. It could easily amount to a distortion or other modifications of a work, which may jeopardise the author's legitimate interests in the work, his/her honour or reputation.[443]

This right is the second moral right indicated by the BC and the statute of the UK[444] to object to treatment of a work that is prejudicial to the author's honour or reputation.[445]

Civil law countries have stated that an author has the right to prevent others doing any act which infringes the right, through modification, mutilation or alteration, without any permission from the author. This provision can apply to a CP. [446]

The same question may arise regarding the possibility of applying this right for a programmer to his/her CP. The CDPA 1988 provides explicitly that neither the moral right of attribution nor the right of integrity shall apply to CPs.[447] It could justify the view of this law through considering that the high protection for the authors' rights in the CPs industry might prevent the development of the programs, particularly when these programs originated from pre-existing programs. In addition, protection of a moral right of integrity could interfere with the requirement of technological progress. [448] Additionally, this right could hinder the development of CPs. Accordingly, the writer does agree with the view of the CDPA 1988.

3.3.2.4. The right of publication (disclosure)

This right is the most important right because it grants an author the exclusive right to determine whether his/her work is ready for publication or not. It ensures that an author has complete control of his/her work. Thus, the work would be considered as being created independently of any public disclosure and an unauthorised disclosure could lead to an

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[443] Akester (n203)171

[444] CDPA 1988, ss77-78

[445] Adeney (n277) 16. Ian Eagles &Louise Longdin, 'Technological creativity and moral rights: a comparative perspective', (2004) IJL&IT . 12 (2), 209-236 , at Para 3.1

[446] ARA 1971, s 10. The FLIPC s. L121-1. JARA 1992 s 8

[447] S 81(2)

[448] Rajan(n433)41

infringement of this right.[449] In addition, an author has the ability to identify the manner of distribution such as by CD or transmission on the Internet.[450]

One is forced to ask what happens where an author does not distribute a program in violation of a contractual obligation to do so. For example, 'A' has made a contract to create a CP with 'B'. 'A' did not distribute this program. Is 'A' obliged to do that? If not, what is A's liability?

First of all, this right is a kind of moral right which an author cannot assign to others. In addition, those rights are a part of the intellectual property of the author. According to this hypothesis, the programmer would not be obliged to distribute his/her program under any circumstances as that conflicts with the freedom of an author in relation to his/her intellectual property right. However, this hypothesis cannot be applied in the area of the CDPA 1988 because this Act has not granted any moral right to the programmer. Accordingly, 'A' in our example would be liable if he/she refused to distribute his program according to the contract. This can give rise to a contractual liability which will be discussed in the next chapter.

3.3.2.5. The right of withdrawal

The common law has denied this right because its approach is concerned with the protection of the potential economic value of someone's labour, whereas the civil law approach states that every one may claim protection for their personality as expressed in a work and anything that flows from it, as distinct from a work's potential economic value.[451]

This right is controversial and specific to France and Iraq because an author may solely exercise that right on condition that he /she indemnifies the assignee beforehand for any prejudice the reconsideration or withdrawal may cause him/her. If an author decides to have his/her work published after having exercised his/her right to reconsider or of withdrawal, he/she shall be required to offer his rights of exploitation in the first instance to the assignee, he/she originally chose and under the conditions originally determined.[452]

The question is, how can this right be applied to a CP? One may argue that this right could not be applied to a CP because, commercially, designing any program can necessitate the expenditure of huge sums of money. In addition, the nature of any CP is not like other works

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[449] Nocella (n434) 3

[450] Albatania(n279) 4

[451] Nocella (n434) 3. Albatania (n279) 50. Al-Knan N, *The Author's Right*(Amman: Dar Althaqafh2000) 117.

[452] ARA 1971, s34, FLIPC, s L.121-4

such as a book[453] because of the importance of a CP in commercial life. Therefore, it is submitted that it is extremely significant to exclude a CP from applying this right. In the writer's opinion, the common law approach has made the proper provision when it has not indicated this right because of the high cost of designing CPs which might affect commercial dealing if we consider the potential impact of withdrawing CPs from the market.

To recap, CPs have characteristics which distinguish them from other works. Therefore, the programmers should be excluded from enjoying moral rights which are granted to authors of other works.

In conclusion, Iraqi law should make special provisions for programmers in relation to moral rights and deny all moral rights for the creator of CPs. The writer is of the opinion that the UK approach of denying paternity and integrity claims to CPs is right when we consider the economic value of CPs in the market. For that purpose it is hoped that Iraqi law will exclude the granting of moral rights to programmers.

3.4. The right holders

3.4.1. Introduction

There is no doubt, an owner is capable of enjoying legal protection which has been conferred according to the provisions of copyright and author's right.

Legislations have generally defined character and personalities of author.[454] The general rule is that an author should be a natural person. However, there is an exceptional case relating to the legal person who becomes the owner of the economic rights of copyright; for example, as an employer or by a work of collaboration.

In principle, an author of a work is the person who creates it.[455] This is called 'authorship'. As such, an author is vested with both economic rights and moral rights. An author can assign or transfer any, or all, of his/her economic rights.[456] This assignment or transformation leads to another term which is called 'ownership'.

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[453] Huet Michel, *'Logiciel et Projet d'Architecture'*, (1986) No.7 *Journal des Lettres te de l'Audio Visuel* 11

[454] ARA 1971, s 1(2) , CDPA 1988, s 9

[455] CDPA 1988, s 9(1)

[456] Makeen F. Makeen, *'Authorship/ownership of copyright works under Egyptian authors' rights law'*, (2007) IRIP & CL, 38(5), 572-591, at 573

The first owner of a work is the first owner of the copyright[457]. However, that term also includes persons who have received their rights upon the work through an assignment from an author. For example, when a work is made by an employee in the course of employment, the employer is the first owner of any copyright in the work.[458]

The purpose of examining this point here is to define persons who deserve protection. Thus, it would be useful to show those people so as to make a connection with the ultimate target regarding the best protection which could be applied to a program and its holders. Accordingly, one must ascertain who the rights holders of a CP are. This could be studied through the provisions of copyright and author's right, as follows.

3.4.2. CPs created by one person

Iraqi law stipulates that a person who publishes a work attributed to him, whether by indicating his name on the work or by any other ways, shall be considered an author unless there is proof to the contrary. This rule shall apply to pseudonyms provided that there is no doubt as to the true identity of the author.[459]This author could be a natural or a legal person. Accordingly, it could be considered that the programmer is the person to whom the CP is attributed. However, there are three exceptional cases; the employer, the commissioner and the assignee. The writer will now consider them:

3.4.2.1. The employer

First of all, there is no specific definition of the term 'employee' in the legislations. However, the CDPA 1988 has referred to the terms 'employed', 'employee' and 'employment' which give an indication of what comprises employment under a contract of service or apprenticeship. [460] The ICC has referred to this case through the contract of an employment.[461]Therefore, if the programmer executed a contract, he/ she would have been subjected to the instructions of the employer. The question arises who then owns a CP. As

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[457] CDPA, s 11

[458] This point will be discussed this point deeply during this item

[459] ARA 1971, s 1 (2). JARA 1992, s 4

[460] S 178

[461] S 900 (1)

between an employee and an employer, the general rule in the UK is that the employer will own the right that exists in the program.[462] This is called "ownership of economic rights"

The question also arises, which kind of rights will be vested in the employer? As mentioned earlier, the moral rights in civil law countries and the UK as a general matter are inalienable the employee, whilst economic rights are transferable. Thus, the employer will own the economic rights and moral right will remain with the programmer.

Accordingly, with any new program made by an employee in the course of his/her employment the pecuniary right will only belong to the employer, unless agreed otherwise.[463]However, if an employee has created a program in his/her own time, whether or not using his/her employer's facilities, who is the owner in this case? It depends on the terms of the contract of employment. In principle, the employee will have to comply with the lawful instructions of the employer and so, usually, the rights will be vested in the employer. If the rights are not vested in the employer, then they will be vested in the programmer who is the first owner.[464]

3.4.2.2. A commissioner

Commissioned CPs and the programs created under a contract for services are not treated any differently from other types of works. Therefore, unless agreed otherwise in that contract, the author, in general, will be the first owner of the copyright. That programmer is called a freelance programmer[465].

How can a commissioner be an owner of that program? The CDPA 1988 has stipulated that "any transfer of ownership of copyright must be in writing and signed by or on behalf of the copyright owner".[466] Accordingly, the commissioner will be the owner of the copyright, if he/she complies with the provision of the CDPA 1988 and any assignment must be in writing and signed by or on behalf of the author.[467]

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[462] S11 (2)

[463] Bainbridge (n386) 49, ARA 1971, s11(1)

[464] ibid, op cit p.49. Bainbridge (n194) 95 & 96, Albatania (n279)82, ARA 1971, s11 (3)

[465] Bainbridge (n3899) 48, Makeen (n456) 577

[466] S 90(3)

[467] For more detail, see the publication review Clive Davies for Giuseppina D'Agostino' , 'Copyright, Contracts and Creators: New Media, New Rules, (2010) Comms. L. 2010, 15(4), 126-127

Iraqi law has referred to this case in its Civil Code.[468] It could be envisaged that a CP could be created under a contract for services. In this contract, the programmer can make a CP for another person who will have the economic rights of copyright in this program. However, the moral rights will remain with the programmer as they are inalienable, as mentioned earlier.

The rights in that CP depend on the agreement between the parties to the contract. If there is an express agreement the parties must comply with that agreement. For example, the right of exploitation of a CP must be identified in terms of time and place. In addition, that agreement must only contain economic rights and not moral rights because, as mentioned earlier, moral rights are inalienable. In the absence of agreement, the programmer will be the owner of the program.[469]

As regards the character of the author upon that program, that depends on the role of both the programmer and the person who has gained the program for his/her benefit. For example, if the commissioner has made a significant contribution greater than the author through providing the programmer with information which is part of the CP, that program would be a joint work between the author and the commissioner. On the other hand, if the commissioner has not had any role in creating that program, the programmer would gain the character of the author even though he/she got a fee for creating that program.

3.4.2.3. An Assignee

CPs are assignable. The CDPA 1988 stipulates that the owner of the copyright can assign, partially or completely, his right to others provided that the agreement is written, and signed by or on behalf of the assignor (the owner).[470]However, there is a divergence in relation to moral rights: with certain legislations such as German and French laws[471] an author cannot

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[468] S 864 and et seq, ECC, s (646)., JCC 1976, s780

[469] This conclusion has been indicated by the decision of the Supreme Court of Appeal, Republic of South Africa. It has stated that '..the state is not the owner of the copyright by virtue of the provisions of s.5(2) because the works had not been made "by or under the direction or control of the state"..' see *King v The South African Weather Service* [2008] F.S.R. 6

[470] S 90 (2), ARA 1971 , s 8(6)

[471] Rupert Sprawson, 'Moral rights in the 21st century: a case for bankruptcy?', (2006) ELR17(2), 58-64, at Para: Authors' rights regimes v the Anglo-American tradition

assign his/her moral right. However, the BC has enabling provisions relating to possible presumptions of assignment or assignment of author's right in a work.[472]

The ARA1971 requires assignments or licences to be in writing to be valid, and to specify separately each of the rights subject to exploitation. To avoid uncertainty, the legislature further required any instrument containing a licence or assignment to clearly define the field of exploitation, purpose, geographical scope and duration of the licensed or assigned right or rights.[473]

Accordingly, the assignee can become the owner of the program if the assignment is in writing and signed by or on behalf of the assignor. It has been held that "sufficient writing be provided by an invoice or receipt".[474] However, an assignment does not need to be registered to be valid. However, if it was not written the assignment would not be valid as writing is a fundamental condition. The contract between the assignee and assignor would govern the transfer of the personal right of copyright.

3.4.3. CP created by more than one contributor (partners)

3.4.3.1. Collective CPs

A collective work is defined, in general, as a work in the creation of which more than one author has participated under the direction of a natural or legal person who publishes it under his name and supervision, in which the personal contributions of various authors are merged in the overall work, without it being possible to identify and separate each author's contribution in the work created.[475]

There is no requirement that the programmer must have intended to create a work of joint authorship. The answer is simply that the programmers collaborated and created a CP in which their contributions are not separate.[476]

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[472] Art 14*bis*

[473] S 38, EIPRA, s 149(3). See Makeen (n456)574

[474] *Savoury v.World of Golf* [1914] 2 Ch 566. This case was indicated by Bentley &Sherman (n194) 263

[475] ARA 1971, s 27, EIPRA 2002, s 138 (4), JARA 1992, s35(c)

[476] *Hodgens v Beckingham* [2003] EWCA Civ 143 [10]

Accordingly, a CP is considered a collective work when a program has been produced by the collaboration of two or more programmers in which the contribution of each programmer is not distinct from that of other programmer or programmers.[477]

To achieve that, a number of programmers participate in creating a CP. The joint programmer must have made a significant contribution in terms of the skill and judgment required to endow copyright on the subject matter.[478] In addition, a person, whether natural or legal, must be capable of issuing his/her order to those participants, it must not be possible to separate their effort and their program must be a result of their efforts.[479]

As a general rule, unless otherwise agreed in writing, a collective work is the common property of all contributors. In the absence of a contractual agreement to identify the share of each contributor, the percentage of ownership is settled by the court. Therefore, joint programmers may only exercise their rights by common accord.[480]

The program will be owned by the joint programmers, unless the programmers are employees acting in the course of employment, in which care the employer automatically becomes the first owner of copyright in the CP.[481]

3.4.3.2. Collaboration CPs

Generally speaking, a collaborative work is defined as a work that does not fall within the meaning of a collective work and in the creation of which more than one person has participated, irrespective of whether their contribution can be separated.[482] The programmers are not subject to the orders of a specific person whether natural or legal.

If more than one person contributed to making a single work, such that the share contributed by each of them cannot be separated, they shall all be considered owners of the work with

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[477] CDPA 1988, s 10(1)

[478] *Fylde Microsystems Ltd v Key Radio Systems Ltd* [1998] FSR 449

[479] Albatania (n279)86

[480] CDPA 1988 , s10. See also: EIPRA 2002, s 174. ARA 1971 has not referred to this case but ICC stipulates that all have the same share in the thing

[481] (subject to other provisions relating to Crown copyright, Parliamentary copyright ,etc., see Bainbridge (n194) 90 & footnote 42

[482] ARA 1971, s 26. See *inter alia* Charles R Macedo, 'Joint authorship of doo-wop song found based on disputed 10 per cent contribution to lyrics.*', (2009) JIPL&P, 4(12), 864-866

each having equal shares unless the contrary was agreed upon. None of them shall, in this case, exercise the copyrights with respect to the work without the consent the other authors.[483]

Accordingly, Laddie J held in *Fylde Microsystems Ltd v Key Radio Systems Ltd* that 'in relation to authorship, it seems to me that two matters have to be addressed. First it is necessary to determine whether the putative author has contributed the right kind of skill and labour. If he has then it is necessary to decide whether his contribution was big enough. The latter issue in particular is a matter of fact and degree'[484]

On the other hand, the collaboration program can identify the share of each collaborator; in this case each programmer would be capable of utilising his part unless this action causes damage to the other collaborators. For example, in the case of computer games one programmer might specialise in sound and the second in movement and another in coordination of forms. Then each of them has the right to use the copyright in the part to which he contributed to the work, such as assignment, provided that this exploitation of the CP itself does not infringe the rights of all the partners in that program, unless they agreed to something different.[485]

3.4.3.3. Composite programs

Generally speaking, a composite work[486] is defined as a work which stems from pre-existing work provided that its owner must not participate in designing or composing the new work.[487]There are a large number of works stemming from pre-existing works. The most obvious examples are abridgement, translation and the transformation of a novel into a cinematographic work.[488]

A composite program differs from a collective work in that a composite program is created without any participation from the owner of a pre-existing program; it is "a work upon a pre-

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[483] ARA 1971, s 25, EIPR, s 174, JARA 1992, s35 (a)

[484] [1998] FSR 449

[485] ARA 1971, s 26, JARA 1992, s 35 (b). see also See also *Fisher v Brooker and another* [2006] EWHC 3239 (Ch) [94]

[486] The copyright system of the English –speaking world the term " derivative works", U.S.C 1976 s 101

[487] Norrie Abd Khader N, 'Overview in the Law of Jordanian Author's Right.*',* (1997) Twelfth Edition Moata for Studies &Research. 385.

[488] Makeen (n456) 578

existing work".[489] Whereas if the owner of a pre-existing program participated in designing and creating the new program (composite), it would be deemed to be a collaboration program if a programmer created a CP depending on a pre-existing program which has previously been designed by the same programmer. Thus, one programmer makes two programs. This can give rise to two options: the first one is that if the owner of the program was not the programmer (an employee for example) and he/she assigned his/her right to another person in this case the owner of that program would be the employer. Therefore, it is illegal to create the same program without licence from the original owner otherwise it could infringe the right of the owner unless otherwise agreed.

The second option is that, if the programmer of the pre-existing program did not assign his/her rights upon that CP to another person, there is doubt as to whether the programmer would be the owner of that CP.

In case of the differences of the authorship, there are three possibilities to identify the owner of the program: Firstly, if the pre-existing program has contained components and ideas more than the new program inspired, which means that no skills were added to the first program, the new program would belong to the owner of pre-existing program

Secondly, if the new program required effort and skills to add more quality to the pre-existing program and replace the previous program, this could give rise to rights upon the new program for the owner of that program.

Finally, if contributions were equal the rights between the owner of a pre-existing program and the owner of new program, this program is joint. However, in order, legally, to insert any pre-existing program or its elements into another program to create a new program, there must be a licence from the owner of the original program; otherwise this causes infringement to the right of the owner of the pre-existing program, except where the new program has been modified through translation or modification[490]of the original program if that is necessarily to the new programmer such as observing, studying and testing of CPs.[491]

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[489] ibid 579

[490] ARA 1971, s 4

[491] CDPA 1988, s 50BA

3.5. Infringement of copyright in CPs

3.5.1. Introduction

As explained earlier the owner of a CP has many rights on his/her CP. These rights are exclusively right holders'. Accordingly, others have no rights to perform acts reserved for the owner without his/her authorisation.[492] If someone has exercised the exclusive rights of the owner without his/her authorisation, he/she would have infringed those rights. Therefore, copyright is infringed by a person performing an act restricted by the copyright, copying or adaptation, whether directly or indirectly, in relation to the whole or a substantial part of a CP without the authorisation of the owner of that program.[493] For example, copying in relation to a CP means reproduction of that program in any material form; including storing the program in any medium by electronic means.[494] Adaptation includes translation which mixes a version of the program converted into or out of a computer language or code or into a different computer language or code.[495]

Accordingly, it is becoming increasingly difficult to ignore the influence of cases of infringement of copyright in CPs. There are two kinds of infringement of copyright in CPs: (literal infringement) or non –textual copying (non-literal infringement). At the same time infringement could be made of the whole or part of the elements of a CP. These infringements are called 'primary infringements'. In addition, there are 'secondary infringements'. The significant distinction between these kinds of infringements is that those in the former category can be liable for infringing copyright whether or not they realise they are doing so, whereas those in the latter category are only liable if they know, or have reason to believe, that they are committing an act of secondary infringement. Accordingly, these two kinds of infringements[496]would be investigated.

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[492] *Microsoft Corporation v Computer Future Distribution Limited* [1998] UKHL [40]

[493] Bainbridge (n69)74. See also CDPA 1988 , s 16

[494] CDPA 1988, s 17(2)

[495] Grewal (n69) 2

[496] For a critical analysis of infringement of copyright see *inter alia;*Bainbridge (n194) 169, chapter 6; Bainbridge (n69) chapter 3; Bainbridge (n 300)chapter 15, Hector Macqueen ,Charlotte Waelde & Greame Laurie, *Contemporary Intellectual Property* (2nd edn,OUP 2010)Part II, chapter four; Hugh Laddie, Peter Prescott & Mary Vitoria., *The modern law of copyright and designs* (3rd edn, Butterworths, 2011) chapter 14-19; Bentley & Sherman (n194) chapter 8; William Cornish & David Llewelyn , *Intellectual property : Patents,*

3.5.2. Primary infringement

3.5.2.1. Literal infringement

Literal copying occurs where a person duplicates an existing CP by disk to disk copying (a duplicate is made on to another computer disk) , or by writing out or printing that program listing, perhaps to key it into another computer at a later date. Accordingly, identical copies of CPs made without the licence of the owner of a CP are rather easy to deal with in terms of the law, both civil and criminal. Therefore, piracy of CPs usually enters into this category of copyright infringement, "as does making copies of the CPs by an authorisation in excess of the number permitted by the licence agreement."[497]

It could be said that the copyright infringement of a CP, usually referred to 'piracy', refers to several practices which involve the unauthorised copying (reproduction), loading or distribution of CPs. [498]

Accordingly, "piracy can be as simple as unknowingly copying or allowing someone to copy software from one PC to another, or it can mean organised criminals with a well-established network selling pirated software to knowing and unknowing customers"[499]

There are three factors to determine an infringement of a copyright: proof of the subsistence of the claimant's copyright, whether the infringer copied from the original program (this can be proved by seizing the goods from the premises of the defendant. This assists in the evaluation of damages caused to the claimant but also provides a substantive piece of evidence to prove infringement), [500] and whether the two copies are identical as a whole or in

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Copyright, Trademarks & Allied rights(6th edn, Sweet & Maxwell 2007) chapter 11.1-2, 11.5; Lloyd (n194) chapter 17

[497] Bainbridge (n 399) 29. Albatania (n279) 66. Colston &Galloway (n200) 322. See also Patricia Akester, 'The new challenges of striking the right balance between copyright protection and access to knowledge, information and culture', (2010) EIPR ,section :ii/b

[498] The term of infringement was defined by TRIPs Agreement in the scope of infringement of patent, see Art 34. BC referred to infringement without defining it , Art 15

[499]According to the Confederation of Indian Industry (CII), see: Munish Mehra, *'Software cases and the grant of damages in India',* (2009)CTLR, 15(6), 131-133, at 131

[500] ibid 132

a part? If they are partially identical, to what extent has that part been taken by the infringer from a substantial part of the original program?[501]

For example, the Court of Appeal has stated that 'If a claimant sought to rely on an abstract of a literary work as being that which (or a substantial part of which) was copied in infringement of copyright, it was right to require the claimant first to justify the proposed abstraction by reference to the work as a whole and then to show that the abstraction or a substantial part of it had been copied. It had not been open to the claimants to devise a summary which was not fairly drawn from the work as a whole but was conditioned by reference to what was said to have been copied by the defendant'[502]

Finally, it can strengthen the evidence in proof of criminal intention in the prosecution of a suspect for piracy. This element should be submitted by the claimant which is related to the intention of doing the act of infringement. In other words, it is not enough to prove these proofs without referring to the element of intention in the criminal law. For example, if 'A' downloaded a program from a website on the Internet and this program was free for all people without any permission 'A' would not be liable for copying that program because no criminal action issued from A. This case has been mentioned within Jordanian case law.[503]

But how does one prove infringement of CPs under Iraqi law? The ARA 1971 has not referred to the measures which prove infringement of works in general and CPs in particular. However, this infringement could be proven through three conditions. Firstly, there is a rule which criminalises the act of infringement. The ARA 1971 considers that any act of piracy can infringe criminal law. This would lead to compensate the claimant for the damages he suffers from the infringements of copyright.[504] The second condition can be through proving

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[501] *IBCOS Computers Ltd v Barclays Mercantile Highland Finance Ltd* [1994] 275 F.S.R. See *inter alia* Laurence Diver , 'Would the current ambiguities within the legal protection of software be solved by the creation of a sui generis property right for computer programs?', (2008) JIPL&P, 3(2), 125-138 . Susanna H.S. Leong & Cheng Lim Saw, 'Copyright Infringement in a Borderless World – Does Territoriality Matter? Society of Composers, Authors and Music Publishers of Canada v Canadian Association of Internet Providers [2004] 2 SCR 427 ', (2007) IJL& IT, 15(1), 38-53, at 48

[502] See *Baigent v Random House Group Ltd* [2007] EWCA Civ 247

[503] *Albishir Firm for Computer Engineering v Alnasar Firm* [2007] Case law from Jordan, court of first instance Para 3

[504] The ARA 1971, s 45

the infringement itself: copying and the exploitation of that infringement for the benefit the infringer,[505] and finally, proving the intention of the act of infringement.[506]

3.5.2.2. Non-literal infringement (partial and altered)

This kind of infringement occurs where there is no duplication the work, but adopting the structure and subroutines familiar to the protected work.[507] Therefore, it is where a program copies the functions of or otherwise emulates another program without copying the text of the source or object code.[508]

ECL applied the standard of quality through *the test of substantiality* which has long been accepted as being a question of quality not quantity[509]. Thus, a small but important part may be substantial. The correct approach was to consider the function of copyright being to protect the author's 'skill and labour' expended on the creation of the work. A part of a CP is substantial, as with any other original works of copyright, if it "represents a substantial part of that skill and labour"[510].

The issue of non-literal infringement was considered by the English courts in *John Richardson Computers Ltd v Flanders and Another*.[511]In this case, the claimant alleged that "the defendant had taken the general scheme of its program, including idiosyncratic details of certain routines". The defendant argued that "no substantial part of the plaintiff's program had been reproduced which required that either part of the text of the source or object code or part of the structure and organisation had to be taken" The court accepted at the outset that this was not a case where substantial parts of the source code were copied.

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[505] The ARA 1971 ,s 45(1) .Albishir Firm for Computer Engineering (365) [2]

[506] Albishir Firm (n503) para 3

[507] See *inter alia*: Daniel J.M. Attridge, 'Copyright Protection for Computer Programs*'*, (2000) EIPR, 22(12), 563-570 .Rod Dixon, 'When efforts to conceal may actually reveal' (2000) 3 CS&TLR, 116(Jul), 474-503. Diver (n501)5

[508] Grewal (n69) 2

[509]- Ladbroke (Football) Ltd (n12)293

 -*Hawkes & Sons (London) Ltd.V. paramount Film Service Ltd* (1934) Ch. 593

 -*Spectra Quest Inc. V. Aperknit Ltd*. (1988) FSR 161. *Michael Baigent, Richard Leigh v The Random House Group Limited* [2006] EWHC 719 Ch [2]

[510] *Cantor Fitzgerald International V. Tradition* (UK) Ltd. The Times (2000) RPC 95. *Nova Productions Ltd* (n211). *Hyperion Records Limited v Sawkins* [2005] EWCA Civ 565 [14]

[511][1993] F.S.R. 497 [11]. See aslo, *Navitaire Inc v Easyjet Airline Co, Bulletproof Technologies Inc* [2004] EWHC 1725 Ch [73]. *SAS Institute Inc*(n229) 15 (Ch D)

The main issue in this case was whether a screen display was a product of a program or the program itself. The court stated that a screen display was a product of program because it may be produced from different programs and that was not itself a literary work which was entitled to copyright protection but it might be an artistic work. The defendant neither had access to the source code of plaintiff's program nor did he use the claimant's program in developing his own program but he did have a 'deep knowledge' of the claimant's program and he would have remembered all the main routines of the claimant's program. By comparing the two CPs in operation, the court found many similarities in the functions of the two programs. It found, however, no evidence of deliberate copying. The court then went on to consider the possibility that the defendant may have 'unconsciously or unintentionally made use of that knowledge in a way that amounts to copying in the context of breach of copyright'.[512] The case was in essence decided on a comparison of the two programs in operation. It can thus be considered as a look and feel[513] type case rather than a structure, sequence and organisation type case.[514]

The court also found some similarities between the programs. Some of them were not considered indicative of copying because they were not original to the claimant or were no more than ideas. The others did not amount to a substantial part of the claimant's program. Only two functions were found to be copies which represented a substantial part of the claimant's program.[515]

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[512] Grewal (n69) 3

[513] "This is where a rival software manufacturer endeavours to emulate a particular software by making its own software look and operate in the same manner. A programmer can take the substance of a program and express it in another language to produce a program which has completely different code but which nevertheless has the same external appearance and the same user interface, and behaves the same way as the original. Such a program will not be a literal copy of the original". See Grewal (n69) 3

[514] "This is where a programmer responsible for developing a particular program for either an employer or a particular organisation then develops a similar program for a rival employer or organisation to compete with the program he had developed earlier. In such cases the programmer knows the structure, sequence and organisation of the program he developed originally and can use this knowledge to develop a program which uses a different computer language and generates different codes, but which has the same internal structure and works in the same manner. Such a program will not be a literal copy of the original". ibid 3.

[515] Grewal (n69) 6 et seq

The most important deficiency lies in the fact that the court did rely on comparing the functions of the programs. It also merely examined what the programs did without comparing the underlying program itself. It could be said that the court, practically, "was offering copyright protection to functions, which are clearly outside the scope of copyright".[516] Thus the questions arise in this case, why did the court, in terms of effect, offer copyright protection to the functions of the program?

Had the court reached the opposite conclusion what would have been the legal and practical conclusions? And what (if anything) does this tell us regarding the wisdom of equating CPs with literary works?

Ibcos Computers Ltd v Barclays Mercantile Highland Finance Ltd and Others[517] concerned a program that had been written originally by P and sold to C. The program was then modified by P as a result of input from C over a period of two years. This program, known as ADS, was jointly marketed by P and C through a company called PK Ltd set up for the purpose. The program was continually developed by P and other programmers employed by PK Ltd with input from C. On leaving PK Ltd P then developed another program called Unicorn to compete with ADS.

The court stated that under English law copyright can be infringed by taken functional things, provided that the idea is sufficiently detailed. "Where an 'idea' is sufficiently general, then even if an original work embodies it, the mere taking of the idea will not infringe. But if the 'idea' is detailed, then there may be infringement. It is a question of degree. The same applies whether the work is functional or not and whether visual or literary"[518]. Thus, copyright cannot prevent the copying of a mere general idea but can protect the copying of a detailed idea.

It could be said that the court relied upon an examination of the programs themselves through investigation into the source code for both programs in detail and found an inference of copying arising from the presence of common spelling mistakes, identical comment headings, file records and redundant and unexplained code in both programs. Having established that copying had taken place, the court then considered whether what had been copied was a

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[516] Kai Tumbraegel & Roux de Villiers, Copyright protection for the non-literal elements of a computer program(2004) C&TLR, 10(2), 34-42

[517] [1994] FSR 275 [289],[302] (Jacob J)

[518] The case, the part of "originality"

substantial part. It was noted that in computer program cases the court cannot so readily assess the question of substantial part unaided by expert evidence.[519]

It could be noticed that the test to assess whether a substantial part had been copied was stated as: "it is a question of degree where a good guide is the notion of over borrowing of the skill, labour and judgement which went into the copyright work. The court agreed with the judge in *John Richardson* that, when assessing similarity, consideration should not be restricted to text of the code: Most literary copyright works involve both literal matter (the exact words of a novel or computer program) and varying levels of abstraction (plot, more or less detailed of a novel, general structure of a computer program). I therefore think it right to have regard in this case not only to 'literal similarities' but also to 'program structure' and 'design features'".[520]

The court noted similarities in design features of the programs, namely, functions such as levels of security, but concluded that: "We are here at a level of generality where there is little of the programmers' skill, labour and judgement. Even if the set [of functions] were copyright, the mere taking of those functions would not be an infringement - it would be the taking of a mere general idea or scheme".[521]

The court also found similarities in program structure, namely, individual programs which closely corresponded. The conclusion was that the defendant had taken short cuts in creating his program by starting with the existing program and making considerable additions and modifications. Accordingly, the court decided infringement of copyright had taken place.[522]

It could be concluded that the substantial test is the principle of deciding whether there is infringement or not. This principle could be applied in the field of Iraqi jurisprudence. The situation in Iraq, whether practically or legally, is devoid of tackling infringement of CPs especially in the case of non-literal infringement. It is suggested that this principle of 'substantial test' be incorporated into the Iraqi jurisprudence through the principle of harmonisation as we will see that in chapter 5.

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[519] The case , the part of "Substantial part": general considerations

[520] Jacob J [303]

[521] Para: ""Substantial part": program structure"" of the case

[522] The case, the part of "Substantial part": general considerations and see also Grewal (n69)8

3.5.3. Secondary infringement.

This type of infringement occurs when any person deals, in commercial life, with infringing copies or the means to make such copies or facilitating infringement by transmission and circumvention of protection measures.[523]

3.5.3.1. Dealing in infringing copies.

The first type of secondary infringement is the case of dealing in infringing copies. Accordingly, infringement of copyright work could take place when a person imports articles into the UK without permission from the owner of the work to use them for not only his own private and domestic use but also for commercial dealing provided that he/she knows or has reason to believe these articles are infringing copies of the work.[524]

Thus, infringement of copyright of a CP could occur where a person , without the consent of the copyright owner, possesses in the course of a business, or sells or lets for hire, or offers or exposes for sale or hire, or in the course of a business exhibits in public or distributes other than in the course of a business to such an extent as to affect prejudicially the owner of the copyright, an article which is , and which he knows or has reason to believe is, an infringing copy of the work.[525]

3.5.3.2. Providing articles for making infringing copies.

This occurs when a person makes, commercially deals with, or imports into the UK , an article specifically designed or adapted for making copies of a program, knowing or having reason to believe that it is to be used to make infringing copies[526].

The question arises, how can we know this is an article for making infringing copy of a CP? To be such an article, it must have been specifically designed or adapted to make copies of a particular CP owned by a particular person, and not only for making copies of CPs in general.[527]

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[523]Dworkin (n199) 67. Macqueen H & others (n496)156. see *inter alia* Gerald Spindler &Matthias Leistner , *'Secondary copyright infringement - new perspectives in Germany and Europe'*, (2006) IRIPCL 37(7), 788-822, at 800 seq

[524] CDPA 1988, s 22, ARA 1971, s 8(5)

[525] CDPA 1988, s 23, ARA 1971 has not referred to this case.

[526] CDPA 1988, s 24, ARA 1971 , s 8(3)

[527]Chris Reed &John Angel (n292) 361

3.5.3.3. Facilitating infringement by transmission

This case occurs where a copy of a CP is hired and copied by the renter, or where a program is made available by transmission over a telecommunication system. Theoretically there may be a cause of action against each recipient who stores, and thus copies, the CP on reception. Therefore, copyright in any work including a CP is infringed by a person who without licence of the copyright owner transmits that program by means of a telecommunications system, knowing or having reason to believe that infringing copies of that program will be made by means of the reception of the transmission in the UK or elsewhere.[528]

3.5.3.4. Circumvention of protection measures

Owners of CPs use technical devices in order to prevent the unauthorised copying of their programs. For example, the best method for preventing modifications to copyright a CP is to encrypt it.[529] Accordingly, encryption is a technological method used to protect information which created a CP from others.

Technical devices applied to CPs are defined as 'any device intended to prevent or restrict acts that are not authorised by the copyright owner of that computer program and are restricted by copyright'.[530]

When such a device has been applied to a CP, the right holders have the same rights as the copyright owner has in relation to copyright infringement. These rights are given if someone "knowing, or having reason to believe, that it will be used to make infringing copies"[531] either "manufactures for sale or hire, imports, distributes, sells, or lets for hire, offers or exposes for sale or hire, advertises for sale or hire, or has in his or her possession for commercial purpose any medium, the sole intended purpose of which is to facilitate the

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[528] CDPA 1988, s 24(2), ARA 1971, s 8(6). Torremans (n194) 245

[529] Patricia Akester , 'Authorship and Authenticity in Cyberspace', (2000) CL&SR, 20(6), 436-444. Ayan Roy Chowdhury, 'The future of copyright in India', (2008)JIPL&P, 3(2), 102-114

[530] CDPA 1988, s 296 (6). There is no section in the ARA 1971 can parallel this definition. The WCT referred to this case in Art 11 "Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law

[531] CDPA 1988, s 296 (1,b)

unauthorised removal or circumvention of the technical device"[532] , or if such a person "publishes information that is intended to enable or assist persons to remove or circumvent the technical device".[533]

Finally, the identities of the persons having the right to bring an action are: (a) a person issuing to the public copies of, or communicating to the public, the CPs to which the technical device has been applied; (b) the copyright owner or his exclusive licensee, if he is not the person specified in (a); (c) the owner or exclusive licensee of any intellectual property right in the technical device applied to the CP. [534]

To recap this section, there are two important kinds of infringement of copyright in CPs, literal and non-literal. This act causes liability to the infringer who must then compensate the right holder to make up for losing the expected profit from using the program of the right holders. These issues are discussed in the next section.

3.6. Legal liability for infringements of CP copyright

3.6.1. Introduction

A minimum prerequisite for all claims is the unlawful violation of a right protected by copyright or author's right. This contains the exploitation rights in the program allocated to the right holder who has the right to stop the infringing party from any unlawful reproductions, e.g.by injunction, and to remove the unlawful reproductions.[535]

The question then becomes, what are the consequences resulting from the infringements of CP copyright? The consequence would be "the liability". It could be said that there are two liabilities, civil liability and criminal liability. This study investigates by analysing the remedies for those infringements. However, criminal liability is outside the scope of this research because the writer established his research on the ways which provide protection to

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[532] ibid 296 (1,b/i)

[533] CDPA 1988, s 296 (1,b/ii). Lucy Cradduck & Adrian McCullough, 'Designing Copyright TPM: A mutant Digital Copyright.' (2005) 13 IJLIT 159

[534] CDPA 1988, s 296 (2). Art 11 of WCT

[535] ARA 1971, s 46/2 " The Court may also order the forfeiture and destruction of all infringing copies or sound recordings and all implements, devices or equipment used in the manufacture of such infringing copies or sound recordings." Also see; section 97 paragraph 1 and section 16 paragraph 1 of the Germany Copyright Act, . Klaus Sommerlad, 'Intellectual property protection for software in Germany', C.T.L &R., 3(1), 12-18

the right holder in the scope of civil law. In addition, criminal liability merits its own separate research.

Accordingly, this section is divided into two parts. Firstly, it seeks to identify the fundamental issues which govern the provisions of civil liability whether under civil or common law, and secondly, the remedies for infringement.

So this section will seek to determine; (a) whether or not the legal liability is capable of protecting the right holder of copyright in a CP. (b) the remedies to cover the damage, resulting from infringements of copyright. Linking back with the research questions which were raised in the introduction, this will help us to understand the ability of copyright or author's right to provide full protection for CPs. Thus, this section suggests a hypothesis that the rules of legal liability could be sufficient to prevent infringement of CPs.

3.6.2. Civil liability

3.6.2.1. Introduction

There is no doubt that civil liability provides the source of the general rules and provisions that remedy damage and compensate persons for that damage. For example, a person who supplies a service in the course of a business impliedly undertakes to "carry out the service with reasonable care and skill".[536] Such liability is clearly based on fault. This sort of liability is called 'contractual liability'. On the other hand, if a fault issued not from the contractual relationship any liability would be tortious, as for example negligence is.

Civil liability could provide protection for the right holders of the programs because, as we know, [537] a CP has been deemed a movable thing and the owner has copyright personal right and two types of qualities of property right, ownership and possession. Therefore, the owner of the program can protect his/ her program according to the provisions of civil liability, and to do so, the claimant must prove fault and damage and the causation between the fault and that damage.[538]

3.6.2.2. The contractual liability

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[536] Supply of Goods and Services Act 1982, s. 13

[537] See chapter 2/ section 2.3.2

[538] ICC, ss168 &176

The doctrine of freedom of contract is one of the cornerstones of civil law[539] and of common law. The parties to any contract should be able to identify the terms, whether expressly or impliedly, under which they wish to do business, the task of the law and the courts being to give effect to their agreement[540] which only the parties to the contract can enforce.[541] This principle has been adopted by ICC.[542] If someone breaches the terms of the contract, this act will create a contractual liability. Accordingly a contract which applies to CPs could provide protection for those programs.[543]

Generally speaking, we could not deny the role of contractual liability to clear up the mess caused by the breach of the contract through copyright infringement by the other party to the contract. In the main, the law achieved this by ordering compensatory payment (damages) to be made to aggrieved parties.[544] Therefore, this liability could provide safety for the creators of the programs. For example, if a contract stipulated that the employee in a company is not authorised to create a similar program in the future in case he leaves the company, the employee would breach this contract if he/she made a similar program without any licence from his/her employer.

The aim of contractual liability is to preserve and protect the programs from the danger of illegal exploitation and use, or the danger of copying. Usually express terms will determine the content of the obligations. These terms could be either wide or narrow.[545]

CPs which have been made available to the public, for example by licence, are only usually distributed in object code form. The source code for a CP is sometimes regarded as a significant part in that program and it would be kept secret by its right holders.[546] Remedies such as an injunction preventing unauthorised use of the source code and/or its future disclosure would be awarded.[547]

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[539] JCLA1976, s 22

[540] G.H.Treitel G, *The Law of Contract* (11th edn, Thomson -Sweet & Maxwell- 2009) 191 -215 .

[541] Subject now to the Contracts (Rights of Third Parties) Act 1999, s 1. Also, see Edward (n101)6

[542] ICC, s 168 " should the debtor cannot carry out his obligation in the contract, he must compensate the other parties in that contract"

[543] The contractual terms (CTs) will be studied in the next chapter

[544] Lind Mulcahy, *Contract Law in Perspective* (5th edn, Routledge.Cavendish 2008)196

[545] Al-Sadam (n162) 114

[546] See section 4 (TS and CPs) of chapter 4

[547] The ARA 1971, s 46. The CDPA 1988, s 96. See *inter alia* Bainbridge (n69) 321

Strictly speaking, confidentiality and CPs, there are two types of terms in the contract: the obligation of confidentiality and the obligation to respect the purpose of using the program which has been determined by the parties of contract.

3.6.2.2.1. The obligation of confidentiality

The content of this term encompasses two types of obligations which must be implemented by the parties. The first obligation is a duty of confidentiality and the second term is non - competition i.e. non exploitation of the program.

First: The duty of confidentiality

This term could be imposed expressly or impliedly; for example, from the relationship between an employer and his/her employee. This term would usually be less extensive after the end of the employment even though an ex-employee could be subject to an agreement in restraint of trade which can apply for a limited period of time.[548]Thus, the ex-employee is "bound by the duty of confidence as the source or confident who leaked the document".[549]

This term is usually used in contracts made by companies making CPs such as the Microsoft Company. The reason behind this is to protect their products from piracy which often involves their employees.[550]

In addition, source code, which is an extremely important part of a CP, must be protected by the imposition of a duty of confidentiality because the developers of CPs are reluctant to others seeing and knowing the source code version of the development program. However, the confidentiality of source code is not an absolute rule because lawful users, usually licensees, of CPs expressed in a low level programming language (object code) are allowed to convert them into a higher level language (source code) to enable them to write a new program that will operate with that or another program.[551]

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[548]Bainbridge (n69) 326. Arnold R, 'The Protection of confidential information in the Human Rights era: two aspects', (2007) JIPL&P, 2(9), 599-608 . *Price Waterhouse v BCCI Holdings (Luxembourg)* [1992] BCLC 583, 601

[549] *The Commissioner of Police of the Metropolis, The Serious Organised Crime Agency v Times Newspapers Ltd, Michael Gillard* [2011] EWHC 2705 (QB) [95]

[550] Mohammed Lotfy , *The Legal Protection of Software,* (Cario: Dar Al-Thaqafh, 1987)38

[551] Such as 'decompilation' CDPA 1988, s 50A. See Bainbridge (n69) 327

Second: Non -exploitation of the program

This obligation is imposed on any person, with information of the program and its content, to prevent exploitation or use of it for his personal benefit or for another purpose contrary to what the parties agreed in their contract. A common example of this occurs in employment contracts.[552]

Accordingly, if a contracting party breached his /her obligations, he /she would be liable to pay compensation to the other parties to the contract for the damage which resulted from the breach. Thus, an employer is not bound to prove the breach since his employee would be liable once the employee discloses information of a program. For example, if the employee disclosed the structure of a program which has been made by that employee, then this employee would be responsible because of that disclosure. On the other hand, the employer is not bound to prove the employee's fault.[553]

3.6.2.2. 2. The obligation to respect the purpose of using the program which has been determined by the parties to a contract

According to this obligation, the user of a program must respect the rules of a contract literally through lack of exploitation of the program for personal benefit which can give rise to harm to the programmer. For example, the CDPA 1988 has allowed the user several exceptions to the right of the programmer provided that these exceptions are necessary for the user such as backup copies, decompilation or studying and so forth.[554] It could be said that these exceptions are necessary for the benefit of the user. Therefore, the intellectual content of the program remains with his/her creator and the right of the user is to use that program as a user, not as an owner or a programmer. Also, the user has a right to use and benefit from the program without making any personal benefit from that program but any personal benefit such as a sale or adaptation without licence from the owner of the program would be a breach of the contract and infringe the owner's copyright of the CP.[555]

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[552] Al-Sadam (n162) 116. See *inter alia,* Hassan Adnoun , *Civil Responsibilty – Damage-*(Baghdad: Times Company Ltd 1991) 82

[553] *East Dunbartonshire Council v Bett Homes Limited (formerly Gladedale (Northern Division) Limited)* [2012] CSIH 1 24

[554] CDPA 1988, s 50ABC

[555] Abd Arazaq Saad , *Legal system of informatics* (1st edn, Cairo: Dar Al-Nhda Al-Arabia, 1995)192. See *inter alia* Al-Sadam (n162) 114

One may ask to what extent contractual liability is capable of protecting the rights of the owners of CPs. One may argue that a contractual liability provides a limited protection for CPs as the contract only governs the parties to the contract and there is no control on others who are not parties to the contract. This could be a purpose of the contract so that the owner of a CP could require the payment of a fee by anyone who wishes to use that CP as a starting point for another program.

3.6.2.3. Non- contractual liability

The basic distinction between contractual liability and non-contractual liability is that the first liability depends on the contractual relationship between its parties, whereas the second liability does not. For example, if someone imitated a CP, this act would infringe the copyright of the programmer of that program. It could result in further labiality such as vicarious liability.[556]

The question should be asked, to what extent the non-contractual liability could be conceptually capable of providing a suitable and sufficient protection for the right holder of the program, and how far in practice it succeeds in doing so. First of all, linking back with the aim and the goal of thesis, the ultimate target is to protect the right holder of a CP .Therefore, it could be believed that this liability could be capable of providing protection to that owner. However, it is not easy to examine this liability deeply as it is not our area which is in the scope of IP. The main target is to investigate the capability of this protection without studying the main principles of this liability.

There are two types of liability; strict liability and fault liability. The first one means that, the defendant will be liable for the damages which could occur by his/her commission or omission even though he/she commits no fault.[557] Nevertheless, this does not mean that

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[556] It means "liability which falls on one person because of the behaviour of another person …it is the liability of someone for the act(s) or omission(s) of someone else". See: John Hodgson & John Lewthwaite, *Tort Law* (OUP2007)369. Also, Connie Powell , 'Saga Continues: Secondary Liability for Copyright Infringement Theory, Practice and Predictions*'*, (2009) 3AIPJ 191-196.

[557] This liability was indicated by JCLA 1976, s 256 . It states that every injurious act shall render the person who commits it liable for damages even if he is a non- discerning person. In addition, the Court of Cassation in Jordan decided in its decision regarding the legal nature of protection of this liability: The JARA 1992 is a private law, and should be applicable as stated by the Court of Cassation in Jordan (Decision of the Jordanian Court of Cassation No.2797/99 for the year 2000), see Ramzi Madi, 'Effective technological measures in Jordanian copyright protection law*'*, (2010) ELR, 21(7), 263-269, at 266. On the other hand, This kind of

causation will be assumed. Accordingly, it would still be necessary to set up the causal link between the act or omission and the damage caused there from.[558]

On the other hand, fault liability (negligence) involves a fault on the defendant's side, or more precisely, there must be a duty of care owed by the defendant towards the claimant, where the defendant has breached this duty. [559]Such difference has a significant effect in CPs damage cases because proving fault in these cases can complicate the claimant's task.[560] The important line between those liabilities is that with strict liability, the owner of the CP does not have to prove the act of infringement, only prove the elements of the damage which results from that infringement. Whereas in fault liability, the right holder must prove the elements of fault, namely the act of infringement, as well as the relationship between that infringement and the damage. Accordingly, the strict liability makes the proof of the infringement easier than the fault liability.

The question arises which one of the two liabilities is suitable for protecting CPs or do we need a special liability rule to deal with the protection of CPs?

In order to establish liability under non contractual law, a basic minimum requirement is the existence of the element of negligence (fault) to establish that the defender was negligent. The basis for this may lie in act or omission.[561]

In the writer's view, the above question is not easily answered by looking only to the nature of the damage which results from illegal exploitation or use of CPs because the nature of that damage may not be different from other types of damages. For example, if the infringer of a CP copyright caused economic damage to the right holder's CP, this would be sufficient to

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liability has been applied by The Consumer Product Act 1987 which has created a new strict liability for certain classes of damages caused by defective products. See Edward (n101)17, and Hodgson J & Lewthwaite J (n556) 296

[558] Bienemann C,'Civil Liability for environmental pollution , Different regimes and different perspectives' thesis. (PhD thesis, University of Aberdeen,1996) 59

[559] ICC has referred to the fault liability under the title: illegal act (ss 186-232). Under English law, negligence is a form of 'interference with goods' for the purpose of the Torts (Interference with Goods Act 1977) s.1/c (negligence so far at it results in damage to goods or to an interest in goods) . For more details in English Tort law see Hodgson J & Lewthwaite J (n556)1-33

[560]Abdelnaser Zeyad Hayajneh, 'Civil Liability For Environmental Damages : A comparative Study between Jordanian and English Legal Systems' (PhD thesis, University of Newcastle Upon Tyne, 2004) 40

[561] Lloyd (n194) 207

prove that the infringer is at fault. However, the peculiarity of damage does not always come from its nature, but from other considerations. In fact, these considerations may be a mixture of economic, social, and practical considerations, as well as fairness. Therefore, the best way to protect the rights holders of copyright of CPs is to consider that any act infringing the rights of the owners could be deemed as negligence (fault) without any need to require the claimant to prove the fault.

The prime example which can be found under Iraqi law is unfair competition which can give rise to the exploitation of CPs to obtain the profit. This occurs when the competitor obtains the program from its owner purely in order to distribute it .These companies must not reveal the program which is under their responsibility. In the meantime, the elements of non-contractual liability would be available against the possessor who obtained that program from the company which contracted with the programmer according to tort liability.[562] Another consequence which results from that act of infringement is the element of damage. The liability springs from that act provided that there is the causal link between that act or omission and the damage therefrom.

3.6.3. Remedies

3.6.3.1. Introduction

Civil remedies are available for infringement of traditional economic copyrights and moral rights too. For the infringement of economic rights in copyright, the usual remedies are damages, injunctions, account of profits, and seizure of infringing material.[563] In the case of infringement of moral rights this would appear to include damages for non-economic loss for the simple fact that moral rights are not economic in nature. In this section, we are going to investigate the capacity of these remedies to block the infringement of copyright of CPs. It is

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[562] The Paris Primary Court (1984) has stated that considering some employees created similar program after finishing their job at the company which had employed those employees. This program is similar the program which had been made in the course of work. The court considered that act is illegal competition. This competition leads to the element of fault which leaded to damage to that company. This case was indicated by : Khaliad Alodat k, 'The Legal Protection of Software in Jordan' (Dissertation ,Al-Hkmeh University 2000)27, and Al-Sadam (n162) 117

[563] CDPA 1988, s 96, ARA 1971, s 44 "Each author whose rights in his work provided in accordance with the provisions of this law are infringed upon, shall be entitled to appropriate compensation. In deciding compensation, the cultural standing of the author, the literary, scientific or artistic value of the work and the extent the infringer benefited by exploiting the work shall be taken into consideration."

useful to recollect that there is a significant point in this research that they are rights in *personam* not rights in *rem* because the right holder cannot demand recovery of his/her CP, but merely compensation without claiming the CP back from the infringer.

Finally, this section will be divided into parts: remedies for infringement of economic right and remedies for infringement of moral rights.

3.6.3.2. Remedies for infringement of economic rights

3.6.3.2.1. Monetary awards (compensation)

Monetary recovery may be represented either by compensation for damages, the amount of which will include profits unjustly received by the infringer, or if the claimant's rights were infringed with a view to gaining profits, compensation in the amount determined by the court.[564]Furthermore, the award should reflect the nature and foreseeable consequences of the infringing acts. Therefore, copyright damages may be assessed as the estimated loss resulting from the infringement. For example, the licence fee or royalties that the copyright owner would have expected to receive had he/she given permission for the acts complained of. Nevertheless, it is for the claimant to show that he/she would have made all the sales made by the infringer.[565]

Under the CDPA 1988, the right holders of copyright would usually request the court to order the payment of damages,[566] which can be expected to be calculated, as with other torts, on the basis of putting the claimant in the position he/she would have been had the tort not been committed, that is to compensate him/her for the actual loss suffered in so far as it is not too remote.[567] It could be said that the measure of calculating the amount of compensation in any case should be considered the actual loss.[568]Thus, the right holders of CPs are able to claim further compensation to cover the damages which results from infringement of copyright in CPs.

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[564] See for this : Andrei Yakovlev, 'Legal protection of computer programs in Russia' (1996)EIPR, 18(5), 292-298, at 293

[565] Bainbridge (n399) 18& 19

[566] Whether the owner who is exclusive licensee or non-exclusive licensee with a right to sue, s 101 (A)

[567] Bainbridge (n194)178

[568] See *Parbulk II A/S v Heritage Maritime Ltd SA* [2011] EWHC 2917 (Comm) [47.4]

Under S. 44 of the ARA 1971 the concerned party may claim solely compensation for the damages caused to him as a result of any of the acts listed in S.8 (1)[569] of this Act. The just compensation shall take into account the author's cultural standing, the value of the literary or scientific or artistic work to the author, the value of the original work in the market, and the extent to which the violator benefited from exploiting the work. The compensation ruled for the author in this case shall be considered a privileged debt, in terms of obtaining payment of the debt by the infringer, on the net sum resulting from the sale of the items used in the violation of his right and the sums seized in the course of the lawsuit.

For these reasons, under Iraqi law, there are three ways to compensate the right holders of copyright CPs, compensation for their losses, including lost profit; compensation in the amount of profits unjustly received by the infringer[570]; or compensation amounting (at the court's discretion) from five million Iraqi dinars (£2250) to ten million Iraqi dinars (£4500) statutory minimum fine per infringement.[571]

Demanding compensation is a prime example of the personal right or right in *personam* which grants such right to the right holders. Accordingly, any act infringing a CP causes damage to the right holders whether they are programmers or lawful user. This damage could be recovered by granting a personal right which is compensation. At the same time this may justify that the right holders have a proprietary right which grants enjoyment in this right for all the right holders to pursue their program if it is infringed upon by an unlawful person. However, the right holder could not recover the infringed program if someone else has adapted the original program because it is not real property, as said in chapter 2.[572] This nature prevents the right holders from claiming it back and this grants special rules for CPs.

3.6.3.2.2. Injunctions and other measures

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[569] S. 8 (1) "The author shall have the right to financially exploit his work in any way he chooses. No other person may exercise this right without his written permission, or the permission of his successors. This right shall include: The right to reproduce his work through all physical means such as photography, cinematography or recording"

[570] ICC,s 207

[571] ARA 1971, s 45

[572] See section 2.3.2.1

The purpose of damages is to compensate a person for the loss that he/she has already suffered by reason of some infringement of his rights that has already occurred. On the other hand, "the purpose of an injunction is to protect a person from some future infringement of his rights which he reasonably apprehends".[573]

According to this remedy, the court can stop an action which is infringing copyright or threatening to infringe it. This action leads to the restoration of the situation which existed prior to the copyright infringement. This could include an interim injunction restraining any further infringement pending a full trial, or until settlement terms can be agreed.[574]

The court has a right to confiscate counterfeit copies of CPs as well as the material and equipment used for their reproduction. Moreover, these copies and equipment will be destroyed, given to the claimant, at his request, in order to compensate him for his losses, or given to the state.[575]

Under English law, the owner of a CP, or a person authorised by him/her, can seize and detain any infringing copy which is found exposed or otherwise available for sale or hire.[576] Therefore, copies of the CPs made, reproduced, distributed, sold, imported or otherwise used or designed for use in violation of copyright may be seized under procedure established by law. The law grants this right to the right holders of a CP on the grounds that they have a proprietary right which is capable of enduring through changes in ownership of property to which it relates, so that it will be enforceable against anybody who infringes the CPs.

Furthermore, other measures enable the copyright owners of the CPs to apply to the court for an order that infringing copies or items adapted for making copies of the copyright owner's CP be delivered up to him or to such other person as the court may direct.[577]Thus, "orders for delivery up of infringing material and an inquiry as to damage, alternatively an account of profits, together with payment are also sought".[578]

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[573] *Microsoft Corporation v Plato Technology Limited* [1999] F.S.R. 834 at Para ' *Injunctive Relief'*

[574] Yakovlev (n564) 295

[575] ARA 1971, s 45(4)

[576] CDPA 1988, s 100

[577] CDPA 1988, s 99

[578] *Nanjing Automobile (Group) Corporation, Nanjing Automobile Corporation (UK) Limited, MG Motor UK Limited v MG Sports and Racing Europe Limited, William James Riley* [2010] EWHC 270 (Ch), commented by Sir William Blackburne.

Finally, the Infosoc Directive 2001/29/EC has referred to the injunction measure as a type of remedy. It granted the right holders the right to apply for an injunction against an intermediary who carries a third party's infringement of a protected work or other subject-matter in a network".[579] On the other hand, this Directive authorised each Member State to take the measure necessary to protect the right holder through applying for an injunction such as the seizure of infringing material.[580]

3.6.3.3. Remedies for infringement of moral rights

It has already been noted that the programmer of a CP has no moral rights under the CDPA 1988.[581]However, Iraqi law has referred to the moral rights irrespective of the kind of work. Therefore, an infringement of the moral rights in a CP can give rise to breach of a legal duty owed to the person entitled to that right which entitles that person to damages as for example a breach of statutory duty. These damages are for non-economic loss for the simple fact that moral rights are not economic in nature.[582]

The final point on remedies is that the court has the right to assess the damages arising from an infringement in order to grant compensation to the programmer of a CP if he/she has suffered an infringement to his/her moral rights on that program.[583]

How can the court remedy these losses? There is no specific stipulation to tackle infringements of moral rights under Iraqi law. However, a mandatory injunction could be relevant, such as when the court orders that the author's name is added to copies of the work remaining in stock and to future copies. Prohibitory injunctions could be granted to prevent the influence of infringement of the integrity right for example, and injunction can be appropriate to avoid the planned publication of a derogatory treatment of the work.[584]Thus, the court has the ability to grant an injunction to protect the work from the risk of disclosure of that work unless it is satisfied that there was no any risk of that disclosure.[585]

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[579] Infosoc Directive 2001/29/EC,Recital 59

[580]ibid, Art 6/2

[581] s 79(2a)

[582] ARA 1971, ss 7&8

[583] ARA 1971, s 45

[584] Bainbridge (n194)135

[585] *Bjorn Stiedl v Enyo Law LLP, Addleshaw Goddard LLP, The Individual Subscribers to the Innovator and Gentech Technology Schemes Litigation* [2011] EWHC 2649 (Comm) [27]

Accordingly, infringements of moral rights are tackled as a breach of legal duty, injunctions and damages being appropriate remedies. Strangely, there is no provision for additional damages, under the CDPA, and, presumably, damages will be based on economic loss only. In my view, there is no remedy for infringements of the moral rights of a programmer due to the economic nature of the CPs which differ from other works. The designing of a program by a programmer, whether a natural or a legal person, could cost a considerable amount of money. If moral rights applied to that program that would hinder any development of that program because any adaptation or development for that program would need the approval of the owner of that program according to the characteristic of integrity of the program. Therefore, the approach of the CDPA 1988 in not granting any moral rights and remedies for infringement of these rights to the programmers of CPs is to be commended.

To recap this section, legal liability could in principle provide protection for the right holders of CPs whether that liability resulted from a breach of a contractual term or of a statute. This breach would lead to copyright infringement and generate the legal liability. This infringement should be remedied by an order for the payment of compensation and other measures stopping the damage resulting from the infringement. In this case the law should seek to achieve justice to the right holders of CPs.

Finally, before moving to explain the advantages and disadvantages of using copyright as a way to protect the right holders of CPs, it could be said there are advantages and disadvantages of using legal liability to protect the right holders from infringement of CP copyright. First of all, a contract could be seen as a means of ensuring that the legal liability is tailored to the perceived situation. On the other hand, inequality of bargaining power may mean that legal liability is not placed precisely where it should be. The first requirement of legal liability is the element of "fault". It springs from infringement of copyright which causes damage to the right holders of a CP. However, this fault must be proved by the right holder (the claimant). Proving that fault is flexible because it depends on the assessment of a court to identify the level of infringement which leads to legal liability.

Finally, monetary remedies are types of personal rights whereas the remedy of injunction can represent the property right which grants an owner of a CP the right to recover his/her program if someone else infringed that program. This reinforces the *sui generis* nature of a CP.

3.7. The advantages and disadvantages of copyright as a means of protecting CPs

3.7.1. Introduction

Basically, the law protects the CPs' text. This could be concluded from the definition of CPs.[586]Accordingly, copyright does not protect the results (i.e. behaviour) brought about by the execution of a CP[587], except in one case, namely when a "program is expressive in a traditional copyright sense".[588] For example, copyright protection for audio-visual work is fitting when the execution of a CP instruction results in a series of pictures joined with text and sounds.[589]

It has already been noted that copyright applies solely to the expression of ideas because it protects the specific form in which the idea is expressed. This provision has been implemented by English and Iraqi law. Thus all CPs are literary works under those statutes.

On the other hand, copying a CP is prohibited without licence from the owner of that program. However, this does not prevent other programmers from using algorithms or techniques contained in the program as a single software technique can be implemented in different ways to do totally different jobs.

Copyright law also has not granted protection to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described.

In order to pursue the best policy to encourage innovation, it is also necessary to examine advantages and disadvantages of the protection of the right holders of CPs by copyright or author's right.

3.7.2. The advantages of copyright protection

It could be said that copyright attaches to representations (expression) of a scientific or technical nature. Copyright is granted automatically to the author of a CP, and thus it does not

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[586]See chapter 2/ section 2

[587] Chapter 4 investigates this subject through discussion the ability of a patent system to cover CPs .For further information, see *Promoting Innovation through Patents,* Communication from the Commission to the Council, the European Parliament and the Economic and Social Committee, February 5, 199 , pp.12-13< http://ec.europa.eu/internal_market/indprop/docs/patent/docs/8682_en.pdf> accessed 10 May 2010

[588] Koo (n70) 823

[589] ibid 823

need any form to be acquired in contrast to patents where registration is necessary.[590] Furthermore, copyright requires no expenditure of time, effort or money. Therefore, a large number of companies, particularly small ones, use copyright protection as their only protection because it is cheap, automatic and effective.

Another advantage of using copyright protection is that a CP copyright efficiently protects source code secrecy through the prohibition on decompilation which is reinforced by copyright licensing contracts.[591] Companies which do not want their technical knowledge to benefit competitors can keep their programs' source code secret. Accordingly, source code permits the owners to prevent possible copyright infringements.[592] Finally, it could be added that the intangible thing can be granted copyright protection, as mentioned in the previous chapter, purchasing a CP via the Internet, for example.[593] This characteristic could not be found in patent protection as we will see in the next chapter.

3.7.3. The Disadvantages of copyright protection

As already said, text and behaviour are mostly independent; thus, protecting the CPs' texts cannot prevent competitors from copying valuable program behaviour. The ability to copy valuable behaviour with authorisation from the owner of a CP would sharply reduce incentives for innovation because of the dual nature of programs, namely the terms of originality and expression, which has created conceptual difficulties for copyright law.[594] Accordingly, copyright does not protect program behaviour because it does not protect the behaviour of a physical machine, nor their internal design.

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[590] TRIPs Agreement, Art 27(1)

[591] CDPA 1988, s 50, ARA 1971, s 7

[592] See Koo (n70) 834 , and also see Commission of the European Communities, *Proposal for a Directive of the European Parliament and of the Council on the Patentability of Computer-implemented inventions,* Brussels, February 20, 2002, COM (2002) 92 final, 2002/0047 (COD), (afterwards, *Directive on the Patentability 2002*). This document is available at< http://www.europa.eu.int/comm/internal_market/en/indprop/com02-92en.pdf.Jean-Paul Smets-Solanes, "Stimulating competition and innovation in the information society", www.pro-innovation.org> Accessed 23March 2001

[593] Section 2.4.3

[594]Whereas this contrasts with patent requirements, see TRIPs Agreement, Art 27(1). Also, See Koo(n70) 24. Samuelson et al., "A New View of Intellectual Property and Software" (1996) 39(3), indicated by Deschamps (n159) 104 & footnote ,27

Another limitation relates to digital piracy; it could be said that copyright cannot prevent or seriously reduce online piracy of CPs since copyright protection will subsist when the program is downloaded in a material form. This limitation results in infringement of copyright CPs. Purchasing a program online could be not protected by copyright during the downloading operation. Accordingly, better reforms will not work or the benefits would not exceed the perceived drawbacks.[595]

It could be said that copyright protection is not completely appropriate to protect the right holders of CPs as it offers relatively narrow protection because it solely protects against the direct copying of a program and does not protects its valuable elements such as "the inventive idea behind encoded instruction".[596] The most important characteristics embodied in a CP, if expressed in another way, cannot be subject to infringement proceedings. Furthermore, copyright protects merely the specific form in which the idea or the concept is expressed because the idea is not property. Therefore, anyone can use the concept or the idea itself. Furthermore, copyright does not protect against independently developed CPs, if any other person separately develops the same program that person can use the original program freely.

Another drawback could be added which is related to the duration of protection, it could be argued that the period of protection for the owner of a CP by copyright, is excessive in comparison with the short life of the CP product. This period could be an obstacle to developing CPs.

Finally, the purpose of exhibiting the advantages and disadvantages of copyright protection to CPs is to understand briefly this manner of protection which has these characteristics whether positive or negative. This section will enable the reader to move forward to make a conclusion regarding the capacity of copyright to provide proper protection to the right holders of a CP.

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[595] See *inter alia*; Barry Sookman, 'Copyright reform for Canada: what should we do? A submission to the copyright consultation', (2010) C&TLR16(1), 15-26, at 20., Barry Sookman" The SAC Proposal for the Monetization of the File Sharing of Music in Canada: Does It Comply with Canada's International Treaty Obligations related to Copyright?" (2008) 1 Osgoode Hall Review of Law and Policy 102, reviewing the Songwriters of Canada proposal 1(2), 101-136 . Tanushree Sangal, 'Piracy in the media and entertainment industry in India: stemming the menace', (2009) ELR, 20(3), 82-86

[596] Deschamps (n159) 104

Conclusion

This chapter has shown that originality is the main requirement for conferring copyright protection for any work including a CP. It does not require that work to have novelty in the patent sense. Thus, this study has found that both English and Iraqi laws have ruled out the idea itself from copyright protection because an idea is not property, whether personal or real, as well as not being a thing, the law protects only property. Therefore, where an 'idea' is sufficiently general, then even if an original work embodies it, the mere taking of the idea will not infringe. However, if the 'idea' is detailed, then there may be infringement. It is a question of degree.

The same could apply as to whether the work is functional or not and whether visual or literary. The second major finding was that the requirement of originality requires an amount of effort to create the program. Additionally, a CP has a special characteristic which is an intellectual creation. This characteristic confers copyright protection for CPs. Therefore, the idea of creating a program does not mean an intellectual creation. This concept needs other requirements such as skill and effort.

As regards the second requirement of protection of a CP as a literary work is "expression". Copyright does not protect the idea itself unless it is fixed in a material form. However, there are some acts could be taking without permission of the owner. These acts: imitation of a CP, decompilations, exhaustion right, and temporary copy could be deemed as only ideas and taken to develop CPs

There is a significant conclusion regarding moral rights. This significance is related to the commercial value of a CP which needs a material concern not only an ethical issue. This issue could hinder the development of subsequent CPs. One could conclude in this field that the programmer should be excluded from enjoying moral rights which are granted to authors of other works. Accordingly, Iraqi law should follow the British approach through the principle of harmonisation as will see in chapter 5, when it decided there is no moral right for the programmer upon his/her program. This reflects the economic aspect of a CP which differs from other works.

There are two kinds of liability; contractual liability and non- contractual liability. Both of them are subject to the provisions of civil liability in the civil law countries and common law in the common law countries.

To tackle this infringement, both laws, English and Iraqi, have put forward different remedies for these liabilities. These remedies could be divided into two kinds, monetary awards (compensation) and injunctions .Since the owner of a CP has the characteristics of ownership[597] this allows the owner to pursue a lawsuit if somebody infringes his program. The consequences of that infringement are the remedies.

Finally, this chapter has discussed the benefits and drawbacks of copyright and author's right as a means to protect CPs. This discussion enables one to understand the ability of the provisions relating to copyright or author's right to deter any infringement for protecting the rights of the owners of CPs. Therefore, the crucial question, the answer to which is still unclear, is whether Iraqi law is able to provide protection to the owners of CPs. In other words, is the protection of CPs in Iraq the same, greater or less than (a)the UK, (b) the USA, (c) the EU, (d) countries within the EU, (e) Iraqi's neighbours and finally why?

To answer this question, we must remember that Iraq is a developing country with different problems than developed countries such as the UK and the USA particularly in terms of the economic and industrial approach. Iraq is an importer country to CPs; therefore, the rules in Iraqi law should be flexible to attract inward investments in relation to producing CPs in the future. However, in recent years, there has been an increasing interest in this commodity worldwide due to the high profit which can result from producing CPs. This makes it desirable for Iraq to provide more protection for these goods. Thus, this motivates the writer to investigate other protection for CPs. This investigation will be in the next chapter.

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[597] See chapter 2 /section 2.4.2.1

Chapter Four

Other legal Ways for Protecting CPs

4.1. Introduction

As mentioned in chapter 1 apart from copyright there are several relevant ways to protect CPs. Since CPs have become widespread and commercially valuable, it has been extraordinarily difficult to categorise them (CPs) within a specific category of intellectual property protection.[598] The reasoning behind this is that the characteristics of a CP are unique among protected intellectual creations, presenting particular difficulties for those drawing analogies with existing legal subjects.

Researchers have variously sought to classify the protection of CPs under the categories of copyright,[599] patent,[600] both copyright and patent,[601] trade secret,[602] or even a *sui generis* software right.[603] There is still no perfect solution regarding the best classification for CPs because of the inseparable dual nature of CPs which has led to continuing discussion regarding the preferable protection, copyright, patent or others, which suits the unusual nature of such creations.[604] It could be said that there are four ways within IP which could protect CPs beyond copyright protection. These ways are patent, contractual terms, trade secret (confidential information) and trade mark.

Chapter 2, relating to the nature and legal status of a CP, concluded that for a CP to be protected under copyright or patent protection, it must have a tangible form. Furthermore,

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[598] See chapter 2/ 2.3.3.2, p. 47

[599] John Dunn , 'Defining the Scope of Copyright Protection for Computer Software'', (1986) Stanford Law Review, 38(2), 497-534

[600] E´lo¨ıse Gratton , 'Should Patent Protection Be Considered for Computer Software-Related Innovations?', (2002) 2 CLR&TJ 223.

[601] Robin Widdison , 'Software Patents Pending?' (2000) JILT, 3, section 1.2

[602] David W. Carstens D, 'Legal Protection of Computer Software: Patents, Copyrights, and Trade Secrets', (1994) JCL, 16(7), 293-301, at para: IV. See also, Vaibhav Choudhary, 'The patentability of software under intellectual property rights: an analysis of US, European and Indian intellectual property rights', (2011) EIPR , 33(7), 435-446

[603] See: John Phillips,'Sui Generis Intellectual Property Protection for Computer Software.'(1992)The George Washington Law Review1002 etc. Andre´s Guadamuz Gonzalez, 'The Software Patent Debate', (2006) JIPL&P , 1(3), 196-206

[604] Deschamps (n159) 106. See also McManis, "Taking TRIPS on the Information Superhighway" (1996) 41 Vill. L. Rev. 207, 222. This was indicated by Deschamps.

rights in *rem* and rights in *personam* are being granted only to a tangible thing. Therefore the patentee has rights in *personam* if his patent is a tangible thing and that thing is personal property because the Patent Act 1977 has stipulated that "any patent or application for a patent is personal property (without being a thing in action)"[605]

But chapter 3 revealed that copyright is the main way to protect CPs legally and practically. The question now is whether being a literary work provides adequate protection to the owner or the right holder of a CP. In other words, does that need other ways to ensure comprehensive protection for the program and the right holders?

Accordingly, the purpose of this chapter is to test and examine these ways because they might be techniques for protecting CPs, which could give the right holders more efficient protection than copyright does. Thus, this thesis suggests a hypothesis that the Iraqi legislator can take advantage of other legal ways to enhance protection of CPs. This will link this chapter with the research question in chapter 1 relating to the capability of Iraqi law to make comprehensive protection to the right holders of a CP and the program itself.

4.2. Patent and CPs

4.2.1. Introductory remarks

4.2.1.1. Defining the term of an invention

The big question in this introduction is whether a CP could be deemed to be an invention. If so, a CP could be patentable. The Iraqi Patent Act (No 65 of 1970, as amended in 2004) defines the term 'invention' as "Any innovative idea, in any field of technology, which relates to a product or a manufacturing process, or both, and practically solves a specific problem in any of those fields".[606] Thus, an invention can be a product or a process or both. Internationally, the TRIPs Agreement (Art27/1) stipulated that "patents shall be available for any invention, whether products or process".

Art 64 of the EPC 1973 and section 60 of the UK PA 1977 distinguish between the scope of protection conferred by a patent for inventions which are 'products' and 'processes'. A product is a tangible thing. On the other hand, a process (or "industrial process" as in the Iraqi PA) can also be regarded as tangible if it causes changes in physical state, e.g. of

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[605] S 30 (1)

[606] S1(4)

industrial machinery or a computer. Both of those Acts have not defined the meaning of "an invention". However, the UK PA 1977 stipulated that for the purpose of this Act, a patent may be granted for an invention if it is "specified in a claim of the specification of application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly".[607]

In the USA, the Patent Act 1952 Title 35, section 101, has defined "an invention" as "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof". However, the last legislation in the US, the American Invents Act of 2011 amends the Act above,[608] does not define the meaning of "an invention" but refers to the kinds of invention in the section "Defence to infringement based on prior commercial use". This section, namely 101, identifies patentable subject matter as "a process, or consisting of a machine, manufacture, or composition of matter used in a manufacturing or other commercial process...."[609]

It is submitted that a "machine" or a "manufacture" are products without doubt and usually "composition of matters". This means that the US PA 1952 has referred to the kinds of inventions. Likewise, the Canadian Patent Act 1985 defines "an invention" as "any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement".[610] It could be noticed that the Canadian law referred to "useful art", which is "an act or series of acts performed by some physical agent upon some physical object and producing in such object some change either of character or condition..."[611] Thus, "useful art" indicates "an invention process".

Accordingly, whether a CP can be a patentable invention or not is the first point of discussion below and case always depend on how the invention is defined.[612]

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[607] S 125(1)

[608] This Act was enacted on 16th of September 2011. It is amendment to Title 35

[609] S 273

[610] S 2

[611] *Amazon .com , Inc. V.Attorney General of Canada et* al[2010] FC 1011[16]. See also, Emir Aly Crowne - Mohammed, 'Can you patent that? A review of subject-matter eligibility in and the US', (2009) Temple International and Comparative Law, 270,273

[612] *Re Cappellini & Bloomberg* [2007] EWHC 476 (Pat) [9]. Pumfrey J stated that "I really cannot see how this is permissible reasoning, if only because a vast class of inventions depend for their non-obviousness on a new discovery of some property of nature — such a discovery being excluded subject matter. I prefer to approach

4.2.1.2. The legal background of patent system

UK law[613] or European law[614] deprived the owner of a CP "as such" from enjoying patent protection. However, some cases have permitted the limited patentability of the so-called 'computer implemented invention' that requires a technical effect, contribution, or process.[615]By contrast, the US case law has established that algorithm[616] and mathematical formula are "patentable subject matter".[617] Japanese law has also granted patent protection to CPs.[618] It could be said that the commercially valuable information and techniques embodied in CPs may account for the increased motivation seen in the USA and Japan being the countries which use a patent system to protect CPs.[619]

The Iraqi Patent Act is silent relating to the patentability of CPs. However, the Act stipulates that methods or means used in finance, banking, or mathematical matters as well as buildings, maps and three-dimensional works are unpatentable.[620]

As we know CPs as such are intangible things even after they have actually come into use. This intangibility causes difficulties in understanding how a CP may be a patentable subject –

this problem from the direction indicated by the Court of Appeal in *Aerotel* : what is the claimed invention *as a matter of substance* ? A claim to a programmed computer as a matter of substance is just a claim to the program on a kind of carrier. A program on a kind of carrier which, if run, performs a business method adds nothing to the art that does not lie in excluded subject matter." See also, Birss J ,in *Re patent application in the name of Halliburton Energy Services Inc and others* [2011] EWHC 2508 [2], referred to "mental act" and CPs are mental act which are excluded from patent protection

[613] Patent Act 1977, s 1(2c)

[614] EPC 1973 Art 52 (2a)

[615] VICOM [1987] 2 EPOR 74; Merrill Lynch's Application [1989] RPC 561;Gale [1991] RPC 305; Fujitsu [1997] RPC 608. See *inter alia*; Registry of the Enlarged Board of Appeal EPO (2009) "Amicus curiae brief by the association for competitive technology on the basis of article 10 of the rules of procedure of the Enlarged Board of appeal in case G 3/08.EPO (2009)". "Comments of the AIPLA on the Patentability of Computer Programs Case G 3/08."   . EPO (2009). "Referral under Article 112 (1) (b) EPC of 22.10.2008Case number: G3/08."   All   these   references   on   the   webpage   <http://www.epo.org/patents/appeals/eba-decisions/pending/briefs.html > Acceded 30 April 2009

[616] This term is an Arabic term; it is derived from the Farsi Mathematician "al khawarizmi". His full name : Muḥammad ibn Mūsā al-Khwārizmī

[617] *In re Alapatt* 33 F. 3d 1544 (Fed. Cir. 1994)

[618] See section 4.3.2.2 of the current chapter

[619] Khalid Alakeel, 'The utilisation of the patent system in a developing economy: the case of Saudi Arabia', thesis. (PhD thesis, University of Edinburgh 1997)162,177

[620] S3(1) and (2)

matter. There has been an assumption that a CP as such is analogous to an algorithm, which has been regarded as unpatentable subject-matter by the law.[621] It is convenient to ask to what extent CPs are patentable in Iraq, the UK and Europe. This issue can be addressed in this section.

The primary questions are:

1- Whether a patent system can provide protection for CPs and whether this should be used instead of copyright or to complete copyright. This provoked controversy regarding the patentability of CPs in Europe with the Proposals on a Directive on the Patentability of Computer –Implemented invention [622] creating one of the most debated intellectual property law policy discussions of recent years.[623]

2- The second question could be raised in this section is the nature of "inventive step" in computer- implemented invention.

3- The third question which goes to justification of patent as a review for disclosure is, what does a CP patent need to disclose?

Other questions that need to be asked are:

(i) Whether the general rules of patent are properly applicable to protect CPs. If yes, what are its conditions?

(ii) Does it provide preferable protection?

(iii) What are the benefits and drawbacks?

(iv) On the other hand, if the answer is negative, this raises the question why the American law has granted patentability to CPs?

(v) Is the American approach better than UK and EPC approaches? If yes, why are UK and EU afraid of granting patentability to CPs?

(vi) What is the position in Iraqi law?

(vii) And does the patent system have significance to Iraqi inventor in respect of the CPs?

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[621] UK PA 1977,s 1(2c). EPC 1973, Art 52(2). TRIPs Agreement, Art 10

[622] The Proposal for a Directive of the European Parliament and the Council on the Patentability of Computer Implemented Inventions, COM[2002] 92 <http://www.europa.eu.int/comm/internal_market/indprop/docs/comp/ com02-92en.pdf > Accessed 25 February 2010 ,See also, Proposal for the Directive of the European Parliament and of the Council on the patentability of computer-implemented inventions, COM/2005/C144 E/02

[623] Gonzalez (n603)196

Accordingly, this study clearly demonstrates the importance of granting patent protection for CPs. Answering these questions could help us to achieve our ultimate target in regard to the research question which is to what extent a patent system could protect the right holders of a CP, and if it was proper for a CP this would lead to the possibilities of applying it within Iraqi, English and European law. In other words, the objective of this research is to determine whether a patent system, in the UK, EPO or Iraq, has the ability to be applied to CPs.

As a consequence, the first step would answer the big question in this section relating to the capacity of a CP to be an invention within the scope of patent law. First of all, the writer shall outline the other requirements for patenting before examining how they apply to CPs.

4.2.2. The criteria of protection of a patent system under Iraqi and UK law

A patent may be granted if three conditions are satisfied: novelty, an inventive step[624] and finally capable of industrial application.[625] Furthermore, the invention must be sufficiently disclosed at the time of filing.[626]Accordingly, this item will briefly explain these criteria before examining to what extent these conditions are consistent with the nature of CPs.

4.2.2.1. The criterion of novelty (Newness)[627]

The criterion of novelty occurs in several types which are: firstly, a new industrial product, secondly, a new industrial process or method as not known before and thirdly, a new application of a known industrial process or method (it means that one might find out a new application of an already existing process or method which leads to a better result).[628]

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[624] The first two conditions distinguish a patent system from copyright as the latter requires the originality requirement which does not need to be new, see the concept of originality in the previous chapter, section 2

[625] See ss 4,16 &18 Iraqi Patent and Industrial Models Law No. 65 of 1970, as amended by Patent and Industrial Models Law No. 28 of 1999, Official Gazette No. 3790 (6 September 1999), 2002 and 2004. See also the Instructions for Granting Patent and Industrial Models No. 3 of 2000, Art. 1. UK PA 1977, s1. EPC, Arts 52-57. The TRIPs Agreement, Art. 27(1). See Qureshi A, "The Role of GATT in the Management of Trade Blocks," 27 Journal of World Trade 101, 102 (1993). See also "General Agreement on Tariffs and Trade: Multilateral Trade Negotiations Final Act Embodying the Results of the Uruguay Round of Trade Negotiations, Agreement Establishing the World Trade Organization," 33 International Legal Materials 1125, 1144 (15 April 1994).

[626] Iraqi PA, s 15. UK PA 1977 s 2/4. EPC , Art 83

[627] See the comment in (n617)

[628] Mohammed Al-Kamali , 'The Development of Intellectual Property Law in The United Arab Emirates' (PhD thesis, University of Exeter1994) 275. SamirhaAl-Qalyoobi ,Al-Wajeez in AI-Tashriat Al-Senaeiah. (Industrial

The EPO recognises that novelty is a new technical effect.[629] Lastly, the invention can be a different product or a process may be combined to invent something new.[630]If the elements of a combination are themselves patented, consent of the earlier patentee may be needed lawfully to exploit the combination. As software development often involves a combination of existing elements, this can be a disadvantage of the patent protection for CPs.[631]

Accordingly, a patent shall not be granted for anything which is not new, whether product or process, which is already in the public domain; otherwise the grant of the patent could make an act illegal which was previously legal.[632] For example, if a thing is altered but not so far as to differentiate it from the original thing, the new thing will not be patentable. Therefore, if a company has been making integrated circuits by a special process for several years but failed to apply for a patent, a second company which used the same process, possibly coincidentally, and applies for a patent for the process will be refused on the ground that the creation is not new unless the first company's use of the process was not such as to make it available to the public. In that case, the second company may be able to acquire a patent for the process.[633]

In contrast, if the alteration produces a new invention which is different in its essential make-up, this could be an invention as such according to the law.[634] Accordingly, a new invention should be different from what has been revealed before, in other words, that technical information disclosed by the patent is not already known to the public.[635]

Legislation Handbook), Maktabat Al-Qaherah Al-Hadithah, Cairo, 1967, (In Arabic) 45. Mohammed Abbas M, *Industrial Property,* (Cario: Dar Al-Nhda Arabia, 1988) 83, 85 .Al-Sadam (n162)30, 31

[629] Case T424/03 *MICROSOFT/Clipboard formats* [2006] E.P.O.R. 39

[630] See s 2.4 of this chapter

[631]Al-Kamali (n628) 275

[632]Bainbridge (n399)115. See also, *Shire Pharmaceutical Contracts Ltd & Anor v Mount Sinai School of Medicine of New York University* [2011] EWHC 3492 (Pat) [2]

[633]Al-Sadam (n162) 30 . Bainbridge (n 399)115

[634] Sameha Al-Kalubi, *Industrial legislation* (Cairo: Dar Al-Etihad Al-Arabi, 1987) 49. Mohammed Abbas, *Industrial Property,* (Cario: Dar Al-Nhda Arabia, 1988)83

[635]See: Bentley &Sherman (n194) 443, Bainbridge (n194) 400, and *Actavis UK Ltd v Merck & Co Inc* [2008] All ER (D) 290

In addition, any invention necessitates a technical character. Therefore, a patent can be granted for inventions which have "a technical character".[636] This requirement can be inferred from the EPO through the provisions of the EPC.[637] This can perhaps explain why an invention must belong to a field of technology and that the invention must make a technical contribution to the technological state of the art.[638]

The phrase 'technical contribution' may be defined as "a contribution to the state of the art in a technical field which is not obvious to a person skilled in the art".[639] The technical contribution shall be assessed by consideration of the difference between the state-of-the-art and the scope of the patent claim considered as a whole, which must comprise technical features, irrespective of whether or not these are accompanied by non-technical features.[640]

4.2.2.2. The criterion of inventive step

For an invention to be patentable, it must involve an inventive step. However, there is no definition for an inventive step, but "Sometimes, it is the idea of using established techniques to do something which no one had previously thought of doing. In that case, the inventive idea will be doing the new thing. Sometimes, it is finding a way of doing something which

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[636]Board of Appeal of EPO held that "further effects deriving from the execution (by the hardware) of the instructions given by the computer program", where these further effects have a technical character. An invention which brings about a technical effect may be considered to be an invention (T 1173/97 (1998), IBM Computer Program Product, reasons 6.4). A computer program must be considered to be invention within the meaning of Art. 52(1) EPC if it produces a technical effect (the same case, reasons 6.5)

[637] Bakels R. 'Amicus Curiae Brief for case G 3/08 before the EPO Enlarged Board of Appeal.' (2009) 5 <http://www.epo.org/patents/appeals/eba-decisions/pending/briefs.html>Accessed 30 April 2009. See For instance: TBA 14 March 1989, case T 163/85 *(BBC/colour television signa,* TBA 16 April 1993, case T 833/91 *(IBM/Simulation of computerprogram external interfaces);* TBA 16 April 1993, case T 236/91 *(Texas Instruments);* TBA 29 October 1993, case T 204/93 *(AT&T/ System for generating software source code components);*TBA 29 October 1993, caseT 790/92 *(IBM/Editing business charts);*TBA 31 May 1994, case T769/92, *Of* 1995, [525] *(SOI-IEI),IIC* 1996, 373-374 *(General-Purpose ManagementS5stem);* TBA 6 July 1994, case T 1002/92, 011995, [605] *(Pettersson);*TBA 8 September 2000, case T 931/95, 0J 2001, [441]-57 *(Pension Benefit System).*

[638] Koo(n70) 826

[639] The Proposal for a Directive of the European Parliament and of the council on the patentability of computer – implemented invention (2002)Art 2(b)

[640] See; ibid Art 4(3), EPO Examination Guidelines(June 2005), s C, Ch 4, 2.3.6; sC, Ch4,2.3.6, Gonzalez (n603) 199

people had wanted to do but could not think how. The inventive idea would be the way of achieving the goal".[641]

Theoretically, the creation must be clearly different from what already exists; "unless the 'invention' can be said to have contributed towards existing human knowledge it will not involve an 'inventive step' sufficient to justify the grant of a patent".[642] It could be argued that the result must be unexpected, i.e. the inventor can use existing elements to create a non-obvious result.

Under the Patent Act 1977[643] and EPC[644] an invention will be an inventive step 'if it is not obvious to a person skilled in the art'. The EPO has refused granting a patent because of lack of inventive step.[645]This raises the question of how we can identify the inventive step. In other words, what is the criterion for getting an inventive step on an invention to be patentable? It could argued that the criterion of inventive steps may be applied when the invention is not obvious to a person skilled in the art having regard to all matters forming part of the state of art, however not containing matters from patent applications with earlier priority dates which are published later than the priority data of the invention.[646] This differs from the position concerning the previous condition, namely novelty which stipulates a patent shall not be granted for anything which is not new.

4.2.2.3. Industrial Applicability

A patent is generally granted to facilitate the path of industry; thus, the patentee and the public both will benefit from the invention. For this reason, a patentable invention must not include only theoretical ideas, concepts or notions which cannot be put into practice. Accordingly, if an invention does not have the capability of being used industrially it could not be patented.

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[641] *BIOGEN INC v MEDEVA PLC* [1997] RPC 1 [34]

[642] Harry Brett ., *The United Kingdom Patent Act 1977*(ESC Publishing Limited, Oxford, 1978) 9

[643] S 3

[644] Art 56

[645]Case T12/08*NINTENDO/Game machine and storage medium* [2009] Technical Board of Appeal 3.2.4 [2]

[646] In this meaning , see *Teva UK Ltd & Ors v Astrazeneca AB* [2012] EWHC 655 (Pat) [94][100]

All of Iraq[647], the UK[648], and EPC[649] stipulate that the inventions only need to be 'susceptible or capable' of industrial application, which implies that there is no need to show actual use, the potential to be used or made industrially suffices.[650] Accordingly, the Board stated that "according to which European patents shall be granted for any inventions (therefore having technical features) which are susceptible of industrial application, which are new and which involve an inventive step".[651]The English court also recognized that "the invention is said to be inherently unpatentable because it is incapable of industrial application, and to consist of a computer program as such and a method of displaying information, which are subject matter excluded from patentability. The objection of incapability of industrial application is not persisted in, but the objection to the subject matter of the claims is said to lie in excluded matters".[652] It is also stated that ""an invention shall be taken to be capable of industrial application if it can be made or used in any kind of industry, including agriculture."[653]

These being the criteria for a valid patent, how can they be applied to CPs? That is addressed in the next section.

4.2.3. To what extent may the patent rules be applied to CPs?

4.2.3.1. Introduction

By investigating the legal and judicial position of patents in relation to CPs within a national and an international context one may ascertain whether a patent system could protect CPs, or in other words, whether the patent rules, in theory, could be applied to CPs.

The case law system in the UK sought to consider a CP as a supporting assistant factor in the process of invention because the UK PA 1977 law prohibits a CP as such from being granted a patent. One may argue that the UK law does not conflict with the European approach which has not granted patent protection to a CP as such whether in statutes or case law. This

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[647] S1(4) "An invention shall be considered industrially applicable if it can be applied or used in any kind of industry"

[648] S 4(1)

[649] Art 52(1)

[650] Bentley & Sherman (n194) 393

[651] Case T935/97*IBM/Computer Program* [1999] E.P.O.R. 301 [5.4]

[652] *Research in Motion UK Limited v Inpro Licensing SARL, Research in Motion UK Limited, T-Mobile (UK) Limited* [2006]EWHC 70 (Pat) [110]

[653]See: Bentley & Sherman (n194) 393, *Chiron v. Murex* [1996] RPC 535, 607 (Morritt LJ)

approach prompted English case law (the ECL) to prohibit patentability for a CP as such. This raises quite a fundamental question, to what extent the ECL approach may be adapted to the conditions of the UK, as a developed country, which should follow the other developed countries such as the USA and Japan which do grant patents for CPs.

In Iraq, copyright explicitly protects a CP as a literary work; however, Iraqi Patent Law is silent as to whether CPs should be excluded from the domain of patent protection. A literary work is appropriate to the position in Iraq because it is a developing country which means that CPs need flexible protection. In addition, the Iraqi legislator wants to meet current internationally recognised standards of protection and incorporate the modern standards of World Trade Organisation into Iraqi law.[654]

This part of the research will be divided into two sections, the national and the international approach to the position in relation to the patent system.

4.2.3.2. National approach

It would be useful to start with the countries which granted patentability to CPs, namely the USA and Japan, to find out their reasons for doing so. After that, Europe, the UK and Iraq will be considered.

4.2.3.2.1. CP patent in USA policy
1- The legal position

As mentioned earlier in the introductory remarks the statutory framework in the USA has made no specific reference to CPs as a form of subject matter, whether under the Patent Act 1952, Title 35 USC, section 101 or the America Invents Act 2011.

This gives the courts of the USA freedom to explain the statute in respect of the patentability of new technology, subject to the established principle that laws of nature, natural phenomena and abstract ideas do not deserve patent protection.[655] This freedom has come from the ruling

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[654]The Purpose of the last Amendment of ARA 1971

[655] Daniel Attridge, 'Challenging claims! Patenting computer programs in Europe and the USA', (2001) IPQ , 1, 22-49

that "everything under the sun made by man is patentable".[656]The section (101) is supposed, according to the USA courts, to be liberally applied to the new technologies irrespective of whether these technologies are predictable or not.[657] USA case law and the USPTO[658] practice have shown increasing willingness to permit a CP to be patented.

2- The judicial position

First of all, the judicial position in the USA considered that not every method is patentable under the patent law.[659] The court should examine "whether the method described and claimed is a "process" with the meaning of the Patent Act".[660] The Courts of Customs and Patent Appeals (CCPA) allowed patent protection, because the nature of the claim covered a sequence of steps accomplished by either man or machine.[661]However, the Supreme Court stated that a mathematical formula is not patentable subject matter[662] because "if the mathematical formula provided a significant post-solution activity, it was therefore patentable; otherwise, it was an unpatentable mathematical equation".[663] Thus, at this phase of development a process according to the statutory definition is patentable in two cases: the first case when it is "tied to a particular apparatus" and the second case when it "operates to change materials to a different state or thing".[664]

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[656] Diamond v. Chakrabarty 447 US 303, 309 (1980). See MolIet-Viéville T and others (2009) <http://www.epo.org/patents/appeals/eba-decisions/pending/briefs.html> Accessed 27 July 2010 ,case number: G3/08." 4,

[657]MolIet-Viéville (n656)4

[658] It refers to United State Patent and Trademark Office

[659] *U.S. Supreme Court (GOTTSCHALK v. BENSON, 409 U.S. 63 (1972)*<http://caselaw.lp.findlaw.com/cgi-bin/getcase.pl?navby=case&court=us&vol=409&invol=63> Accessed 8 March 2012. See also, Choudhary (n480) 436,437, Kretschmer M,Centre for Intellectual Property Policy and Management, Bournemouth University <http://www2.warwick.ac.uk/fac/soc/law/elj/jilt/2003_1/kretschmer/> Accessed 9 April 2012

[660] The case, ibid 63,64

[661] Alakeel (n619)163

[662] *Parker v. Flook*,415 F. 2d 1378 (1969).

[663]Alakeel (n619)163,164

[664] 437 US 584, 588 n.9

The Supreme Court has affirmed the analysis above through making a further statement on the patentability of a CP in *Diamond v. Diehr*.[665] The respondents' claims were not addressed to a mathematical algorithm or an improved method of calculation. This direction rather recited an improved process from moulding rubber articles by solving a practical problem which had arisen in the moulding of rubber products.[666]

The court affirmed that "the bar does not apply where the mathematical formula is applied or directed to a useful method as to not pre-empt use of the formula itself".[667]

In *re Iwahashi*[668] the court granted the patent on the basis that the program was not referred to in the claim.

In *re Alappat*[669], the Federal Circuit Court of Appeals showed that "what had once been considered non-patentable subject matter as abstract ideas has become patentable subject-matter". The *re Alappat* case is based on mathematical algorithms, formulae and equations. The claim related to means for creating a smooth wave form display in a digital oscilloscope. The US Patent Office held that the invention was not patentable, but the Court of Appeals held it was patentable.[670] It could be concluded from this that mathematical matters are covered by the patent system. These issues are not covered by copyright authority. This means that patent adds further protection which is not found in copyright.

After that the Federal Circuit Court of Appeals further opened the door to the patenting of CPs in *re Beauregard*[671] "that computer programs embodied in a tangible medium, such as floppy diskettes, are patentable subject matter under 35 U.S.C. s 101 and must be examined under 35 U.S.C. ss102 and 103."[672]

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[665] *DIAMONDv.DIEHR,450U.S.175*(1981)<http://caselaw.lp.findlaw.com/scripts/getcase.pl?court=us&vol=450&invol=175> accessed 3 March 1981

[666] 450 U. S. 181

[667] Crowne E (n611)302

[668] *Re Iwahashi* (1989) F. 2d 1370. See Attridge (n507) 566

[669] *In re Alapatt* 33 F. 3d 1544 (Fed. Cir. 1994); See *inter alia* Ng, E 'Patent trolling: innovation at risk*'*, (2009)EIPR, 31(12), 593-608, at 594 and footnote 14. Cohen, J & Lemley M. 'Patent scope and innovation in the software industry*'*, (2001) 89 CLR10 Vol. 89:1<www.law.georgetown.edu/faculty/jec/softwarepatentscope.pdf > Accessed October 14 2001

[670]Alakeel ((n619)165

[671] *Re Beauregard* (1995) 53 F. 3d 1583

[672] ibid

Finally, two cases have made a big change in respect of the patent of a CP. Firstly, in *State Street Bank v. Signature*[673](*SSB),* a dispute arose over a program, which essentially calculated share prices in order to promote advantageous investment structures in business. Following the patentee's refusal to license their patented software, the plaintiff sued and alleged invalidity on the grounds that the patent did not relate to patentable subject-matter, but was a claim to a program alone. The District Court agreed.

However, the CAFC reversed the decision, restoring the patent. The court developed the "utility" test in *Alappat,* and held that:

" … the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula or calculation, because it produces a 'useful concrete and tangible result'--a final share price momentarily, fixed for recording and reporting purposes and even … relied upon by regulatory authorities."[674]

Secondly, the Supreme Court in (*Dudas v Nuijten* 2008)[675]has held that :

The "signal" resulting from petitioner's process, as distinguished from the process of creating the signal or the device used to generate it, falls outside the scope of patentable inventions because it is not a "process, machine, manufacture, or composition of matter." 35 U.S.C. 101[676]

It could be said that any invention must fall within one of four categories of things that the patent statute (United Stated Code 35 USC 101) listed as patentable.[677] This means CPs must belong to one of these categories: machines, articles of manufacture, composition of matter and processes, to be eligible for protection via patent rules.[678]

This rule was confirmed in *Bilski's Petition for a Writ of Certiorari* emphasising that "a process must be tied to a particular machine or apparatus, or transform a particular article into a different state or thing (machine or transformation test), to be eligible for patenting under

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[673] *State Street Bank & Trust v. Signature Financial Group* (1998) 149 F. 3d 1368. See Cohen, J & Lemley M (n547)11&12

[674] ibid 1374. See Koo (n70) 827

[675] *Petrusa .C.M. Nuijten, Petitioner v.Jonathanw. Dudas,under Secretary of Commerce for Intellectual Property and Director, Patent and Trademark Office S.Ct. 70* (2008)

[676] ibid [35]

[677] Richard H. Stern , 'USA: patents - patentable subject matter', (2009) EIPR (case comment) 31(3), N31

[678] Crowne (n611)300

35 USA s 101".[679]Thus, the Court described the machine –or transformation test as "a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under s 101," but stressed that that test "is not the sole test".[680]

In conclusion, the approach of the USA is if one has made any useful invention it would be considered eligible for patent protection. This includes any new, non-obvious CP and business method that qualifies under the rules as identified by the case law. One may argue that the USA judicial approach could assist the Judges in the UK and Europe to benefit from the development in the system for granting patents for CPs. This is because the UK and European countries, as developed countries, should follow the development in CPs' protection because the world, nowadays, has become one village relation to the advance of technology, particularly between the developed countries.

As for the Iraqi judiciary which is devoid of any decision relating to CPs, it is not easy to say that an Iraqi Judge should follow the development in the USA because we must consider the differences in terms of the economic and industrial aspects particularly in the area of producing CPs. One may argue, however, Iraqi law might follow that development of the USA in the future if Iraq becomes one of the developed countries.

4.2.3.2.2. A CP patent in Japanese policy[681]

The purpose of referring to Japanese policy for granting a patent system is to seek to understand briefly how this country could provide this protection for a CP. Thus, this section will not be detailed since Japanese law is not a major focus for comparison.

Recently, a CP patent system in Japan has been reformed and now a CP has become a patentable subject matter.[682] The Japanese Patent Act 2003 in Section (2) defines a statutory invention as "a highly advanced creation of technical ideas utilising a law of nature".[683] It

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[679] *Bilski v. Kappos* [2009] 545.3d [943] . See also ibid ,p.302

[680] Stephen A.Becker, Paul Devinsky and Astrid R. Spain (ed) , *IP Update- a look at current cases shaping intellectual property*., (13 McDermoot Will &Emery 2010)1

[681] More details regarding the history of granting patent in Japan , see: David Hill & Shinichi Murata , 'Patent Litigation in Japan*'*, (2007) Akron Intellectual Property Journal

[682]Kazuyuki Motohashi , 'Software Patent and its Impact on Software Innovation in Japan*'*, (2009) Research Institute of Economic, Trad & industrial. 1

[683] Non-Author, Examination Guidelines for Patent and Utility Model in Japan, 2010 <http://www.jpo.go.jp/tetuzuki_e/t_tokkyo_e/1312-002_e.htm > Accessed 1 June 2010

should be noted, however, that the term "highly" has been introduced in the definition to differentiate "invention" from "device" under the Utility Model Act,[684].

Accordingly, the requirements for a CP to fulfil the article are:

(1) The computer program should involve a technological idea;

(2) The idea should have an industrial use; and

(3) The invention should be novel.

The following conditions are required by the Japanese Patent Law 2003 for a CP invention to be considered as statutory subject matter:[685]

1. The claimed invention utilises a physical law of nature when processing information; or

2. The claimed invention substantively utilises hardware resources.[686]

The first method to satisfy the first condition may be by claiming that the invention is involved with controlling hardware sources. On the other hand, the second method could be applied by claiming that the invention processes information "based upon the physical or technical nature of an object".[687]In order to achieve the second condition, an invention must create a substantive use of a hardware resource. Thus, "the hardware resource must be included in the claim and must play a substantive function in achieving the object of the invention".[688]

With patent protection for CPs, issues arose concerning whether a CP qualifies, under the patent law requirement, that an invention include technological ideas along the line of natural science theory.[689]

To summarise, by granting patent protection to a CP invention and implementing business methods the Japanese approach requires a specific interaction with a hardware resource to be defined in the claim.[690]It could be argued that the American approach is wider than the Japanese approach in terms of providing patent protection to a CP which need only be a useful invention. American law granted patent protection to any invention if it fell within four

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[684] MolIet-Viéville,T and others (n656)7

[685] See ibid 7. See also Stobb, Gregory A., *Software Patents* (Wiley & Sons ed, 1995)79

[686] Requirements for Patentability, Part II: Chapter1, 1)

[687] ibid . See also, Alakeel (n619)177

[688] Alakeel (n619)177

[689] ibid178

[690] MolIet-Viéville (n656) 8

areas "process, machine, manufacture, or composition of matter."[691] Thus, mathematical matters were granted patent protection, as we saw, even though they are not a "utility".[692]

4.2.3.2.3. A CP patent in European policy

1- The legal position.

The EPC in Article 52(2) provides a list of subject-matter which will not be regarded as patentable which includes programs for computers. Therefore, the legislative framework of the EPC does not permit a CP as such to be patented according to paragraphs 2 and 3 which include the phrase "as such" through stipulation that: *"Paragraph 2 shall exclude patentability of the subject-matter or activities referred to in that provision only to the extent to which a European patent application or European patent relates to such subject-matter or activities as such.***"**

Even though the term "as such" is of significance, there is no precise definition for this phrase. It has been said that this phrase could be interpreted "in at least six different ways".[693] It could be said that a "CP as such" is the opposite of a technical CP.[694] With the advance of technology, it is not reasonable to define 'as such' precisely. It could be "… implied by the physical features of an entity or the nature of an activity, or may be conferred on a non-technical activity by the use of technical means".[695] In other words, it has been interpreted as 'requiring both that an invention must belong to a field of technology and that the invention must make a technical contribution to the technological state of the art'.[696] On the other hand, "computer programs as such" are excluded from patentability due to their having no technical

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[691] S 101

[692] See the previous section.This term was referred to it in the *Alappat* case and *State Street Banckv. Signature(SSB)*

[693] Reinier B. Bakels . 'Software Patentability: What are the Right questions?*'* (2009) EIPR , 31(10), 514-522

[694] Ballester Rodès, "Case Law of the Boards of Appeal of the European Patent Office" (2006), Ch.I.A.1. See ibid 4

[695] *Hitachi/Auction method* (T-258/03) [2004] E.P.O.R. 55 at [4.5]. Tanya Aplin, "Patenting Computer Programs: A Glimmer of Convergence (case :Astron Clinica Ltd v Comptroller General of Patents, Designs and Trade Marks [2008] EWHC 85 (Pat); [2008] Bus. L.R. 961 (Ch D (Patents Ct)) "(2008) EIPR (case comment).

[696] *Guidelines for Examination in the European Patent Office,* Chap. IV.1.; Holzwarth, Union Round Table Conference "Patenting of Computer Software", Munich, December 9/10, 1997.

character.[697] In addition, chapter 2 concluded that a CP as such is an intangible thing;[698] this intangibility prevents the application of the rules of patent to CPs because patents can be granted only for a tangible thing.[699] Thus, a CP as such is excluded from patent protection. Briefly, the "technical character" approach says that Article 52(2) EPC only excludes things which have no technical character. Thus, anything, that on the face of it is excluded, is not in fact excluded if it has a technical character. This approach and others should be detailed in the judicial position, as below.

2.The judicial position

In the past, the judicial position within the EPO approach was not to grant patent protection for a CP as such since it does not have the requirement of capability of industrial application.[700] However, the Patent Office will no longer suggest that such protection is not available in Europe.[701]

As mentioned the EPO has decided that patentability could be conferred upon any invention of a technical character; this includes a CP provided that it has fulfilled the pertinent requirements for patentability according to the relevant statutes or treaty.[702]

The phrase "technical character" means that *"the programmer must have had technical considerations beyond 'merely' finding a computer algorithm to carry out some procedure."*[703]This means that without this feature, i.e. a technical character, a CP, cannot be patentable and thus cannot be deemed innovation. Accordingly, a CP "as such" must be conceived as knowledge to be used for a CP development which is not technical in character, namely that cannot be applied by a normal programmer but only by a programmer who has

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[697] Art. 52(2)(c). See *inter alia* Adams J and Tang P, 'Patent protection of computer programmes', (University Sussex at Brighton 2001)15,16. Julie E. Cohen & Mark A. Lemley (n547). Some of the early biotechnological patents underline this point. Koo (n70)823

[698] See 2.4.3 of chapter 2

[699] *Amazon .com* (n611) 53

[700] *Research in Motion UK Limited v Inpro Licensing SARL, Research in Motion UK Limited, T-Mobile (UK) Limited* [2006] EWHC 70 (Pat) [110]

[701] Philip Leith , *Software and Patent in Europe* (CUP 2007)7. See also, Choudhary (n480) 438

[702] See section.4.2.2 of this chapter

[703] The Enlarged Board of Appeal ("EBA") of the European Patent Office. It was indicated by David Wilson,Daniel Pearce and Christopher Sharp , 'EPO: Patents - Patentability of Computer-Implemented Inventions', (2010) E.I.P.R. 32(9), 83-87

skills as an inventor.[704] Thus, it could be believed that any invention must currently have a technical character, including a CP, and this means excluding a CP as such which is obviously excluded from the patent system because;

a) A CP as such is not an invention

b) It does not have a technical character

c) The EPO assumes that "software" as such is the opposite of "technical software".[705]

d) Finally, a CP is an intangible thing, as mentioned earlier in chapter 2, which is only information and the patent system does not protect information.

However, the phrase 'technical character' could evolve in the future to include a CP as such to be patentable.

For those reasons, a CP "as such" is not granted patentability by the EPC. Nevertheless, some decisions from the EPO have not adopted a narrow construction of the scope of the "as such" exclusion.[706] These decisions will be examined below.

What then is the judicial position in relation to a CP? First of all, the requirement of a "technical character" is the criterion on which much of the case law has been based. Consequently, it is significant to consider when a claim involving a CP would be deemed to exhibit the requisite technicality.[707]

It could be concluded from the decisions of the Boards of Appeal of the EPO referred to below that there are three groups relating to granting patentability to CPs:

(i)   The first group is a "clear technical character" which are always patentable.

(ii)   The second group is a "technical character to be clarified", which are usually patentable after clarification,

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[704] Bakels (n693) 516

[705] Ballester Rodès, "Case Law of the Boards of Appeal of the European Patent Office" (2006), Ch.I.A.1. See ibid, pare : what is the meaning of the words" as such"?

[706] The EPO's construction of the "as such" exclusion by relying on the *technical* " contribution of the invention in issue has been criticised by some UK courts where a different approach on what constitutes a "computer program as such" exclusion was adopted having regard, inter alia, to the "*actual*" contribution made by the claimed invention and whether it falls solely within the excluded subject matter. See' section 2.3.2. 4 of this chapter/the position in the UK

[707] Attridge (n665) 25. See also David Booton, 'The Patentability of Computer-Implemented Inventions in Europe', (2007)IPQ, 1, 92-116

(iii)   The third group is a "non-technical character", which, in general, are not patentable.[708]These divisions will be explained as follows.

A-"Clear technical character" (Technical Effect and Technical Means)

1- Technical Effect

The inventions which have been classified within the "clear technical character" group must have an impact on a physical entity. The term "physical entity" was first used in the Board of Appeal, *Vicom/Computer related invention.*[709] It was the first case to be accepted by the Board to grant patentability for CPs.[710]The claim was not to the mathematical method and/or a CP as such. The decision attempted to develop the term "technical":

"If a mathematical method is used in a technical process, that process is carried out on a physical entity (which may be a material object but equally an image stored as an electric signal) by some technical means implementing the method."[711]

This therefore requires a technical/physical effect (in this case, the image) and a technical means. It is suggested that "the technical means in this case was the computer hardware".[712]

It could be concluded that the EPO accepted, in this case, that a CP related invention is likely to be patentable because it has a technical character, provided that the claim is not directed to the program as such.[713]

Other decisions of the Technical Board made a similar approach to that in *Vicom.* For example, the decision in *MEI/Currency validator* (T-494/07)[714] concerns "a method of programming a currency tester".[715]

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[708]Eva Liesegang , 'Software Patents in Europe', (1999)C&TLR., 5(2), 48-51, at 48

[709] Case T208/84 *Vicom/Computer related invention* [1987] O.J. E.P.O. 14. See Booton (n707) 92 &93

[710] Leith P (n701)27

[711] Para: Reasons for the Decision

[712] Attridge (n665) 26

[713] It has been suggested that the Board inadvertently allowed the patenting of programs *in their own right:*

"[I]t would seem illogical to grant protection for a technical process controlled by a suitably programmed computer but not for the computer itself when set up to execute control."This rationale must lead to the conclusion that in addition to computer hardware, software can also be a "technical means implementing the method" on a physical entity. This is the "programs as machines" argument rephrased, which, as was shown earlier, allows the patenting of computer programs in their own right. See Davies S. "Computer Program Claims" [1998] E.I.P.R. 431. See also, Case T26/86 *Koch and Sterzel/X-ray apparatus* [1988] O.J. E.P.O. 19. Liesegang E (n708)49

The Board of Appeal concluded that "This is however also the case for a claim directed to an apparatus and including as features explicit "means for" carrying out each of the specified steps, as such a formulation does not exclude the possibility that it is in fact the same means which carry out several or all steps. The above-mentioned possibility of different interpretations is therefore regarded to be a sign of adequate scope of protection rather than indicating a lack of clarity."[716]

2- Technical Means

The issue "technical means" was raised in *IBM/Computer program product*[717], "the claim was directed towards a program, which implemented a computer system recovery procedure that enabled some applications to run in the event of a system failure. Previously, claims had been to the method of the program (achieved through the hardware of the computer). By claiming the program through its carrier medium, the applicant was seeking to establish the medium as the technical means".[718] The Board held that:

" … a patent may be granted not only in the case of an invention where a piece of software manages, by means of a computer, an industrial process or the working of a piece of machinery, but in every case where a program for a computer is the only means or one of the necessary means, of obtaining technical effect…. In other words, on condition that they are able to produce a technical effect, all computer programs must be considered as inventions within the meaning of Article 52(1) EPC, … if the other requirements provided for by the EPC are satisfied."[719]

The decision effectively eliminates the requirement for a "technical means" because the written text alone can now attract patent protection. This does not open the door for all novel,

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[714] [2011] E.P.O.R. 36

[715] [8]

[716] [12]. See also Case T928/07 FUJITSU/Automatic teller's machine [2011] E.P.O.R. 41[24 5.7], Case T06/83 *IBM/Data processor network* [1990] O.J. E.P.O. 5, Case T115/85 *IBM/Computer related invention* [1990] O.J. E.P.O. 30

[717] Case T-1173/97 *IBM/Computer program product* [1999] O.J. E.P.O. 589 . See also Case T928/07 FUJITSU (n586)[8]

[718] Attridge (n665)31

[719] *IBM* (n714) at 6.5

inventive and industrially applicable programs to receive patent protection because it is still required that they exhibit "technical effect".[720]

In conclusion those patents can be granted for the written text of a program without the need for technical means. It could be said that the phrase "as such" means that a CP does not have a technical character. Accordingly, if a CP has a technical character and other requirements are satisfied, patent protection could be granted to that program.[721] Also, one may argue that the Board tried to make harmonisation with the recent developments in USA and Japan.

B-"Technical character to be clarified"

Two important cases require mention, namely T107/87, *Heinz/Data (de)compression method*[722]*,* and T769/92, *Sohei/Computer management system.*[723] In the first case, the Board held firstly that "this method merely related to a coding rule, which does not have a technical character--no technical means were required for its implementation and no specific technical result was achieved. Rather, this coding rule was considered to be a rule for mental activity. Using a computer to (de)compress data would not be enough to make the method technical".[724] However, the claimant later revised its definition of the method to "method for electronic storage and/or transfer of redundant serial data elements by compression of the redundant sequences and convinced the Board of Appeal during oral proceedings that the method could be used to fit the whole Bible on to one commercially available hard disk and that text portions could be retrieved via key words in a way that would not be possible as a result of mental activity. The Board then concluded that the claimed subject-matter could be considered to be a technical method".[725]

In the second decision, T769/92, the claim related to a CP which performed a number of independent financial and inventory management systems. The Board found technical effect because: "… to perform the aforementioned five functions would clearly require technical

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[720] Attridge (n665) 32

[721] ibid 32

[722] [1993] C.R. 26; [1991] *Law Report* 12.

[723] Case T769/92 *Sohei/General purpose management system* [1994] O.J. E.P.O. 525.

[724] See Liesegang (n708) 50

[725] ibid 51

considerations" [726] and "a technical invention could not lose its technical character because it was used for a non-technical purpose, like for instance, financial management" [727]

C-"Non-technical character"

There is a group of CPs related inventions which are considered to be non-technical and, therefore, not patentable. It could be useful to consider four examples: T158/88, *Siemens/Character Shape*[728]*, IBM/Document abstract and retrieval*[729]*, T38/86, *IBM/Text Processing*[730]*, and T204/93, *ATT/Generation of Computer Components.*[731]

In *T158/88*, the Board held that "a method for the display of (*e.g.* Arabic) characters in a particular preset shape chosen from several possible character shapes where the shape of the character varies, according to its position in the word, is in essence not a technical operating method of a data processing system. The data can be distinguished only by virtue of its information content, and does not have any technical effect. The data processed by this method represent neither operating parameters nor a device, nor do they have a physical or technical effect on the way the device works, or solve a technical problem. Accordingly, it was concluded that the method does not make use of any technical means and, therefore, is not patentable"[732].

In *IBM/Document abstract and retrieval*, the Board held that there was a lack of technical effect because the claim was only a method of performing a mental act. The Board emphasised the fact that although the abstracting used technical means, the contribution of the art was not technical. Consequently, the Board refused to grant a patent to a method of performing.[733]

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[726] *Sohei* (n723)[3.6]. see Attridge (n665) 9

[727] *Accucard Ltd. Application/Trade Mark* No: GB0030707.4. (2003) 12

[728] [1991] O.J. 566

[729] Case T22/85 *IBM/Document abstracting and retrieval* [1990] O.J. E.P.O. 12

[730] [1990] O.J. 384

[731] Unreported

[732] Liesegang (n708) 50

[733] ibid 50

This decision has been affirmed by the Board in *IBM/Text processing*[734]. Nevertheless, it could be said that the decision in this case was clearer than in the previous case because it admitted that a patentable invention could be a mixture of technical and non-technical effects. That does not mean that all mixtures were patentable. The Board concluded that it would:

"… permit patenting only in those cases in which the invention involves a contribution to the art in a field not excluded from patentability"[735]

Briefly, it could be concluded from this case that there was not a technical nature in the invention. Therefore, the provision of patent could not apply on it.[736]

T204/93 relates to a system of generating concrete software programs from program components or program modules. In this case the Board held that "the invention resided in a field excluded from patentability: a programming activity which is considered to be a mental act irrespective of the purpose of the resulting program, which could be used to control a technical process. Up to the present day, the EPO does not consider the work of a programmer to be technical".[737] Thus, a CP is a mental act which would not be granted patent protection because there is no a technical problem to be considered.

Finally, in *PBS Partnership/Controlling pension benefits systems*, the Enlarged Board ruled that "Having technical character is an implicit requirement of the EPC to be met by an invention in order to be an invention within the meaning of Article 52(1)".[738] Also, it ruled that the "contribution" approach is not suitable for deciding whether something is an invention within the meeting of Article 52(1).[739] Accordingly, technical character is the main requirement to grant a patent to any invention. In this case, the "the further auxiliary" or

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[734] Case T38/86 *IBM/Text clarity processing* [1990] O.J. E.P.O. 384

[735] ibid12

[736] This approach was followed in case T158/88 *Siemens/Character form* [1992] E.P.O.R. 69, where a program which refined Arabic characters so they were consistent with the subsequent characters, was refused a patent. See, Attridge (n665) 50

[737] Liesegang (n708) 6.In this meaning, in Case T50/07 The Technical Board of Appeal held "the application was concerned with the aesthetics associated with the operations of manipulating windows, which lacked technical character" accordingly, "The aesthetic effect per se had no technical character and was to be regarded as an aim to be achieved" . APPLE/Method of transition between window states (T50/07). E.P.O.R, Technical Board of Appeal[H11] ,[12]

[738] CaseT931/95 *R. v PBS Partnership/Controlling pension benefits systems* [2002] E.P.O.R. 52 . See also Case T2258/10 CLAD METALS LLC/Cooking vessel[2012] E.P.O.R. 22

[739] *R. v PBS Partnership* (n 616)

business method is not technical character even though it could be "contribution" character which is not enough to grant patentability.

The outcome of this discussion is that the Europe's CP patent policy currently has settled that a CP must have a technical character. Nevertheless, the writer's view considers that there is a positive prospect of including a CP, unless it is 'as such', under patent provisions in order to be more harmonious with the US and Japan approaches.

This harmonisation could lead to unification of the rules of patent systems whether in the USA or other European countries. This unification would help us to avoid any clash between the different systems, for example if there is patent protection for a program in the USA but at the same time those countries do not give patent protection. This might affect investment in producing CPs in Europe. As for Iraq, which is close to French law because French law is the source of Iraqi Civil Law, the Iraqi legislator could adopt the European position binding upon French law and encompass this patent protection.

4.2.3.2.4. The position in the UK

1- The legal position

The legal position in the UK is that the Patent Act 1977, which is based on the EPC Act, Art 52 (1, 2) has ruled out "a program for a computer" from patentability. It means a CP "as such" is excluded from patent protection.

The question could be raised in this area of research, what is the reasoning which led the UK legislator to have passed this legislation specifically excluding CPs "as such" from patent protection.

The UK PA 1977 was a consequence of the UK becoming part of the EPC, and a CP as such is an intangible thing, as mentioned in chapter 2.[740]This could be supported by the law set out above.

Also, examining debates in the British Parliament could give us clear understanding of the reason for the exclusion since there is no clear definition of a CP as such. This flaw prevented the legislature including a CP as such as being patentable. International Computers Limited, the International Telephone and Telegraph Company Limited and the British Electrical and Allied Manufacturers' Association Limited of which GEC for instance is a member, on this matter, "all believe that the intentions of the European Patent Convention must be clearly

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[740] See chapter 2 /s 2.4.3.

expressed in the Bill in order to distinguish between intellectual activity covering flowcharts, programs written in high-level programming languages, coded instructions and so forth, all of which is symbolic, and engineering activity which is producing adaptive and programmed hardware which is represented by logic circuits, wiring, pathways in semi-conductor and so on, which is not symbolic".[741]

Thus, the legislature is bound by the European Patent Act through including "computer program" in a list which reads:" … a scheme, rule or method for performing a mental act, playing a game or doing business".[742] These debates have prompted the legislature to exclude a CP as such from patent protection.

2- The judicial position

As mentioned in the previous chapter, CPs are protected in the UK by copyright. In addition, the legal position has prohibited applying a patent provision to a CP. This approach is consistent with the legal position in the EPC. However, the judiciary position in the EPO accepted as patentable CPs based on a "technical character" as mentioned earlier.[743] It is convenient to ask whether ECL can accept CPs as patentable.

Many English Court of Appeal decisions have contributed to the UK development in the patentability implemented invention.[744] It would be useful to examine the recent cases in the UK to be aware of the general approach in respect of prospects of granting patentability to CPs.

The ECL[745] approach in respect of patentability of CPs has been influenced by many cases which will be illustrated below to provide the reader concerning the real English situation in respect of granting patent or not to CPs.

A- *Aerotel and Macrossan* [2006] EWHC Civ 1371

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[741]Lord Cawley, See Patents Act 1977, (2010) <http://hansard.millbanksystems.com/acts/patents-act-1977 > Accessed 5 June 2011

[742] The Lord Chancellor, Lord Ironside ,ibid

[743] See s 4.2.3.2.3

[744] For example, look at these cases 'Genentech [1989] RPC 147,Merrill Lynch [1989] RPC 561, Gale [1991] RPC 191, Fujitsu [1997] RPC 608. Aerotel and Macrossan [2006] EWHC Civ1371, Symbian Limited and Comptroller General of Patents [2008] EWCA Civ 1066. Re patent application in the name of Halliburton Energy Services Inc and others [2011] EWHC 2508

[745]It refers to English Case Law

The UK Court of Appeal issued a joint decision towards the end of 2006 in the matters of "*Aerotel and Macrossan*" which examined the interpretation of s1(2) of the UK PA 1977. The various approaches which have been adopted in this case are; the ''contribution approach'', the ''technical effect approach'', and the ''any hardware approach''.[746]

The Court of Appeal has referenced the ''contribution approach'' based on four steps ; "(1) properly construe the claim,(2) identify the actual contribution;(3) ask whether it falls solely within the excluded subject matter;(4) check whether the actual or alleged contribution is actually technical in nature".[747]

The UK Intellectual Property Office's [748] implementation of *Aerotel /Macrossan* led to a significant number of objections under s1 (2) being raised against applications. Moreover, the UK IPO rejected in most cases claims to CPs which implemented a patentable method or apparatus.[749] The UK IPO's implementation of this case has been revisited by the UK High Court in two cases, *Astron Clinica and Autonomy* , as well as the latest case in 2011 which is 'Re patent application in the name of Halliburton Energy Services Inc and others' . These will be discussed below.

B- *Astron Clinica Ltd & Ors v The Comptroller General of Patents, Designs and Trade Marks* [2008] EWHC 85 (Pat) (25 January 2008)

It could be said that this case raised an important question whether patent claims can ever be granted for CPs.[750] The EPO considers such claims are allowable "if the program has the potential to bring about, when running on a computer, a further technical effect which goes beyond the normal physical interactions between the program and the computer".[751]The High Court stated that it is highly undesirable that provisions of the EPC are construed differently in the EPO from the way they are construed in the national courts of a Contracting state.[752] Kitchen J commented that: "*In all these circumstances I have*

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[746] *Aerotel and Macrossan* [2006] EWHC Civ 1371[26]

[747] ibid 40 . See *inter alia;* Wallis H, 'Patentability of Computer-Implemented Inventions: the changing landscape in 2008*'*, (2009) Communications Law 2. Salmon V, 'Patenting computer software and business methods in the UK*'* (2007) Communications Law 12(1), 18-21, at 18

[748] Hereinafter "The UK IPO"

[749] HGF Law (it is a leading firm of lawyers specialising in intellectual property matters) , Recent UK Developments in the Patentability of Software Implemented Invention, (2008) <www.hgf.com/uploads/hgfbriefingnote.pdf> accessed February 2008. See also, Re patent application in the name of Halliburton Energy Services Inc and others [2011] EWHC 2508

[750] This enquiry does not include CPs a such since it is excluded by the UK PA 1977 , s1(2,c)

[751] [1]. See also Aplin (n695) at 381

[752] Astron Clinica [50]

reached the conclusion that claims to computer programs are not necessarily excluded by Art 52. In a case where claims to a method performed by running a suitably programmed computer or to a computer programmed to carry out the method are allowable, then, in principle, a claim to the program itself should also be allowable. I say "in principle" because the claim must be drawn to reflect the features of the invention which would ensure the patentability of the method which the program is intended to carry out when it is run."[753]

According to this decision, it seems that the High Court approach is consistent with the EPO approach in terms of treatment of CPs. However, this Judge tried to harmonise the ECL with the EPO approach and at the same time he could not contradict the UK law because the law is very clear concerning excluding a CP as such from the patent system.

C- *Autonomy Corporation Ltd v The Comptroller General of Patents, Trade Marks & Designs* [2008] EWHC 146 (Pat) (06 February 2008)

In this case, the aim of the invention was to provide an improved interface between a user and a computer. "The contribution of claim 1 was summarised as (i) automatically analysing the text in the active window and generating a list of links related to that content, and (ii) providing an icon that represented a category of such links (which further displayed a summary of the content of a link when the cursor was moved over that link). Claim 2 explicitly required the icon to be embedded in an unobtrusive place".[754]

Lewison J considered this to be "a paradigm example of a case in which the contribution falls squarely within excluded matter, i.e. a program for a computer". His reasoning was that it did not exist independently of whether it was implemented by a computer, it did not require a new hardware or a new combination of hardware, it did not result in a better computer; instead, it was the effect caused merely by the running of the program, it was nothing more than a claim to a better search program. He considered the subsidiary claims to be unpatentable as matters of program design.[755]

D- *Symbian* [2008] EWCA Civ 1066

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[753] Mr Justice Kitchen [51]

[754] Autonomy Corporation Ltd, 1

[755] ibid 40,42 & 50

The applicant made a UK patent application in relation to a method of accessing data in a dynamic link library (DLL) in a computing device. The application claimed that " the alleged invention would avoid the difficulties and potential unreliability, and therefore the malfunctioning, of the prior art link-by-ordinal system, (which in principle was faster, and required less processing power and memory, than the link-by name system) and yet retain its advantages or most of them. The claimed invention had an application to a wide range of electrical devices, including any form of computer, various forms of cameras and communication devices such as mobile phones and other products which combined communications, image recording and computer functionality within a single device. The invention enabled such devices to work faster and more reliably".[756]

The hearing officer of the UK IPO, on behalf of the defendant, refused the application on the ground that the alleged invention was excluded from patentability by s 1(2) of the Patents Act 1977. The corresponding provision of the Convention on the Grant of European Patents 1973 for the purposes of the instant case was Art 52.[757] The Patents Court allowed the applicant's appeal against the defendant's decision. The defendant appealed.

The Court of Appeal indicated that technical contribution should be understood in the context of the older EPO, *Vicom* and *IBM* decisions and the Court of Appeal's previous judgments in *Merrill Lynch* and *Gale.*[758] It could be said that "technical contribution" may lie in software programmed into a computer making the computer better, or solving a 'technical' problem lying within the computer itself. The application in this case was held to be patentable on the ground that the alleged invention 'improves the speed and reliability of the functioning of the computer'.[759]

According to the facts and features of this case, if the program has a novel effect outside the computer it would be patentable.[760] In other words, if the program was for performing a new or improved function on a machine that program would be patentable but if this function is only to be performed on the computer itself, the programme would not be excluded from patentability. This case has raised a very important subject when it referred to the requirement of technical contribution. If a CP does not have a technical contribution that program would be a CP as such which is excluded from patent protection.

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[756] *Symbian Ltd v Comptroller General of Patents, Designs and Trademarks* [2008] 1066 EWCA. [2],[3]

[757] ibid[5]

[758]ibid [38],[39],[40].

[759] ibid [49]. See also Wallis (n622) 6

[760] *Symbian* (756)19

Finally, the UK IPO accepted that "a program that results in a computer running faster or more reliably may be considered to provide a technical contribution even if the invention solely addresses a problem in the programming".[761] It could be argued that the UK IPO favoured the *Symbian* case even though the UK IPO's approach is rather narrower than Lord Neuberger's [762] statement that "a technical innovation, whether within- or outside the computer will normally suffice to ensure patentability (subject of course to the claimed invention not falling foul of the other exclusions in art 52(2)).".[763]

On the other hand, the last development in English case law can be noticed in "*Re patent application in the name of Halliburton Energy Services Inc and others*".[764] In this case, all patent applications were rejected by the UK IPO because the inventions were excluded from patentability as scheme, rule or method for a mental act and as CPs.[765] The Court insisted that the claims are directed to "the purely intellectual content of design process "[766] which means no patent protection to these claims. Accordingly, the Court ruled that patent protection should be assessed in the light of *Aerotel* and *Symbain* cases because they are the basis to examine any claim for patent CP. In addition, the Court added that patent protection should only be granted to a computer implemented invention in the UK .Thus, a CP as such is excluded from patent protection.[767]

To sum up, the UK IPO and case law approach goes against conferring patentability on CPs although there were attempts to exclude CPs invention from the patent exclusion. One of the reasons is that a CP as such is an intangible thing and classified as a mental act. Chapter 2 set out the reason concerning the nature of a CP as an intangible thing. [768] This prevents conferring patentability on a CP as such. However, a computer implemented invention could be patentable if there was a technical contribution.

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[761] Intellectual Property Office, Patentability of Computer Program < http://www.ipo.gov.uk/pro-types/pro-patent/p-law/p-pn/p-pn-computer.htm > Accessed 8 December 2008

[762] He is the Judge in *Symbian* case (756)

[763] *Symbian* (n 756) [58]. See also, Boon J, 'UK software patents – Get with the program *'*, (2009) CL&SW, 25 (4), 367–371

[764] Re patent application in the name of Halliburton Energy Services Inc and others (n486)

[765] ibid [2]. See also Re Cappellini & Bloomberg [2007] EWHC 476 (Pat)[13]

[766] Re patent application (n764) [49]

[767] ibid79. It was decided that "The application in suit is excluded from patentability as relating to the presentation of information as such.", see *Benker v The Comptroller General of Patent* [2011] EWHC 3604 (Pat)[26]

[768] See chapter 2/ 2.4.3.

4.2.3.2.5. The position in Iraq

The Iraqi Patent and Industrial Models Law No.65 of 1970, as amended in 2004, has granted an invention a patent if that invention is novel, involves an inventive step and is capable of industrial application.[769] Moreover, the Iraqi Patent Law requires that to be sufficiently disclosed at the time of filing.[770]

Its rules define what comprises an invention. For example, it provides that an invention could cover a product, a process, new application, or any combination of well-known methods to obtain a new result.[771] Under that law, there are certain exclusions from patentability:

1- Inventions that are contrary to public order and morality are not eligible for patent protection.[772]

2- Methods or means used in financial, banking, or mathematical matters as well as buildings, maps and three-dimensional works are also unpatentable.[773]

On the other hand, it is silent in relation to several exclusions. For example, it is silent on the exclusion from patentability of plants and animals other than microorganisms, and essentially biological processes for the production of plants or animals, other than non- biological and microbiological processes.[774] It is also silent on the exclusion of diagnostic, therapeutic and surgical methods from the scope of patent protection. These could be excluded from patentability if French law did because the Iraqi legislator could exclude these things through the principle of harmonisation as we will see in the next chapter.

The Iraqi Patent Law is also silent as to whether CPs should be excluded from the domain of patent protection. However, it could be argued that a CP as such is a mathematical matter and would therefore be excluded from patent protection under Iraqi law. But it could be concluded that the real legal position for Iraqi law results from the TRIPs Agreement because the legal situation in Iraq after 2004 has been changed. Iraq is currently in the pipeline of acceding to the WTO. Thus, Iraq needs to develop a comprehensive strategy to implement the

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[769] S 2. Also, Jordanian Patent Act(JPA 1999), s 3

[770] S 16

[771] Ss 1.4 & 2

[772] S 3(1)

[773] S 3 (2, 3). JPA1999 s 4a (1,2)

[774] The TRIPs , Art. 27(3,b)

TRIPs successfully and expeditiously, as envisaged by the TRIPs.[775]Therefore, this study will investigate the legal position regarding CPs in that Agreement in the next step.

4.2.3.3. The legal Position of International Application of CPs Protection

There are several Agreements and proposals for protecting CPs such as the TRIPs Agreement. However, most of them stipulated that a CP shall be protected as a literary work. On the other hand, there are proposals which confer patentability on CPs.[776] This raises the question of how other countries' legislations can deal with CPs in relation to patent provisions. Thus, it could be useful to illustrate that as follows.

4.2.3.3.1. WIPO Model Provisions on the Protection of CPs

WIPO started a proposal to consider the question of the legal protection of computer programs in the 1970s, and, first, the idea of working out a *sui generis* system emerged. The *sui generis* protection covered all three elements of CPs: object code, source code and documentation. However, the WIPO Model Provisions on the Protection of Computer Programs which provided for a *sui generis* system were not followed by national legislators because they already contained general rules on the copyright protection of CPs, which granted the same kind of protection as to other categories of works . Therefore, the idea began to prevail that copyright should be applied for the protection of CPs particularly when the Programs Directive of the European Community and TRIPs both accepted that a CP should be protected as a literary work. [777]

A CP was defined in section 1 as "a set of instructions capable, when incorporated in a machine readable medium, of causing a machine having information-processing capabilities to indicate, perform or achieve a particular function, task or result".

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[775] Iraq takes first step to join WTO," 12 February 2004, Financial Times 14. Having a seat at the WTO as an observer would allow Iraq to attend WTO meetings but not participate in decision-making or table proposals for negotiations. See Malkawi(n17) 591&footnote 1

[776] See section 2.3.3.3 of this chapter

[777] Non-author, *WIPO Model Provisions on the Protection of Computer Software*, (2009) Available at: <http://www.wipo.int/tools/en/gsearch.html?cx=000395567151317721298%3Aaqrs59qtjb0&q=WIPO+Model+Provisions+on+the+Protection+of+Computer+Software&sa=Search&cof=FORID%3A11#1348)> Accessed 5 February 2010

This proposal granted protection to the "proprietors", and included both economic and moral rights.[778] It specifically excluded any protection of the "concepts" on which the CP is based.[779] For example, protection has not been granted to a CP as such, mathematical operations, analysis test data and so forth. The period protection was identified for twenty years as measured from the earlier of the two dates of first use, or first sale, not to exceed twenty five years from the creation of the software.[780] One may argue this period of protection is seemingly too long since the age of a program in commercial life is short in comparison with other products.

Finally, this proposal removed the uncertainty of national treatment, as Section 9 did not pre-empt other applicable national laws in order to provide "a form of protection specific to the needs of computer procedures".[781]

4.2.3.3.2. The TRIPs Agreement and Patent Protection

The TRIPs Agreement has classified the inventions which deserve patentability and those which do not.

1- Patentable inventions

Under TRIPS, three conditions for patentability of inventions are required: the invention shall be novel, involve an inventive step, and be capable of industrial application.[782]

That invention may be a product or process. An invention relating to a product or process that assembles all three required conditions is eligible for a patent. Additionally, the TRIPs Agreement has extended the scope of availability of patents to inventions in all fields of technology and disregards the place of invention and whether products are imported or are produced locally.[783]

It maintains that a developing country member must extend product patent protection to the areas of technology not protectable in its territory on the date of application to TRIPs, or it

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[778] S 5

[779] Alakeel (n619)181&182

[780] S 7

[781] Alakeel (n619) 182

[782] Art. 27(1)

[783] ibid. Also: Daniel Gervais, *The TRIPS Agreement : Drafting History and Analysis* (3rd edn, Sweet & Maxwell, 2008)338, Jacob R. Osborn , 'View of the Hierarchy of Patent Rights, TRIPS, and the Canadian Patent Act', (2010) AIPJA , 4, 264,265

may delay the application of the provisions on product patents for an additional period of five years.[784]

2- Unpatentable inventions

Two provisions of this Agreement deal with matters, relating to the unpatentability of inventions.

Under this Agreement, each member country has the discretionary authority to determine situations that threaten public order or morality.[785]This provision allows countries to exclude some inventions from patentability if their exploitation might contravene public order or morality, or which are destructive to human health. WTO members can also exclude from patentability: (a) diagnostic, therapeutic and surgical methods for the treatment of humans or animals; (b) plants and animals other than microorganisms, and essentially biological processes for the production of plants or animals other than non biological and microbiological processes. However, WTO members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof. The provisions of this sub-paragraph shall be reviewed four years after the date of entry into force of the WTO Agreement.[786]

The question arises whether the provisions of the TRIPs Agreement protect a CP as patentable.

Apparently, CPs are not patentable subject matter, since the TRIPs Agreement provides for copyright protection of CPs, even though the Agreement has not stated that CPs could be protected by patent.[787]

Two categories of CPs-related inventions may be defined: a- CPs which produce a technical effect within the computer or other hardware components; and b- CPs that produce technical

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[784] This so-called "pipeline" provision permits the owner of intellectual property in the concerned area to obtain at least five years of exclusive marketing rights in those countries that did not grant patents in these fields. See, Oddi S , "TRIPS-Natural Rights and a Polite Form of Economic Imperialism," (1996) Vanderbilt Journal of Transnational Law 415, 438. Malkawi (n17) 592

[785] Art 27(2). This Article referred to *ordre public* . This term expresses concern regarding " matters threatening the social structure which tie a social together, i.e. matters that threaten the structure of civil society as such". See, Gervais (n783) 343 & footnotes 518. See also, Carlos M. Correa & Abdulqawi A. Yusuf (ed.) *Intellectual Property and International Trade: The TRIPS Agreement,* (Bedfordshire/ the UK: Wolters Kluwer Law & Business 2008)230

[786] Art. 27(3). JPA 1999(s 4)

[787] Art. 10

effects different from those described in (a), entailing changes in the state of physical matter, such as effects on equipment applied to a specific industrial task.[788]This approach complies with the EPO approach which rejected to grant a CP as such patentable.

One may argue that the TRIPs Agreement accepts patents in respect of CPs, on condition that they are not 'as such', if they produce a technical effect and three requirements of patent satisfied, because, as mentioned earlier, a patent shall be granted for any invention, product or process belonging to any field of technology, which is new, involves an inventive step and present industrial application. According to this Agreement, the writer agrees with the trend which considers CPs are not excluded from patentability.[789] The writer cannot give solid evidence regarding the patent of a CP under this Agreement. However, the practical application with European case law confirms that a CP could be granted patentability if it has a technical character as mentioned earlier. In addition, Iraqi law is silent as to whether or not a CP may be patented. Additionally, USA patent law accepts that a CP may be patented. All these proofs support accepting that a CP could be protected under patent rules by this Agreement. However, a CP as such, which is a mathematical matter, is excluded from patent protection.

4.2.3.3.3. The Proposals for the Directive of the European Parliament and the Council on the Patentability of Compute-Implemented Inventions

1- Introductory remarks

The European Parliament and the European Council have adopted two Proposals for a Directive on the patentability of computer –implemented invention, the first one was rejected and the second has not issued yet. Both are similar but the second has been more detailed. It would be useful to examine these Proposals.

Firstly: On February 20, 2002, the European Council and the European Parliament adopted a Proposal for a Directive on the patentability of computer-implemented inventions.[790] This Proposal sought to end an ambiguous matter of patentability of CPs, which has confused the EU Council and the Commission, as well as the EPO Board of Appeal, for many years.[791]

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[788] Correa C & Yusuf A (n785) 236

[789] See, Effimia Panagiotidou , 'The Patentability of Computer Programs, according to the Commission's New Proposal for a Directive and to the EPO Boards of Appeal decisions',(2003) C&TLR, 9(5), 126-132, at 126

[790] Proposal for the Directive of the European Parliament and of the Council on the patentability of computer-implemented inventions, COM/2002/0092-COD 2002/0047, O.J. C151/129.

[791] Panagiotidou (n789)126

The reasons given for adopting this Directive were: "(a) the high value of the packaged software market in Europe; (b) the low competitiveness of the European Economy on this specific sector; (c) the falling tendency of European applications for patents; (d) the necessity to promote productivity of EU CPs SMEs[792];(e) the encouragement of investment in this field and the harmonisation of the national patent laws regarding computer-implemented inventions".[793]

Additionally, the Proposal sought to be within the scope of the TRIPs Agreement, which granted patentability for all products or processes in any field of technology. As mentioned above, a CP can be patentable according to this Agreement. Accordingly, it could be said that this Proposal constituted an effort on behalf of the EU to fulfil the obligations undertaken under that Agreement, particularly of Article 27.[794]

Finally, this Proposal has been overwhelmingly rejected by the European Parliament because the Proposal provoked public disagreement by diverse opponents of software patents, who argued that software patents were neither economically desirable nor mandated by international law.[795]

Secondly: On March 7, 2005, the European Council and the European Parliament adopted another Proposal for a Directive on the patentability of computer-implemented inventions.[796] This Proposal sought to prevent different interpretations of the provisions of EPC relating to the limits to patentability as well as encouragement the investors to investment and innovation in the field of software.[797] This Proposal has not been rejected yet.

Thus, it would be useful to exhibit these two Proposals and make comments regarding their significance in the scope of protection of CPs.

2- The structure of the Proposals

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[792] "SMEs" stands for small and medium –sized enterprises- as defined in EU law COMMISSION RECOMMENDATION of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (notified under document number C 2003) 1422)(Text with EEA relevance) [200] OJ361/EC art 2< http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:124:0036:0041:EN:PDF> Accessed 18 April 2012

[793] Panagiotidou (n789)126

[794] ibid 2

[795] ibid 3

[796] Proposal for the Directive of the European Parliament and of the Council on the patentability of computer-implemented inventions, COM/2005/C144 E/02

[797] ibid Para:8

The first Proposal contained 11 articles and the second contains 12 articles. They preserve the application of the provisions on the decompilation and interoperability of Directive 91/250. According to the Preamble to the Proposals, the Directive does not abolish the protection of CPs under the provisions of Directive 91/250 but establishes simultaneously their parallel protection under the provisions applied for patents.[798]

Articles 7&8 concern the monitoring of the impact of the Directive within Europe on behalf of the Commission and the addressing of a report to the Parliament and the Council on the operation of the Directive within a period (three years under the first Proposal and five years under the second Proposal) from the date when the Member States will transpose it into national law. Articles 9-11 are standard articles governing the coming into force of the Directive and its transposition by the Member States. Arts 1-5 are substantial law provisions, upon patentability of computer implemented inventions.

3- The scope of the Proposals

The Proposals are applied to a "computer-implemented invention".[799]This term has been defined as any invention the performance of which involves the use of a computer, computer network or other programmable apparatus and having one or more prima facie novel features which are realised wholly or partly by means of a CP or CPs.[800]Therefore, this term is an invention with a direct connection between what appear to be novel features and the CPs: the program causes the invention to be realised. The Proposals excluded a CP "as such" from patentability.[801]

It could be said that the important change in these Proposals is that a patent for a computer implemented invention protects the ideas and the principles which underlie any element of the CP as stated in the claims which led to make difference from copyright protection .This principle of protection is contrary to copyright which protects the expression not the ideas as mentioned in chapter 3.[802]

 Accordingly, the patent-owner can prevent any person from using a CP according to the ideas and principles claimed in his/her patent. This provision applies even if the second

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[798] Art 6 of the Proposals

[799] Art.1

[800] Art. 2

[801] Art 4/1

[802] See s 3.2.2

program has a different object code or source code[803], because it is evident that the first program is the ground of the second program therefore the owner of the last program requires a licence to make his program

4- The criterion of patentability of CP invention

There is a special criterion for a computer –implemented invention to be patented. This is"a technical character".[804] This term means "a contribution to the state of the art in a technical field which is new and not obvious to a person skilled in the art".[805] This means the program without that term would not be belong to any field of technology and is not an invention at all and hence not patentable, too.

5- How can a 'computer-implemented invention' be patentable under the Proposals?

Three steps are required by the Proposals for any invention to be patented, as follows.

First: Technical contribution to the state of the art.
The first step which should be considered in computer –implemented inventions is that their contribution to the state of the art has a technical character which is the solution suggested by the requirement that the invention is a technical solution.[806] This raises the question why the Proposals provided that. In fact, in computer-implemented inventions, some of their inventive features might be technical and others might not be. Accordingly, as the solution proposed by the invention does not have a technical character, this means the invention presents no technical contribution to the state of the art and that leads to it not involving an inventive step.[807]
The EPO Guidelines instruct the examiners to apply the "Problem and solution approach", that is to guess the technical solution proposed by the invention to a technical problem.[808]

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[803] Panagiotidou (n789) 127

[804] See s 4.2.3.2.3

[805] Art 2(b)

[806] ibid

[807] Panagiotidou (n789)128 &footnotes 23

[808] *Guidelines for Examination in the EPO, Part C, Chapter IV, 9. Inventive step, www.european-patent-office.org/legal/gui_lines/e/c_iv_9.htm* For the rule "Problem--solution approach", *see* also Cases T 0163/85-3.5.1.*Colour television signal/BBC,* 9.5 [1990] O.J. EPO issue 379, T 1173/97-3.5.1, *Computer program*

Second: Non obvious to a person skilled in the art.

According to the definition of technical contribution, the second prerequisite for the term of the technical contribution shall be non-obvious to persons skilled in the art. This condition is consistent with Article 56 of the EPC, which is identical for all kinds of inventions.

This rule has three main stages. Firstly, the examiner identifies the closest prior art to the claimed invention; and secondly, he/she establishes the technical problem to be solved by the claimed invention; and the final stage, starting from the closest prior art and the technical problem, the examiner considers whether or not the claimed invention would have been obvious to the person skilled in the art.[809]

Third: Assessment of the technical contribution.

The technical contribution shall be assessed by consideration of the difference between the scope of the patent claim considered as a whole, elements of which may comprise both technical and non-technical features, and the state of the art.[810]

Accordingly, the technical contribution could be envisaged in three ways: (i) the way may be not known to the state of the art; or (ii) it may be different from other ways which are used according to the state of the art; or (iii) it may achieve results different from results achieved according to the state of the art. Thus, that invention is assessed as an invention involving an inventive step.[811]

The writer's opinion, even though the first Proposal was rejected, is that it is really important for the future in Europe because it is likely to resolve the overlap in cases relating to patenting CPs. Additionally, the second Proposal could be considered a good attempt to harmonise with other countries which are using patent provisions to protect CPs as well as copyright protection such as the USA. Iraqi law might benefit from this Proposal if it was applied in European countries particularly in France as the French law is the origin of Iraqi law. This allows the Iraqi legislator to borrow the rules which exist in the French Law on the

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product I/IBM [1999] O.J. EPO [609], T 0935/97-3.5.1, *Computer program product II/IBM* [1999] R.P.C. 861 and T 1194/97-3.5.*2, In re Koninklijke Philips Electronics N.V.* [2000] O.J. EPO 525

[809] Panagiotidou (n789) 128

[810] The Proposal, Art.2(a)

[811] Panagiotidou (n789) 128

Intellectual Property Code 1992, as consolidated 2010(FLIPC) as we will see in the next chapter.

4.2.4. What is the kind of CP in the world of the inventions?

4.2.4.1. As a product claim

As mentioned earlier in the introduction to the patent's section an invention can be a product which means that a product is a tangible thing. Also, it was mentioned that this kind of invention has been indicated by the laws of countries such as the UK, the USA and Iraq.[812]Thus, product invention can be requested only for a physical entity.[813]

The Boards of Appeal, first in *Vicom* and later in *Koch & Sterze,* ruled that "an invention which would be patentable in accordance with conventional patentability criteria should not be excluded from protection by the mere fact that for its implementation modern technical means in the form of a CP are used. Decisive is what technical contribution the invention as defined in the claim when considered as a whole, makes to the known art. Finally, it would seem illogical to grant protection for a technical process controlled by a suitably programmed computer but not for the computer itself when set up to execute the control".[814]

In *re IBM's European Patent Application No 96 305 851.6* the Board developed the reasoning of *Vicom* and ruled that:"the Board found it illogical to grant a patent for both a method and the apparatus adapted for carrying out the same method, but not for the computer program product, which comprised all the features enabling the implementation

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[812] See s.4.2.1.1 of this chapter

[813]Reto M. Hilty & Christophe Geiger 'Patenting Software? A judicial and socio economic analysis*',* (2005) IRIP&CL, 36(7), 755-787

[814] Case T 0208/84-3.5.1, *Vicom* [1987] O.J. EPO issue 14, reason no.16. For the *Vicom* case,. In Case T 0026/86-3.5.1, *Koch & Sterzel* [1988] O.J. EPO issue19, "the claim was for an X-ray apparatus controlled by a data processing unit. The unit used different exposure information and regulated the voltage of the apparatus in order to achieve the most appropriate exposure to X-rays". The Boards of Appeal ruled that "since the program operates the computer so as to technically alter its functioning, the unit of this software and hardware may be a patentable invention. The invention produced a further technical effect, which was the regulation of the X-rays and, even more, the applicant did not claim the patenting of the program "as such", but the patenting of an apparatus, operating using technical means and so the invention was patentable". These cases have been reffed by Panagiotidou (n789) 128 &129

of the method and which, when loaded in a computer, was indeed able to carry out that method.".[815]

The Board also ruled that "the computer program product comprises a computer-readable medium on which the program is stored; this medium only constitutes the physical support on which the program is saved, and thus constitutes hardware".[816]

Thus, if a CP provides entire features of the application of a method and is loaded in a computer that program would be a product.[817]Accordingly, in those cases the claim for a CP product is not considered as claiming the patenting of the program "as such".

4.2.4.2. As a process claim

As mentioned earlier a process can be deemed as a tangible thing too if it makes changes in a physical state.[818] Thus, it means "a process carried out by such a computer, computer network or apparatus through the execution of software".[819]

The term "as such" cannot be implemented in a physical device, this leads to considering a CP "as such" to be a process invention. The reason is that a CP is a series of instructions that cause the computer to function in a certain way, and it comprises an entity of steps that creates an intangible result.[820] Therefore, a CP as such is a process invention.[821]

This form of claim is accepted by the Proposals Directive the EPO. Boards of Appeal case law resemble those required by the Guidelines of the US Patent Trademark Office (USPTO) and of the Japan Patent Office (JPO), concerning applications on computer-implemented inventions.[822]

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[815] See reasoning 9.3. of Case T 0935/97-3.5.1, *Computer program product II/IBM* [1999] R.P.C. 861. See also Jean Hughes, *Patentability of software,* comment in *IBM/Computer programs Technical Board of Appeal T-935/97* [1999] E.P.O.R. 301

[816] See the same case

[817] Panagiotidou (n789) 129

[818] See s 4.2.1.1 of this chapter.

[819] The European Proposals, Art 5

[820] See Hilty R & Geiger C (n813)758

[821] ibid 7 . See also R.M. HILTY, "Der Softwarevertrag - ein Blick in die Zukunft", 2003 MMR 3, p. 10. M. VIVANT & J.-M. BRUGUIÈRE, "Protéger les inventions de demain", under the direction of M. VIVANT, "La Documentation fran%26aise" 16 *et seq.* (Paris 2003)

[822] See Panagiotidou (n789) 129

According to this similarity of the claims in the EU, the USA and Japan, the applicant for a patent to the USPTO or to the JPO would obtain the right to file the same application to the EPO, and the Patent Cooperation Treaty (PCT) Rule 67.1 which excludes the International Preliminary Examination on an international application when the subject matter is CPs, shall not be applied.[823] On the other hand, the applicant for a CP implemented invention in the EPO will have the right to apply for a patent from USPTO and JPO as well and the applicant does not need to amend his/her claims thus "endangering the remark that the scope of the invention is broader than originally filed"[824]

4.2.5. The economic impact of CPs on invention, investment and information technology

4.2.5.1. The economic aspect of CP on invention

In general, in using the patent scheme for protecting inventions and innovations, it is fundamental to evaluate an innovation and its activities.

This protection can promote invention in three ways:

1- Inventors would be stimulated by patent protection to invest time and money in research and development through a reward to the successful inventor.

2- The patent protection would allow the inventors to exploit their inventions for the duration of the patent. During this time he/she could obtain monetary gain adequate to justify considerable investment in the invention through the sale of patent rights, royalties and related fees.

3- Finally, the disclosure of the invention could be encouraged by this protection. This disclosure may include significant technological details. This disclosure could encourage other inventors to develop alternatives.[825]

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[823] See, Patent Cooperation Treaty,Done at Washington on June 19, 1970, , amended on September 28, 1979, modified on February 3, and October 3, 2001 and (as in force from April 1, *Regulations under the PCT Rule 67 Subject Matter under Article 34(4)(a)(i)*, <http://www.wipo.int/pct/en/texts/rules/r67.htm> Accessed 8 August 2010

[824] See Panagiotidou (n789) 129

[825] Alakeel (n619) 60. See inter alia. François Lévêque and Yann Ménière, 'Patents and Innovation: Friends or Foes?', (2006) *Ecole Nationale Supérieure des Mines de Paris,* 22 et seq *(leveque@ensmp.fr –* <http://www.cerna.ensmp.fr>Accessed 4 December 2010

These ways raise the question to what extent CPs' invention can affect the economy. The answer to this question could perhaps best be seen in the USA because it is the biggest and the first country in the world using and conferring patentability on CPs. A study conducted by the Intellectual Property Institute, London, on behalf of the Commission and finalised in March 2000 dealt with the economic aspect of CPs.[826] It found that "the patentability of computer program related inventions has helped the growth of computer program related industries in the States, in particular the growth of SMEs and independent software developers into sizeable indeed major companies".[827]

The latest study which has been conducted relating to "the Economics of Intellectual Property" by some researchers (2012)[828] found that, in the CP industry in the US and Canada, SMEs in their revenues had higher probabilities of obtaining patents. The large firms are willing to obtain more patents than SMEs firms because patent system helps the large firm to have information of any invention because the firm, whether small or large, must disclose its product, a CP, and this disclosure might infringe the right of small firms. Thus, patent can help small firms to develop and grow. On the contrary, large companies can benefit from patent to have more information for more development for their CPs.[829]

In the UK, the firms are SMEs thus patents were used very little specially software firms since the requirement of disclosure betrayed information of CPs.[830]

In Europe, too, patent rates for both product and process innovations increase with firms' size.[831] Thus, there is increasing use of patent protection for CPs, even though still relatively

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[826] Intellectual Property Institute "The Economic Impact of Patentability of Computer Programs" (text available for downloading at <http://europa.eu.int/comm/internal_market/en/indprop/studyintro.htm > Accessed 7 December 2010

[827] ibid5

[828] The Economics of Intellectual Property ' The Economics of Intellectual Property. Suggestions for Further Research in Developing Countries and Countries with Economies in Transition' <http://www.wipo.int/ip-development/en/economics > Accessed 16 April 2012

[829] ibid , chapter one (Innovation and Appropriability Empirical Evidence and research Agenda) 18

[830] ibid12

[831] ibid18

low use by European independent CPs developers of patents, in raising finance or in licensing i.e. in getting an invention through to being an innovation of benefit to consumers.[832]

The Iraqi position is not clear in relation to whether patent could be a factor to promote inventions via CPs. It could be envisaged that existing patent might encourage inventions if Iraqi law could state that patent includes CPs within its protection. However, as mentioned Iraqi law is silent regarding the patentability of CPs. Accordingly, there is no obstacle to use patent rules to cover CPs, provided that they are not mathematical or method matters, as an incentive for invention in all fields of technology in Iraq.

4.2.5.2. The Research and Development (R&D)

An advantage of using patent law is encouraging research and development activities because R&D can save time and money through examining patent literature and this could happen before the conduct of R&D projects, which would focus on current awareness to sustain the latest improvement.[833]In addition, R&D-intensive SMEs gave more importance to patents than SMEs with small R&D expenditures.

Nowadays, Iraq strives to follow developed countries in blocking the flaws in its law in order to attract investments which lead to promoting its economy. This could be through using a patent to enhance the research and development. Thus, they would lead to strengthen the Iraqi economy.

This raises the question, what about CPs? And can it give rise to increase of R&D within the area of CPs? Granting patent rights for CPs in the United States began in the 1980s.[834] It has been revealed by a study in the USA that many American companies have increasingly moved from a strategy based on the development of new programs, through investment in R&D to a strategy of defence of their patents, consequently obstructing the making of new programs.[835] Accordingly, that was particularly true when those companies were no longer as innovative as they once were, and so the extension of the scope of patentability to CPs in the

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[832] Intellectual Property Institute (826)5

[833] Dirk Czarnitzki & Andrew A. Toole 'Patent Protection, Market Uncertainty,and R&D Investment.', (2006) Berkeley Center for Law and Technology (University of California, Berkeley)3

[834] The Supreme Court stated that a mathematical formula, computer program, or digital computer" and a claim is patentable if it is embedded with equipment (*Diamond v. Diehr*). Motohashi K (n682) 5

[835] Leith (n701)257

USA has resulted in a decrease of innovation by these companies.[836] It could be inferred from this discussion that granting a patent for CPs could encourage research and development, and on the other hand it could impede the development of new programs.

4.2.5.3. Technical Information

Economists consider patent protection as a trade-off between the necessity to encourage innovation and the necessity to allow a temporary monopoly for the innovator.

Recently, the increasing significance of information technology and CPs related inventions and innovations has evoked a further rethinking in the literature, which has led some authors to raise new questions regarding the balance of the positive and negative impacts on the efficiency of patents.[837]

The patent system and technical progress motivate commercial companies to assess the significance of new technological development in the fields where they have a technical and commercial interest, and patent can make that through the dissemination of information. Therefore, some countries could support the establishment of a patent system because of the significance of the information contained on the publishing patent documentation alone.[838]

In addition, patent would assist in circumventing economic waste and/or duplication of R&D through bringing to competitors and society substantial achievements in the technical fields of concern. For example, some companies might have to face great competition in their established field; therefore, they endeavour to change their activities into a new range of related products. Following a patent search, a scholar could observe a new range of options for other products and technologies. Past patents may even disclose possible products.[839]

Patent can give rise to make an important contribution to technology exchanges by providing a measure for invention which otherwise may naturally not exist.[840]

Accordingly, the public can use patent information to improve the technology used in patent or to develop new publications. On the other hand, inventors and their financial backers are

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[836] Hilty R & Geiger C (n813)759

[837] Intellectual Property Institute (n826) 28

[838] TS Eisenschitz (ed) "Patent, TM and Design Information World' (1978) 19. see also Alakeel (n619) 68. Motohashi (n682)2 et esq . see *inter alia* François Lévêque and Yann Ménière (n825)25 et esq

[839] Alakeel (n619) 68

[840] ibid 68

able to protect their investments through the patent system.[841] Thus, it can be argued that patent could help in providing technical information in all fields of technology including CPs. This information could lead to develop CPs in time. These benefits of using the patent system to protect CPs as well as the drawbacks would be discussed in the next step

4.2.6. The benefits and the drawbacks of protecting CPs by patent

4.2.6.1. The benefits of protecting CPs by patent

According to the TRIPs Agreement, the main purpose of a patent system is contribution to promote technology innovation and 'the transfer and dissemination of technology'.[842] Thus, it seems responsible to assume that the system can be regarded as a means of encouraging the disclosure of secrets in return for the grant of exclusive rights, and as a system for supporting inventions.

The greatest benefit of patent protection for CPs is that it may protect the idea or basic concept of the invention because the ideas or concepts personified in CPs can have considerable worth. Thus, it allows monopolies on the ideas behind inventions. This allows companies to prevent independent use of CPs' innovations.[843]

Since the growth of the significance of businesses on the Internet, protection for those businesses using CPs which have been developed for its specific purpose becomes increasingly necessary. This leads to growing pressure to protect CPs by patentability instead of copyright, which extends the scope of CPs.[844]

As we mentioned in respect of the scope of the economic impact of CPs patents, CP patenting could stimulate innovation and information technology and investment. Accordingly, the proponents of extended CPs patentability affirm that expanded protection supplies a stronger incentive for the generation and diffusion of new technology and that the shortages in

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[841] In this respect, the scope of a patent may be determined in proportion to the amount of the contribution through the information the inventor has disclosed to the public. Koo (n70) 830

[842] Art 7

[843] Diver (n501)130

[844] Koo (n70) 831 & 832

intellectual property protection create loss of export sales and trade distortions in international trade.[845]

Finally, the biggest advantage of patent which distinguishes it from copyright is that it can protect against competitors making an equivalent solution because it, namely a patent system, provides more protection against any infringement on the inventions. For example, a patent could provide a monopoly for the right holders of an invention on his idea which prevents any person using it without authorisation from the right holders. On the other hand, copyright does not provide a good monopoly to the right holders because copyright does not protect the ideas of works. This allows anyone to take these ideas freely which could be significant for the right holders.[846]

4.2.6.2. The Drawbacks of protecting CPs by patent

The first criticism could lie in the condition of novelty. This condition necessitates creating a comparison between the invention which should be protected and current inventions. It seems reasonable to assume that anything intangible would be far from the protection of patent because it protects a tangible thing, as mentioned in chapter 2.

The second criticism which could be addressed to the patent system is the requirement of disclosure. It could be said that "a requirement for meaningful disclosure of software inventions (e.g. the most efficient algorithm for solving a particular problem and interface information) will discourage patent applications for desirable innovations".[847]

In addition, there is a unique characteristic of a CP which is the dual nature of a program among other types of human enterprises. In theory, a CP consists of two components which are conceptually very different, known as the source code and object code. The nature of a CP has both expression and functionality. This makes CPs an anomaly within the conventional legal framework, since endeavours are usually classified strictly as either expressive or functional and then protected as such.[848] This is the reason why most

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[845] ibid 831

[846] David Karjala, 'Reverse Engineering of Computer Programs and the Challenge to the Patent/Copyright Boundary', Stockholm Congress: (Stockholm School of Economics, Stockholm, 1993)13

[847] Intellectual Property Institute (n704) Para: Economic Arguments (Mr. Christian Koboldt said) The writer agrees his opinion

[848] As evidenced by the general approach of the legislation of excluding aesthetic creations from patentability: see EPC 1973, Art 52(2)(b) implemented in the Patents Act 1977 § 1(2).

legislations whether national, except USPTO and JPO, or international have excluded CP inventions from the patent system.

Because of the dual nature of a CP which is a hybrid combining both text and behaviour, the value of a program lies in behaviour rather than in text. Patents have restricted application in the protection of behaviour, because patents typically issue for particular methods of achieving results, rather than for results themselves.[849] A patent on a method of generating certain results cannot prevent the use of another method, even though those results are the primary source of value of the CP. Therefore, patents on methods would not protect behaviour, which is one of the primary entities of value in the CP. On the other hand, "a patent with claims for any means of achieving particular results would inhibit competition in the development of useful program behaviours out of proportion to the innovation actually contributed by the applicant".[850]

It could be said that the biggest protection granted by the patent system does not prevent other forms recreating a similar CP. Additionally; obtaining a patent is rather lengthy and expensive in comparison with copyright protection.[851]

As mentioned any invention must have three conditions to be patentable: novelty, inventiveness and capability of industrial application. In theory, CPs are complex. Therefore, application documents for CP patents are highly complicated because of these requirements and complexities; the cost of using the patent system that is, filing, maintaining and defending a patent, is high, particularly for SMEs. On the other hand, there is a conflict between large companies and small companies in terms of using patent. For example, Microsoft as a very large company could own patents with their rich resources and use them to cross-license. At the same time if a small company endeavoured to use a patent to protect itself against a large company, the latter could find patent protection among its collection which the small company is infringing, and the large company can require a cross-licence.

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[849] Koo (n70) 832

[850] 33 F.3d 1526 (Fed. Cir. 1994).See, *e.g.* U.S. Patent 5,317,757 to Medicke & Posharow, issued May 31, 1994 (*System and Method for Finite State Machine Processing Using Action Vectors*); U.S. Patent 5,105,184 to Pirani & Ekedal, issued April 14, 1992 (*Methods for Displaying and Integrating Commercial Advertisements with Computer Software*). See also Koo (n70) 832

[851] See Deschamps (n159) 104

Thus Microsoft would benefit from the patents rules whereas a small company could end up as a loser under the patent system. [852]

The situation in Iraq is completely different from the situation in the UK and the USA because Iraq, as a developing country, needs to protect its companies apart from which it is importer country. Therefore, the patent system is inappropriate to its economy, companies and products.

CP patenting has also unsuitable aspects in that relevant prior art is not disclosed sufficiently, because patent protection for CPs has been limited and CPs developers have kept secret the source codes that they have developed because the vast majority of CP innovation takes place outside traditional research institutions. Moreover, many CP improvements are not recorded in the formal system of technical documentation. CP innovations exist in the source code of commercial products and services that are available to customers.[853]This source code is difficult to catalogue or search for ideas. This trend results in insufficient published prior art, which makes it difficult to investigate for prior art and to examine patent applications properly.

Finally, CP patents tended to be classified according to the field in which the CPs will eventually be used (such as game machine, ovens, washing machine, etc), rather than according to the nature of the CP invention. This makes it much harder for the examiners to find relevant prior art. As a result, it could be inferred from these discussions that patents are more likely to be unsuitable for CPs.

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[852] Small and Medium –sized Enterprise . see inter alia "Patent protection of computer programmes" <ftp://ftp.ipr-helpdesk.org/softstudy.pdf>Accessed 7 June 2011. A complementary guide on software protection for Small and Medium-sized Enterprises is also available for download from the following link:ftp://ftp.ipr-helpdesk.org/software.pdf. 149 F.3d 1368 (Fed. Cir. 1998).Special consideration should be given to SMEs. In Japan, SMEs contribute 99 per cent of all establishments, 52 per cent of output, and 72 per cent of employment. In Korea, they are responsible for 90 per cent of all establishments, 33 per cent of output and 51 per cent of employment. See *WIPO Milan Forum on Intellectual Property and Small and Medium-sized Enterprises,* Milan, Italy, February 9-10, 2001, WIPO/IP/MIL/01/4 (A). Even though SMEs, in the U.S., receive less than 4 per cent of Federal support for research, they produce more than half of the innovations and get close to 40 per cent of all patents (*State of Small Business Report,* 1997). See "Meeting Nelson's Concerns about Intellectual Property". William Kingston, <http://www.business.auc.dk/druid/conferences/nw/paper1/kingston.pdf > Accessed 13August 2010. Intellectual Property Institute (n 704) Para: Prospects for a Licensing Economy

[853] Koo (n70) 834. See also, Adams J and Tang P (n572) 12, 13. Julie E. Cohen & Mark A. Lemley (n547), Intellectual Property Institute (n 704)

4.3. CTs and CPs

4.3.1. Introduction

Contracts may also be used to protect the parties to these contracts not the CP itself. For example, the owner of copyright or author's right in a CP may enter into a contract with the end-user, restricting the manner in which that program may be used. The contracts could be very straightforward or over complex, depending on the wishes of the parties to the contract and the complexity of circumstances. [854]

This form of protection may exist in licences of copyright in these programs. This form is also aimed at restricting a user's actions more than copyright or authors' right provisions. The hypothesis suggests that these terms are likely to fulfil protection more than copyright or author's right does because they are only enforceable against the parties to the contract and not only against a third party, as copyright does. It could be suggested the CTs are more flexible but less exclusive.

As regards the methodology of this section, two issues will be examined:

(i)   The parties to the contract and

(ii)   To what extent this way, CTs, could provide adequate protection for the right holders of CP.

Therefore, the writer took the deliberate decision to keep his study small in this point because chapter 3 examined the legal liability of infringements of copyright CP[855] so that removing any overlap could take place. Thus, this section will also not indicate the consequences which result from infringements of copyright. It would answer the enquiry regarding three questions:

(1) How can CTs protect the parties to the contract?

(2) What protection the owner of a CP needs.

(3) Could CTs be an alternative to copyright and patent, or could provide ancillary protection?

Therefore, this section will be as follows.

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[854] *Sheffield University v Cyprotex* [2004] EWCA Civ 380 [2]

[855] See chapter 3/3.6

4.3.2. The parties to a contract

4.3.2.1. The distributor

The distributor may be defined as a person, natural or legal, who has permission whether directly or indirectly from the programmer to utilise the program. This person i.e. the distributor is called the licensee. He/she is usually a legal person such as a company which specialises in CPs marketing and either working independently or on behalf of the owner of that program as agent.[856]

It is not necessary that the author of a CP has to utilise his/her program in person because he/she may grant his/her rights to a company which can utilise that program on behalf of the programmer. In addition, the agreement may appoint the licensee to be an agent of the licensor with authority. This case is only a licence not a contract; thus, it is subjects to copyright law.

Furthermore, the distributor could be classified as the owner of the program in terms of his/her ability to license others. This licence provides him/her with the authority to use and utilise the rights of the programmer. This distribution can be achieved by him/her or agents. In addition, he/she can license another person to use that program on behalf of him/her. This licensee can use the right of the program exclusively, such as when the licensee becomes the only owner of the program, or non-exclusively e.g. the utilisation of the program could be used by more than one person who has a licence to access that program. Finally, this distributor could be an agent of the owner of the program to fulfil the pecuniary utilisation on behalf of the owner.[857]

The advantage of these classifications for the distributor is to identify the parties to the contract towards the others such as the user or consumer who will contract with the distributor to have a copy of the program and a permission to use that program. For example, if his/her post at the contract was licensee in this case the user could not demand the author of the program according to the contractual liability but he/she can demand the licensee according to that liability because the licensee has owned the authority and the liability of the owner of program and any breach for the terms of the contract leads to generate legal liability.

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[856] Lucas A.,Droit de L'informatique, Repertoire Dalloz Civil, (version du 30 Av. 1990), No 41,p.4 , it has been translated by Albatania (n279) 91

[857] See Albatanie (n279) 92

Another case could be applied if the distributor was an agent on behalf of the programmer and the distributor was an agent according to the normal agency, in this case the second party, who made a contract with that distributor, can demand the original owner i.e. the programmer according to contractual liability.[858]

Identifying the parties to the contract is important to know the kinds of relationships between the owner of the program and the distributor who could be dependent or independent. In the first case, namely dependent, he/she could be either an agent of the owner of the program or licensee according to the agreement between the owner and this distributor to distribute that program with a proportion of the profit. Thus, if the distributor has made an agreement with another person, the copyright according to this agreement would have been granted to the owner of the program.[859]

In the second case i.e. the case of an independent distributor, there are two contracts. The first case combines the owner of the program and the distributor; the latter can enjoy distributing the program to another without any permission because he/she becomes an owner according to the contract. The second contract is between the distributor and the consumer. The first would be responsible to the consumer because the distributor is a beneficiary from the contract with the user. In both contracts the distributor is responsible for the program towards the consumer, not the programmer.[860]

4.3.2.2. The end user or the consumer

The purpose of creating a CP is to be used via the computer in order to achieve a specific result. This result is supposed to be the desired result from the consumer in the society. This person can have this result through the contract which would be between that person and the owner of a CP, whether the owner was the programmer or distributor.

The end user (lawful) or the consumer is a person –natural or legal-who has been licensed by the law or the owner of the program to use it. This includes the person who has created the program by the programmer for him/her according to his/her order, and this person is called a "private user".[861] In other words, the end user is the last person who contracts to obtain a

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[858] Akrem Ymilky, *The Comericial Law* (Baghdad University1982) 215

[859] ICC, s 942.

[860] Bainbridge (n399) 237

[861] Albatania (n 279)95

copy of the program for the purpose of use without having the right of disposition of the program to others or at least without power to license. Thus, it is approaching the description of the final consumer in the scope of goods and products. This raises the question, is it possible to regard the end user as a consumer, and thus can he/she enjoy legal protection of a consumer?

In the context of legal terms, the CDPA 1988 has defined the user through "a lawful user". According to s50A (2), this term provides any person can be "a lawful user of a computer program if (whether under a licence to do any acts restricted by the copyright in the program or otherwise), he has a right to use the program".

There are some features which distinguish the "consumer" from other people in society:

1- He/she is the final person in the chain of the process of distributing products or services, in other words, he is the person who benefits from the commodity through using or consuming it. Therefore, a consumer is known as the "recipient".

2- The consumer has no experience in relation to the contract concluded (its terms, conditions and subject matter).

3- Finally, one of the most interesting features of the main legal concept of the consumer is that it is identified by the nature of the opponent (the provider) who, for the purpose of allowing his/her partner in the transaction to enjoy the advantages stemming from being a consumer, must be a seller or supplier.[862]

Accordingly, the significance of this debate is that there is no problem to confer the characteristics of consumer on the end user or lawful user in a case where one of the contractors is a non-specialist in the field of CPs This enables consumer protection to be granted to the end user.

4.3.3. Licence agreements

There are two types of licence. Firstly, an exclusive licence which confers the right to carry out the acts covered by the licence to the exclusion of everybody else including the owner of the copyright. This must be in writing and be signed by or on behalf of the licensor[863]. The second licence is a non-exclusive licence where a number of people are awarded the same or

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[862] Firas Kasassbeh, 'Consumer Protection Against Unfair Contract Terms'(PhD thesis, Newcastle University 2006)11

[863] CDPA 1988, s 92(1)

overlapping rights under the copyright. Criteria of CPs packages are made available under the second type of licence. For example, using any kind of a CP involves, at the very least, making transient copies, thus the necessity for a licence.[864]

It is now generally agreed in legal literature that agreements providing for a non-permanent right to use copyright CP do not correspond with any of the types of contracts regulated in the Iraqi Civil Code (ICC).[865]For example, there are different kinds of contracts according to the classification of the ICC such as a contract of sale, a contract of tenancy and so forth; but there is no kind for licence agreements in the ICC. The consequence of distinguishing between these contracts is that if the contract is organised by special rules the parties to the contract will be subject to these rules but if there are no specific rules for that contract the parties will subject to the general rules in the ICC. Accordingly, a licence agreement is organised by copyright protection as well as the general rules of ICC.

The contractual arrangements regulating the use of CPs must be in accordance with the legitimate interests of the author of a CP in receiving adequate consideration and being allowed to participate in the exploitation of a CP. Accordingly, it is rather legitimate that some distributors of CPs now use clauses authorising the sale to a third party of the program copies purchased from them, yet only subject to the condition that such third party will also enter into a licence agreement with them on the use of CPs concerned. Naturally, the initial licence fee will not have to be paid twice in such cases.[866]

This raises the question, can the user grant copies of his/her program to his/her friend? The answer would depend on the terms on which the program in question was licensed. If the program was a commercial program with 'a shrink-wrap licence'[867], it would be most unlikely that the licence terms would permit copies of the program to be given to third parties. On the other hand, if the program was 'shareware', as are many small programs off the web or on cover disk it would be likely that its licence terms would be such as to encourage its wider dissemination in this way.[868]

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[864] Bainbridge (n69) 47

[865] Albatania (n264)101

[866] Sommerlad (n502) 7

[867] See *Beta Computer(Europe) Ltd V Adobe Systems(Europe) Ltd* [1996] FSR 367. Bainbridge (n 399) 266

[868]Gifkins (n70)20

4.3.4. To what extent CTs can protect CPs

Since the goal of our subject is examining the ways which would protect a CP, it was useful to show the main points in CTs because the aim of this research is to find out to what extent these terms may provide a legal environmental to protect CPs.

Contracts of CPs may vary as to how they afford protection. There are two kinds of contracts within CP contracts, contracts for the CP as a product and for the CP as a service.[869] Recently, there has been an increasing in the CP being seen as a service.[870] This is because of an increased role of the free and open source software as it reflects the recognised essential feature of CPs i.e. that they are information.[871]

With reference to our research question which is aimed at understanding and examining this way to protect CPs as well as the copyright or author right protection, it could be said that CPs can be protected by a variety of contracts such as the sale of goods contract. It could be argued that CTs may protect the right holders of CPs through the provisions of contract law whether at common law or civil law. These provisions aim to protect the rights of parties to the contract irrespective of the kind of contract. However, the provisions of copyright or author's right cover the rights of the author. Therefore, this way of protection, namely CTs, can protect the parties to the contract whether the parties to the contract are authors of the program or not within the kinds of contracts which are treated by common law or civil law.

As for author's right, it is evident that the provisions which are found in copyright and author's right better protect their rights. In addition, the rights which result from the contract are rights in *personam* which grant the right holders the right to demand from another party compensation the damages for breaching the contract.

In brief, it would seem that this protection, i.e. CTs, would create interplay with other ways in IP, such as copyright and patent, which are aimed at providing protection for only the creator, through focusing on protection of the economic rights between the parties irrespective of the

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[869] See section 4.2.4 of this chapter

[870] This information has been reported by Professor Jesus Villasante, Head of DG Information Society Unit of the Information and Communication Technologies task force, on the Conference "The EU's legal framework for e-business and innovation", Brussels, Nov 28, 2006. It is a part of the EU ICT Task Force Report "Fostering the competitiveness of Europe's ICT Industry" of Nov 27, 2006, at http://ec.europa.eu.

[871] Olgierd Pankiewicz , 'Freedom of contract in computer programming and the information society: why statutes deserve more than coup de grace? Part 1', (2007)C&TLR, 13(5), 158-164 , at 158

kinds of those parties. Thus, the writer argues that this way could be supplemental or ancillary protection to block the shortcomings in copyright and patent. In other words, a contract is an adjunct to copyright protection. It cannot be an alternative to copyright because copyright is the main protection for any literary work. At the same time it would not be useful if we said that contracts can add more protection than copyright or patent does because that might lead to too much protection.

Finally, as regards the remedies against abusive contractual terms, these could be found in the general provisions of law whether in civil law, competition law or consumer protection law.[872] For example, consumers do not sometimes have the possibility to negotiate the terms before making the contracts. Consumers are only given two options: either to sign the contract or to reject it. This creates a threat that contracts may contain clauses detrimental to the consumer, known as abusive contract terms. That is why the ICC provides that clauses which have not been negotiated individually are not binding for consumers if they shape their rights and obligations in a way that is contrary to good customs and grossly violates consumer's interests.[873]It should be stressed, however, that clauses setting forth the main obligations of the parties (e.g. the price or remuneration) are always valid, provided that they have been formulated clearly

4.4. Trade Secret (TS) or Confidential Information (CI) and CPs

4.4.1. Introductory remarks

A TS was defined by the TRIPs Agreement as information is secret if it is not generally known among or readily accessible to persons within the circles that normally deal with the kind of information; or this information has commercial value; or the owner of this information wants to keep it secret if it has been subject to reasonable steps under the circumstances.[874]

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[872] B. Hugenholtz, M. Eechoud, S. Gompel, L. Guibault, et al, "The Recasting of Copyright & Related Rights for the Knowledge Economy", report to the European Commission, DG Internal Market, November 2006 < http://www.ivir.nl/publications/other/IViR_Recast_Final_Report_2006.pdf >Accessed 17 May 12010.. It was indicated by Akester (n529)section (ii/c.a)

[873] ICC , s 125

[874] Art 39. See also, Uniform Tread Secret Act (U.T.S.A) in USA. This Act amendment on 5th of January 2012 and is called "New Jersey Trade Secrets Act". It defines trade "secret" 'information, held by one or more people, without regard to form, including a formula, pattern, business data compilation, program, device, method,

Thus, TSs do not need to meet the requirements that patents do, albeit TS resemble the patent requirement for usefulness as to be protected they must possess some independent economic value by being unknown to others, such as being novel or non- obvious. Additionally, a TS need not even be original, as copyright must be for protecting CPs.[875]

The question may be raised, is there any difference between the term "TS" and the term "CI"? It could be said there is no distinction between those terms because "the distinction is sometimes difficult to apply in practice"[876]or the "distinction… may be often on the facts be very hard to draw".[877]

Accordingly, the law relating to a TS or a CI may also be available to protect CPs. It has arisen out of the broad "duty of good faith" and the principle of equity that whoever "has received information in confidence shall not take unfair advantage of it".[878]

As mentioned in chapter 2 a CP is protected by copyright if that program is fixed in a material form.[879] However, if it is not fixed that means a CP as such is only information. This information is not property to be protected, and this raises the question to what extent could a

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technique, design, diagram, drawing, invention, plan, procedure, prototype or process, that: (1) [d]erives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (2) [i]s the subject of efforts that are reasonable under the circumstances to maintain its secrecy." See McCarter &English LLP, New Jersey Trade Secrets Act creates new remedies for misappropriation and warrant precautionary measures when hiring employees (2012)<http://www.lexology.com/library/detail.aspx?g=0ecba6ed-ffd5-43e0-9b50-4270d50f2408 > accessed 12 April 2012 .See *inter alia* Pacinit C &Placidtt R, 'Importance of State Trade Secret Laws in Deterring Trade Secret Espionage*'*, (2009) Buffalo Intellectual Property Law Journal 104

[875] Pacinit C &Placidtt R (n874)106, 107

[876] *CMS Dolphin Ltd v Paul Maurice Simonet, Blue (GB) Limited*[2001]EWHC 99 04649 [109]. See also, Lionel Bently on Faccenda Chicken

<http://www.docstoc.com/docs/47071321/Chicken-Nuggets-Re-reading-Faccenda-Chicken> Accessed 23 April 2012

[877] *Lancashire Fires Limited v S.A. Lyons & Company Limited and Others* [1996]F.S.R. 629.

[878] Boweley Kerr Colling , *Computer Software Law in Canada*, (2007) <http://www.trytel.com/~pbkerr/computer.html> Accessed 17 December 2010. In this meaning , see Pacinit C &Placidtt R,(n874)101,111

[879] Chapter 2/ Section 2.3.4.2

CP as such comprise TS or CI.[880] A CP may include CI before publication or distribution;[881] for example, source code of a CP may be a type of CI as well as unpublished copyright works. Iraqi law has referred explicitly to a CI through considering unpublished works as CI.[882]The question is, should protection of a CI be codified into special legislation? Iraqi law has not codified a CI into special rules in any legislation whether in the ICC or special law. However, the ICC has built the legal liability on three factors; damage (detriment), fault (deliberate act or negligence) and causation. Thus, one could argue that if one took information, which is a CI, from the owner of this information without permission he/she would be liable for his/her act if this act causes damage to the owner of information.

Accordingly, this section will deal with a CP before publication or distribution because there is no protection for a program if it is not fixed or downloaded in material form. [883]

International law provides protection to a CI depending how a CI is protected in jurisdictions. It refers to a CI as form of "unfair competition"[884]. A TS was protected through this phrase.[885]

In some cases companies protect CP concepts by keeping CP as a TS between the supplier and user. For example, a user can learn significant facts regarding a program from using it if

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[880] Chapter 2/Section 2.3.4.1

[881] ARA 1971, s 2(2), CDPA 1988 , s 3(,b)

[882] ARA 1971, s7

[883] Section 3. 5.2.2 (the contractual liability) in the previous chapter dealt with the case of infringement which results in legal liability of infringer in the scope of contractual liability whereas the current section will deal with the liability before creating the program , namely before the step of fixation.

[884] The TRIPs Agreement, Art 39(1), Paris Convention for the Protection of Industrial Property, art 10bis. However, this article does not explicitly recognize the protection of trade secret as it focus although some Continental legal system have provided protection by that route. See Federal German Law of Unfair Competition(UWG). It has referred through considering a computer program could be protected by unfair competition regardless of their patentability or copyright since s.1 of which proscribed acts of unfair competition in very general terms: "Any person who, in the course of business activity for purposes of competition, commits acts contrary to honest practices, may be enjoined from those acts and held for damages." And see also from this law, ss 3,4 and 17. See; John Hull J, 'Trade secret licensing: the art of the possible', (2009) 4 JIPLP 203; Christopher Wadlow , 'The emergent European law of unfair competition and its consumer law origins', (2012) IPQ, 1, 1-24 (The basis of the Memorandum in German unfair competition law) . Brunhilde Steckler, 'Legal protection of computer programs under German law', (1994) E.I.P.R.,16(7), 293-301, at 300

[885] For more detail see, Christopher Wadlow, 'Regulatory data protection under TRIPs Article 39(3) and Article 10bis of the Paris Convention: is there a doctor in the house?', (2008) IPQ, 4, 355-415

such a user is not under an obligation of confidence then such learned facts cannot be regarded as confidential and this sets practical limits to the protection afforded by the law. The best example in terms of using this way to protect a CP is the employment relationship which imposes a duty on employees and former employees not to use or disclose the employer's TS.[886]

This section will examine how a CI can provide protection to CPs through explaining the fundamentals of the legal protection of a CI, and then evaluate this in the area of a CP, as follow.

4.4.2. Fundamentals of the legal protection of TS or CI

4.4.2.1. Quality of confidence.

The first fundamental requirement is that the owner of a CI must show that information which he/she seeks to protect is in fact confidential. In other words, that it has the necessary quality of confidence regarding it thus the first requirement for TS is "the information must have the necessary 'quality of confidence' about it".[887]

It would be convenient to ask whether it could be possible to identify the requirement of quality of confidence in CPs. Basically, information does not have to be an absolute secret and it has been suggested that something of a subjective test can be relevant in some circumstances.[888] For example, in *Thomas Marshal(Exports) v Guinle*, Sir Robert Megarry VC suggested the following formula[889]: "1- the information must be such that the owner believes that its release would be injurious to him , or would be advantageous to his rival or to others; 2-the owner of the information must believe it to be confidential or secret and not already in the public domain; 3- the owner's belief in 1 and 2 above must be reasonable; and 4- the information must be judged in the light of usages and practices of the particular trade or industry concerned".

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[886] Robert Milligan, 'Top 10 Developments/Headlines in Trade Secret, Computer Fraud, and Non-Compete Law', (2012) IP&TLJ 24, 1-25, at 17. See also, chapter 3/ section 3. 5.2.2

[887] *Coco v AN Clark (Engineers) Ltd* [1969]RPC [41] and, see also Steckler (n884) 10

[888] Steckler (n884) 10

[889] [1979] Ch 227 [248]. See Bainbridge (n69)323&324

The quality of confidence may spring from the nature of information.[890] In other words, the owner of information may want to keep it secret if he/she believes that that information could cause injuries to him/her in case of disclosure.

At common law information is not considered property in the legal sense,[891] but the right to a CI could arise from either contract or as a right under common law.

As mentioned earlier Iraq, too, has referred to a CI explicitly through considering unpublished works as CI[892]. These criteria could identify the quality of the confidence in respect of CPs.

4.4.2.2. Obligation of confidence

The second requirement in *Coco v AN Clark (Engineers) Ltd* (1969)is "that information must have been imparted in circumstances imposing an obligation of confidence"[893]Accordingly, this requirement raises the question, how to identify whether information was communicated in circumstances which gave rise to an obligation of confidence. The test of this element could be to ask whether information was granted for a limited purpose only, "It was held, inter alia, that the defendants had an equitable obligation to keep the drawing confidential, because they knew that they had been given to them for a limited purpose only, for the manufacture of tools for the claimant's use".[894]

The legal obligation to maintain secrecy should additionally be safeguarded by contract and combined with a contractual penalty in the case of infringement. A good example for this is the employer/ employee relationship.[895] The contract of employment must stipulate that all

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[890] Bently (n876)

[891] See also section: 2.3.4.1/ chapter 2

[892] ARA 1971, s7(an author has only the right to publish his work and identify the manner of publishing . He has also the right to benefit from his work in any legitimate way and this right is exclusive. The others have not this right without permission from the owner of the work)

[893] [47]. See also, *Stephen John Coogan v News Group Newspapers Limited*, *Glenn Michael Mulcaire*

Nicola Phillips v News Group Newspapers Limited, Glenn Michael Mulcaire [2012] EWCA civ 48

[894] *Saltman Engineering Co Ltd v Campbell Engineering Co Ltd*(1948) & see also *Ackroyds(London) Ltd v Islinton Plastics Ltd*(1962) . Jennifer Davis & Nicola Padfield, *Intellectual Property Law* (3rd edn, OUP 2008)101, see also Hull (758) 207.

[895] See the cases; *Facenda Chicken v Fowler* [1986] 1 All ER 617. *House of Spring Gardens v point Blank*[1985] FSR 327. *Lawrence David Ltd v Ashton* [1991] 1 All ER 385, *Carflow Products(UK) Ltd v Linwood Securities(Birmingham) Ltd* [1996] FSR 424; *Mars(UK) Ltd v Tec teknowledge Ltd* [2000] FSR 138;

the parties to the contract are willing to maintain secrecy and the consequences of an act of infringement. On April 28, 2011, in *United States v. Nosal* , the Ninth Circuit issued a significant decision holding that "employees may be liable under the federal Computer Fraud and Abuse Act (CFAA) when employees steal or remove electronic files or data in violation of their employers' written computer-use restriction".[896]

As we know, the user can have the source code and the object code, and if so then to protect the owner of the program it may be argued that contractual terms are able to safeguard the entrepreneur's requirement for maintaining secrecy,[897] including "agreements to a post-contractual obligation to secrecy or competition limitation agreements are also required".[898]

4.4.2.3. Wrongful Use or Disclosure

The third requirement according to *Coco v AN Clark (Engineers) Ltd (1969)* is "there must be an unauthorized use of that information to the detriment of the party communicating it"[899]This requirement means that the defendant used TS or disclosed the information to another.[900]

There are two kinds of unauthorised use; breach can be either by use or by disclosure. Three elements need to be shown: firstly, the infringer has used or disclosed the confidential information; secondly, the infringer acquired information from the owner directly or indirectly; and finally, use or disclosure of information exceeded the purpose or the goal for which information was confided.[901]

The right of the owner will be infringed if the infringer obtained information, whether directly or indirectly, from that owner, expressly or implicitly.[902]

Attorney-General v Guardian Newspaper 9No20[1990] 1AC 109 ; *KS Paul(Printing Machinery) Ltd v Southern Instruments Ltd* [1994] RPC 118. See Bainbridge (n69)326&327, Carey L (n68) 237&238

[896]Milligan (n886) 17

[897] See section 3 of this chapter

[898] Steckler (n884)11

[899] [47]

[900] Pacinit C &Placidtt R (n874)120

[901] Jennifer Davis & Nicola Padfield (n772)115

[902] *Saltman Engineering Co Ltd v Campbell Engineering Co Ltd* [1948] 65 P.R.C. 203

Thus, the justification for protecting a CI is that it is involved with commercial activities, investment, marketing and industrial manufacture. Therefore, such a CI in the scope of CPs protecting has economic value.[903]

4.4.3. Evaluation of protection

It could be said that the relationship between a TS and innovation in IP is controversial in the UK. For example, the UK IPO refers to the use of aTS to protect innovation, not only as a precursor to a patent.[904] On the other hand, it could be argued that within the patent protection if too many restrictions are placed on that patent such as compulsory licence, exceptions and intervention by competition law, the innovators would select not to patent and to depend on a CI (aTS)[905]

Practically, the relationship between the employee and employer must be subject to a duty of good faith or fidelity which leads to the imposition of a CI protection for CPs after the termination of the employment. [906]

One may argue that prior authority could provide strong support for the duty of good faith which continues after the termination of the employment contract.[907]Thus, the contract of employment imposes on the parties of that contract an obligation "not to disclose any trade secret or other highly confidential" [908] matter.

It could be concluded that a TS or a CI would protect only the source code version of a CP which has been written by an ex-employee for his/her employer because it contains information which should not be disclosed to anyone except the owner of that program. Furthermore, the source code does not include public domain fundamentals or normally used routines or other features. As for the other parties, it seems that the CI does not protect the employer against his/her ex-employee who has written a new CP to carry out a similar

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[903] See s 1(4) of Uniform TC Act (Drafted by the National Conference of Commissioners on Uniform State Laws, as amended 1985)

[904] Macqueen H & others (n496) 843

[905] ibid

[906]*Faccenda Chicken v Fowler*[1986] 1 All ER 724. Bainbridge (n69) 329

[907] See; Artedomus v Del Casale [2006] NSWSC 146, Bently (n876)

[908] *Vestergaard Frandsen S/A (MVF3 APS) v Bestnet Europe Ltd* [2011] EWCA Civ 424[42]. See also, *Force India Formula One Team Ltd v 1 Malaysia Racing Team Sdn Bhd* [2012] EWHC 616 (Ch) [229]

function as that performed by a CP written for a previous employer because the function is not as such a TS.

In addition, there is a potential overlap between copyright ownership and breach of confidence. For example, where an ex-employee has made a program in the course of the ex-employee's employment or there is a condition, expressly or implied, that the employee will keep ownership but the program achieves a function which is a TS belonging to the employer or otherwise makes use of such aTS.

It would be useful if Iraqi law and English law could create a criterion of a CI in line with the American Act,[909] to provide clear rules for protecting the secrecy of CPs' information. These rules must set out the criterion to identify the value of information to be a TS to determine whether this information is confidential or otherwise.

Linking back with our research question which is looking for the best protection for the right holders, a TS could be theoretically applied to CPs in Iraq and the UK. Yet, there is a practical problem to implement it, particularly in Iraq, because, as mentioned earlier, the ARA 1971 has not referred to a TS as a way to protect CPs albeit it referred to unpublished works. However, one may argue this way can only give additional protection to CPs in limited cases, such as in case of source code. Thus, it is not necessary to codify protection of CI into special legislation because the legal liability whether in civil law or common law is adequate to provide a full remedy for the person who is injured through breach of CI.[910]

Finally, it could be said that the damage suffered by the owner of a program because of the unauthorised use of a TS of a CP could be remedied through the claimant recovering damages for his actual losses.[911] Furthermore, he/she may demand an injunction to prevent an actual or threatened misappropriation of his/her TS.[912]

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[909] See Pacinit C &Placidtt R (n874)131-133

[910] Force India Formula One Team Ltd (n781) [406][411]

[911] computed on the basis of net profit

[912] Pacinit C &Placidtt R (n874)132,133. See also section 5.3 of chapter 3

4.5. A TM (a trade mark) and CPs

4.5.1. Introduction

First of all, this section seeks to investigate to what extent a TM can provide protection for CPs. Therefore, the investigation will examine the relationship between a TM and CPs.

The first question is, however, what does a "TM" mean? And what are its attributes? In addition, what are the rights of the owner of a TM? Finally, is it possible to apply its rules to a CP?

A TM is deemed one of the most successful methods of identifying commodities to consumers. This attracts potential purchasers and helps them to buy the identified products. It provides owners with the opportunity to keep their customers, and customers through TMs can know the source of the products.[913]

A TM typically consists of "one or more words, or numbers, or a design, or any combination of these used by a business to distinguish its goods or service from the goods or services of another business"[914].

The method of this section is not to elaborate the issue of a TM in depth because it utterly needs an independent research to cover it as being a way of IP. Thus, this section will focus on the questions above. If this way was applied to a CP, it would be important to refer to the remedies for infringement of a TM. If not, it would be not necessary to indicate these remedies.

4.5.2. The meaning of a TM and its categories

It could be said that a TM covers marks which are used in relation to goods (TMs), either by manufacturers or merchants, as well as marks which are used in relation to services (service marks) and these marks represent signs which distinguish goods or services from others. For example, the Microsoft Corporation uses the MICROSOFT(R) trade −mark to distinguish from LOTUS(R) software, and other CPs in the marketplace.[915]

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[913] Mohammed Abbas, *AI-Melkeiah AI-Senaeiah. Industrial Property* (Dar Ai-Nada Al-Arabeiah, Cairo, 1971) 5, (In Arabic)

[914] Colling (n877)

[915] ibid.TMA (The UK Trade Marks Act 1994) s1.See inter alia Al-Kamali (n628) 107. Jamil Bani Yonis , 'The Civil Protection of Computer Software : A Comparative Study'(Dissertation, Amman university of Postgraduates 2003) 88 (In Arabic). Al-Skier W, *The Licence for Using a Trade Mark* (Cairo: 1993) 16

The question arises at this point why we need to protect TMs?

A TM law plays an important role in protecting the market from exploitation, cheating and confusion. A TM is supposed to fulfil a balance between potential competing interests. For example, the trader is looking to protect the image and reputation of his/her goods or services. In contrast, a competitor seeks to compete on level terms in the ambit of the same market because a TM confers monopoly to the owner of a commodity within reasonable limits so as not to inhibit legitimate competition. On the other hand, the consumer can be a beneficiary through the connection between the commodity or service and its quality with its associated brand name or logo. This can help the consumer to distinguish between the genuine product or service and others.[916] Thus, using a mark to identify specific goods distinguishes them among others and provides a clear means for the consumer to identify the goods. The owners of a TM are encouraged to improve their products.[917]

The criteria to protect the ability of a TM to play its role completely need three conditions. It is required to be distinctive, original in signs (non-deceptive), legitimate and in some countries to be in a specific language; for example, a TM should in Iraq be an Iraqi name not an English name.[918]

This is briefly the meaning of the TM, its kinds and conditions.

4.5.3. The conditions and the rights of TM

As mentioned earlier a TM can play a significant role to protect the mark of a CP. This may occur through explaining the conditions and the rights of the owner of a TM.

According to the definitions of a TM, it could be concluded that there are three conditions to be a TM:

1- It should be a sign which is the subject matter of a registered TM.
2- It must be used or intended to be used in relation to products, goods or services.
3- Finally, it should be used for the purpose of indicating the source or origin of its related goods or services.[919]

In other words, all kinds of signs are supposed to be capable in principle of distinguishing the goods or services of a particular trader from those of any other traders.[920]

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[916] Torremans (n194)368

[917] See Al-Kamali (n628) 117

[918] For example, in Iraqi Commercial Law Act 1977 which stated that the trade mark must be in Iraqi name. For further detail see ibid 124 et seq

[919] See Al-Kamali (n628) 110

The rights of a TM could be acquired from the date of registration.[921] Thus, the owner of a registered TM has exclusive rights in a TM which are infringed by use of the TM[922], these continue as long as the TM is valid. In addition, a registered TM is protected within the boundaries of the country in which it is registered; however it may be protected according to any convention regarding a TM or if it becomes known worldwide.[923]

4.5.4. Can a TM protect CPs themselves?

The meaning of a TM and an explanation of the conditions for establishing a valid TM to provide legal protection for goods or services were summarised above.[924] To make a comparison between a TM and CPs the following should be noted:

1-Both CPs and TMs are part of IP because they have an intellectual aspect, thus by nature they are intellectual rights. Accordingly, the link between them is intellectual property.

2-There is a significant difference between the nature of CPs and the nature of TMs.

We have seen that a TM is any sign capable of being represented graphically which is capable of distinguishing goods or services of one undertaking from those of other undertakings. Therefore, a TM is a component of the commodity but it is also a way to identify that commodity, but a CP is different from a TM because a CP is a series of instructions which control or condition the operation of a computer as well as it is written by a specific language. The purpose of a CP is to perform a function not just to distinguish this commodity from another as is the case with a TM. A CP is a commodity and it has high quality and is an intellectual creation. These are not necessary characteristics of a TM.

Accordingly, this raises the question to what extent TMs can provide protection for CPs.

It seems reasonable to assume that the idea of protection of a CP comes from considering a CP like any commodity and granting a mark for that CP to protect it as a TM. For example, Microsoft Company which has a TM for its program.

If we assumed that a TM can provide protection for a CP this assumption would not achieve protection for a CP but it would protect the TM of that program and any infringement of a

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[920] TMA, s1

[921]TMA, s 9(3) "the rights of proprietor have effect from the date of registration.

[922] ibid, s 9(1)

[923] See TRIPs Agreement, arts 15-21. Paris Convention (1967) art 6bis . Also, see Al-Kamali (n628) 180&181. .Sameeha AI-Melkeiah AI-Senaeiah, (Industrial Property , Dar A1-Nanda Al- Arabeiah, Cairo) 283, (In Arabic).

[924] Section 5.2& 3

CP through using its TM, this infringement would be of a TM of that program not of the program itself. This does not protect that program directly and deter an infringer from copying or pirating the program. Therefore, protection of CPs according to the rules of a TM may prejudice CPs themselves.

In conclusion, there is no doubt that a TM can provide protection for the mark of a CP not for the program itself. Therefore, TM provisions do not have the ability to protect a CP itself and the right of the owner of that program. This leads to the conclusion that there is no connection between this way and our research question to provide protection for a CP itself and the right holders at the same time, but this way could protect the part of a CP which is the mark or sign itself.

Conclusion

Four topics have been examined in this chapter each in its own section;
the first section examined the possible patentability of a CP, and concluded as follows:

1- The EPO accepted that a CP related invention is likely to be patentable because it complies with the requirement for a technical character, provided that the claim is not directed to the program as such. But if the program was an intangible thing it would not be patentable. The Technical Board of Appeal appeared to reason that "as such" in Article 52(3) should be interpreted to mean only that there is a presumption that CPs do not possess a technical character.

2- The USA patent system is soundly based on the utility test. This test is more easily satisfied than the European equivalent, which requires there to be a technical effect.

3- The English approach, whether in statute or case law, does not accept that CPs are patentable even though it made some attempts to keep CPs outside the patent exclusion. In addition, the English approach when accepting that a CP as such is an intangible thing (as mentioned in the chapter 2) prevents a CP as such being patentable as well as the UK is a member of EPC, which prevent a CP as such to be patentable according to Art 52(2).

4- The Iraqi Patent Law is silent as to whether CPs should be excluded from the domain of patent protection. However, it could be concluded that the real legal

position for Iraqi law results from the TRIPs Agreement because the legal situation in Iraq after 2004 has changed. Iraq is currently in the pipeline of acceding to the WTO. Thus, Iraq needs to develop a comprehensive strategy to implement TRIPS successfully and expeditiously, as envisaged by the TRIPs Agreement.

5- The TRIPs Agreement permits patentability for any invention within the area of technology including CPs provided that they are in the field of technology, even though it is silent as to whether CPs should fall within the scope of patentability.

6- This section illustrated the benefits and drawbacks regarding using a patent system. Even though we have seen there are many drawbacks of using a patent system, this part has not shown that these reservations would outweigh the positive effects of the patentability of computer –implemented inventions in the USA, EPO or JPO. Therefore, whether the benefits outweigh the drawbacks or vice versa is finely balanced

7- The ultimate research question seeks to answer whether a patent could be at least equivalent to copyright in providing protection for CPs, an owner and a user. In the writer's opinion, the patent system provides fair protection to a CP industry. The writer holds this view whilst considering that the technical creation is the core of a patent system. This does not give rise to overprotection for CPs, if we add copyright protection, because it is extremely useful to protect the rights of the author irrespective of the manner of protection. Therefore, there is no problem if the law adds another method for protecting CPs provided that these protections will not make CPs less attractive as an economic investment.

The second section investigated CTs. It examined to what extent CTs can provide additional protection for CPs, linking back to the research question whether another layer of protection could be added if copyright protection alone is not capable of providing complete protection. Therefore, the main point in this section has been to investigate the suitability of this way of protecting CPs.

It was concluded that CTs provide an auxiliary protection for CPs. Thus, one may argue that CTs are an adjunct to copyright protection.

Finally, this way could create a good integration with other ways of protection of CPs through providing economic protection to the parties to a contract which is not found in other

ways such as copyright and patent. This interplay can increase the protection for the right holders of CPs to overcome, at least in part, the shortcomings which could be found in IP.

The third section concerns the information which could be confidential in nature disclosure of which could infringe the right of the owner of a CP. It could be argued that a TS could protect only the source code version of a CP because it includes information which should not be disclosed to anyone except the owner of the program. Thus, this could provide an auxiliary protection for CPs.

Finally, this chapter has examined the relationship between a TM and CPs to investigate the ability of a TM to provide further protection for CPs. The conclusion was that TM provisions are not capable of protecting a CP itself and the rights of the owner of that program.

These results are the outcome of this chapter. The next step is to investigate the methodology of creating approximation or harmonisation between Iraqi law and the Conventions, the Agreements, the Directives and other legislations in the developed countries to tackle the flaws in Iraqi law. This target will be discussed in the next chapter.

Chapter Five

Harmonisation between international laws, European laws, and Iraqi law in respect of the protection of CPs

5.1. Introduction

The term 'harmonisation' has been defined as "the action or process of bringing into harmony or agreement; reconciliation, standardization".[925] It has also been defined in legal terms as the process by which member states of any agreements, conventions or union such as the EU make changes in their legislations to produce uniformity especially relating to commercial matters of common interests.[926]

This process may occur in a number of ways. The first one can be found through international treaties or conventions; for example the WTC 1996 or the BC.[927] These Treaties or Conventions could impose some greater or lesser degree of uniformity on the national IP laws. The second way could be through so –called "legal transplants".[928] They mean that laws are taken verbatim from one jurisdiction and inserted into the legal system of another.[929] For example, the ARA 1971, when amended in 2004, transplanted verbatim Art 10 of the TRIPs Agreement to its legislation in section 2(2) even though Iraq was not a party to this Agreement or the BC.[930] Thus, this principle could be a factor to develop legislation through changes to statutes to produce unified causes of actions and remedies.

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[925] William R. Trumble (n 67) A-M 1200

[926] Martin E & Law J (n127)250

[927] Rickeston &Ginsburg (n193)

[928] See, Pham Duy Nghia 'Transplanted law-An Ideological and Cultural Analysis of Industrial Property Law in Vietnam' in Christopher Antons , Michael Blakeney and Christopher Health, *Intellectual Property Harmonisation within ASEAN and APEC* (Kluwer Law International 2004) 127. Also, Alan Watson, *Legal transplants: An Approach to Comparative Law* (1st edn, Scottish Academic Press , Edinburgh, 1974) 21 &seq

[929] Gregory Letterman , *Basics of International Intellectual Property Law* (Transnational Publication ,Inc 2001)14&15 . Watson (n 928) 21

[930] Art 10 of TRIPs Agreement stipulates "Computer programs, whether in source or object code, shall be protected as a literary works under the Berne Convention. Likewise, s2(2) of ARA 1971, as a mended, stipulates "Computer programs, whether in source or object code, which shall be protected as literary works", see the Appendix 1 of the thesis

In recent years in Iraq, particularly after the 2003 war,[931]there has been an increasing interest in harmonisation between Iraqi law and international laws as, for example the TRIPs Agreement.[932] The impact of the principle of harmonisation on Iraqi law was crucial. This led to the important amendment deeming a CP to be a literary work. Furthermore, it is submitted that Iraqi law should benefit from the developments in the world, particularly in computer law because the objectives of the IP treaties and agreements seek to promote harmonious development of economic activities and closer relations between member states.[933]

The methodology of this chapter will be through:

1- Providing an explanation as to how international law has changed the situation in Iraq relating to the copyright protection of CPs. Thus, it will concentrate on how the ARA 1971 can manage to harmonise its law within international laws, e.g. the WIPO Copyright Treaty or the TRIPs Agreement, in relation to the protection of CPs.

2- Answering the question whether the ARA 1971 can manage to harmonise its law with other laws whether national, such as the UK and France, or European Directives, e.g. the Software Directive (CPD) given that over the past century there has been a dramatic increase in harmonisation between European countries in relation to the protection of CPs. Therefore, this chapter will show the steps of approximation between those countries in the field of the protection of CPs. This can be through explanation of the provisions of the CPD 2009/24/EC of 23 April 2009 on the legal protection of CPs, because it illustrates the process of adjustment. The question is, can Iraq harmonise its law with this Directive? And how?

3- Referring to the principle of harmonisation in the scope of IP international law to know how the Iraqi legislator can benefit from the rules and provisions in international laws to improve its legislation through that principle.

Accordingly, this chapter will be divided into fourth parts. The first part will explain the principle of the harmonisation in terms of the process and the objectives while the second part will deal with European IP provisions and third part will deal with IP international law In addition, it would be useful to summarize the mechanism of achieving the principle of

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[931] See s. 1.1.1 of chapter 1

[932] The Preamble of the ARA 1971 stated "Recognizing the demonstrated interest of the Iraqi Governing Council for Iraq to become a full member in the international trading system, known as the World Trade Organization, and the desirability of adopting modern intellectual property standards"

[933] Deschamps (n159) 103 and her footnotes 9,10 and 11

harmonisation into Iraqi law which will be in the final part. These themes will be discussed as follows.

5.2 The principle of harmonisation, process, objective and the reasons

5.2.1. Introduction

A convenient starting point is, what is the process of harmonisation, how can it be achieved and why? These investigations are important to understand the purpose of the harmonisation between Iraqi law and English law or European law in one aspect and international law in another aspect. Accordingly, it would be useful to show the objective and the process of the harmonisation. On the other hand, it could be significant to investigate the reasons for or against harmonisation.

5.2.2. Objective and process

The main objective of the last amendment in the ARA 1971 in 2004, which considered a CP a literary work, was to promote harmonious development of economic activities and closer relations between Iraqi law and the current international standards particularly with the WTO.[934]

Regarding the harmonisation process, existing Iraqi law does not yet incorporate mechanisms for automatically effecting harmonisation with international laws or developed countries. Nevertheless, as discussed below, the source of ICC is French law. Thus, one may argue that Iraqi law can benefit from any development in any area of the FLIPC 1992. As we know France is a part of the EU. This enables to be made of that development in the scope of IP within Iraqi law. Thus, the ARA 1971 should adopt the French implementation of European legislation. This conclusion can give rise to harmonising Iraqi law with European law. The Iraqi legislator may use European laws and international law via French law if the latter has adopted these laws. Case law of other EU countries, notably the UK, on the interpretation of EU law, is also available to assist Iraq.

Accordingly, it could be suggested that it would be easy to use the laws whether in Europe or international laws regarding IP in general and copyright in particular to harmonise those laws with Iraqi law through the CPD 1991 or Agreements and Conventions ,e.g. The TRIPs, WTC

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[934] Look at the purpose of the amendment in the ARA 1971, s1 (the Preamble). This could be found at Website: http://www.wipo.int/wipolex/en/text.jsp?file_id=229997

1996. This raises the question regarding the mechanism for making the harmonisation. We can presume that the origin of Iraqi law-specially ICC- is from French law. This can give rise to use any amendment which takes place in that law, namely French law, on the basis that French law is the main source for Iraqi law because ICC states that Iraqi courts should take, if there is no provision in Iraqi law, in all their judgments the case precedents in Iraq and then the country's other laws that converge with the laws of Iraq.[935]That means the Iraqi legislature does not need to legislate any Act relating to protecting copyright in general and CPs in particular.

However, this research is a comparative study therefore there is no obstacle to take advantage of using any general rules relating to CPs for Iraqi law as long as there is a connection between FLIPC and English law via the EU. This assumption conclusively establishes a relationship between English law and Iraqi law through a development in the EU.

5.2.3. The reasons for or against harmonisation

Iraqi law-ARA 1971- in the last amendment focused on the fact that it was beginning to agree with the international approach. The second reason for harmonisation is to develop a comprehensive strategy to implement the TRIPs Agreement successfully and expeditiously as envisaged by this Agreement. For these reasons, Iraq is currently in the pipeline of acceding to the WTO.[936]

If we study the reasons for harmony within the CPD, we will find the reasons which led up to this harmonisation. The first legislative programme in the area of IP was the Green Paper on Copyright and the Challenge of New Technology. This Paper was related to the CPD the Community's first legislative effort in the author's right field. This is the first reason underlying harmonisation, namely the divergence between national IP laws. This divergence had negative consequences: "national laws constituted barriers to the free circulation of goods and to the efficient development of the European software industry. In the light of the negative effects that IP rights had on the free circulation of goods, the Community launched a harmonisation programme".[937]

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[935] S1(3)

[936] Malkawi (n17) 591. See also, the Preamble of the ARA 1971 as amended in 2004

[937] Estelle Derclaye, 'Software Copyright Protection: Can Europe Learn from American Case Law? Part 1', (2000) EIPR, 7(16), 56-68, at 56

The Community's goal was to achieve two targets; not only to unify the protection but also to reinforce it. The benefit in affording a sufficient level of protection was aimed at promoting the industrial development of CPs companies,[938]and this represents the second reason for harmony. It could be said that this reason of harmonisation could lead to protect and encourage a local commercial software industry and make Iraq more competitive with other countries in this area.

In the concluding part of the Green Paper regarding CPs, the Commission proposed various ways of protection. It suggested that protection of a CP would come under copyright[939], a copyright-like *sui generis* right[940]or a combination of both. However, in general, other ways were also possible such as patent rights.[941] The Commission opted for copyright protection of CPs.[942] Thus, the laws of harmonisation will be European Directives, e.g. the Directive Software.

Another reason to adopt copyright was the existence of a high degree of protection by international law instruments. If copyright was chosen to protect CPs, and programs were classified as literary works, they would be within the scope of the BC.[943] Thus, the agreements and conventions relating to copyright protection will be also the laws of harmonisation because the UK and France are part of this international legal community.[944]

In this investigation, the aim is to assess to what extent the harmonisation can make approximation between the laws in the EU. However, the question is still remaining can the

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[938] ibid 2. Also, Sterling (n193)940-41

[939] Yilmaz (n353) 308

[940] This type of protection was chosen by WIPO in its 1977 Model Provisions on the Protection of Computer Software, [1977] 16 Industrial Property, 259. See Perry L "The World Intellectual Property Organizations Model Provisions", 173-187. Sui generis protection was however accepted in the first intellectual property directive of the Community, the Directive on the Legal Protection of Semiconductor Products of 16 December 1986(OJL24/36 27.1.1987) following the USA Semiconductor Chip Protection Act of 1984. On this see Hoerent T, "Chip Protection in Europe", in The Law of Information Technology in Europe1992,1991 Edited by MEIJBOOM A P/PRINS C 137. Yilmaz (n353) 308

[941] Yilmaz (n 353)309

[942] ibid 309 and Derclaye E (n937) 57. See also, Green Paper, Copyright and Related Rights in the Information Society- Brussels,COM(95) < http://ec.europa.eu/internal_market/copyright/docs/docs/com-95-382_en.pdf> Accessed 1 May 2012

[943] See also Derclaye (n937) 57

[944] See Ricketson & Ginsburg (n193) 214 & seq

Iraqi legislature benefit from this harmonisation to make preferable protection for CPs to follow the development of CPs? One may argue that if the level of the protection of CPs in Iraq were less than that of other countries, this is likely to lead to foreign companies in the computer industry being unwilling to invest in Iraq. Consequently, this situation could prevent investment in producing CPs in Iraq.[945]

It can be suggested that the principle of harmonisation is the best way to develop Iraqi law via explicit adoption of French law because the latter is the original of Iraqi law. The second argument is that Iraqi law does not need to enact any legislation relating to copyright protection if it uses the principle established by s 1(3) of ICC. Thus, one may argue that the principle of harmonisation as a beneficial step should encourages the Iraqi legislator and Iraqi Judges to use the provisions of copyright protection in the European laws via French law to protect CPs if there is no provision in Iraqi law according to s 1(3) of ICC. Accordingly, the writer can argue that he is not against the principle of harmonisation. To improve that, there are two ways relating to the harmonisation of protection of CPs within the EU Member States and International law. Studying these two ways could help to develop Iraqi law in the scope of protection of copyright CPs. These are as follows.

5.3. Harmonisation European Software Directive (CPD) with Iraqi law

5.3.1. Introduction

The first harmonisation legislation in the field of EC copyright was the CPD 1991 on the legal protection of CPs. Its origins are to be found in the 1985 Commission White Paper 'Completing the Internal Market', and in the 1988 Green Paper, 'Copyright and the Challenge of Technology'.[946]However, this Directive was amended on 23 April 2009 through issuing a new Directive which is 2009/24/EC.[947]

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[945] Mohammad Majid Al-Qudah, 'The Modern Intellectual Property Laws as a Policy to Attract Foreign Direct Investment in Jordan' (PhD thesis, University of Newcastle Upon Tyne 2006) 61 & seq

[946] Thomas Cottier & Pierre Veron (ed.) *Concise International and European IP Law: TRIPS, Paris Convention, European Enforcement and Transfer of Technology,* (Kluwer Law International 2008) 211. See also, Andre Lucas, 'The Council Directive of 14 May 1991 concerning the Legal Protection of Computer Programs and its implications in French law', (1992) EIPR, 14(1), 28-31, at 28   . See also Recital 16 and section 2(2) of Corrigendum to Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights[2004] OJ L 195/16, recital 16 and art 2(2)<http://eur lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:195:0016:0025:en:PDF> Accessed 1 May 2012. See

Due to the significance of the latter Directive it would be a great privilege to study it through the objectives of harmonisation and explain the points of strength and weakness in this Directive and their consequences for Iraq.

5.3.2 Objective of harmonisation

According to the first five recitals (1-5), the main objective of this Directive is to remove the differences between the laws of Member States to the extent that the differences ' have direct and negative effects on the functioning of the internal market as regards CPs'.[948] In addition, the Directive admits that the differences which do not negatively affect the functioning of the internal market 'to a substantial degree need not be removed or prevented from arising'.[949]

Another clear point is that enacting this Directive was to promote the industrial production especially for goods which have valuable information such as CPs. This motivation was the origin of granting protection for these goods equally throughout the European Community in order to prevent distortions of competition.[950]

This purpose could be the primary target of the Iraqi legislator to enhance production of CPs to attract investment and protect the producer. Consequently, Iraqi law should consider this purpose of the Directive in its legislation and jurisprudence relating to protecting the right holders of CPs.

5.3.3. The main points of the CPD 1991/2009

5.3.3.1. Subject matter of protection

The subject matter of the protection of a CP is defined by Article 1. According to the first paragraph, CPs shall be protected by copyright as literary works within the meaning of the

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also Conference on "Enforcement of intellectual property rights: the review of Directive 2004/48/EC" on 26 April 2012, Charlemagne Building, Rue de la Loi 170, 1000 Brussels <http://ec.europa.eu/internal_market/iprenforcement/directives_en.htm> Accessed 1 May 2012.

[947] Recital 1 and see also Annex 1, part A

[948] The CPD, Recital 4

[949] The CPD, Recital 5

[950] Tatiana-Eleni Synodinou, 'The lawful user and a balancing of interests in European copyright law', (2010) IRIP&CL, 41(7), 819-843, at 821

BC. Reference to the protection as literary works was made in order to circumvent uncertainty and divergences in national laws, if any.[951]

Copyright provides for national protection in all countries which are parties to the BC, due to the national treatment means that an owner of copyright in any the BC countries is entitled to certain minimum level of protection in any other BC countries, in accordance with the copyright or equivalent law of that country. It requires that national protection be available without any registration formality in all the BC countries.[952] Most countries in the world are members of or are bound by the BC.[953]

Unfortunately Iraq has not yet signed this Convention.[954] However, if Iraq joins WTO, it will be bound by Articles 1-6 of the BC and Articles 9 &10 of the TRIPs Agreement.[955]

The FLIPC 1992[956] and the CDPA 1988 [957] are in conformity with these Articles when they consider CPs as literary works protected by the laws.

The term 'computer program' includes "programs in any form, including those which are incorporated into hardware. This term also includes preparatory design work." [958]Thus, it adopted the narrow meaning which means "computer program" not "software" as mentioned in chapter 2.[959]The ARA 1971 has also the same approach since it considered the term "computer program" is protected whether it was in source code or machine code.[960]

5.3.3.2. Form of expression

The protection provided by the Directive applies to any form of expression of a CP. Thus, there is no doubt that copyright will be granted for all versions of a program, including the

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[951] Yilmaz (n353) 311

[952] Art 2

[953] Gifkins (n70)21. See *inter alia,* Christian Handig, 'The copyright term "work" - European harmonisation at an unknown level', (2009) IIC 2009, 40(6), 665-685IRIP&CL, 40(6), 665-685

[954] The Berne Convention Signatories, (2012) <http://www.worldcopyrightcenter.com/signatories-berne-convention.html > Accessed 27 April 2012

[955] See s 2(2) which has been amended to include CPs in author's right protection

[956] S L. 111-5.

[957] S 3(1,c)

[958] The CPD -Recital 7, FLIPC 1992, S L. 111-5. CDPA 1988 ,s3(1,c)

[959] See section, 2.1

[960] S 2(2) "Computer programs, whether in source or object code…"

one enabling it to be run in the machine. According to Article 1(2), the Directive shall apply to the expression in any form of a CP. However, ideas and principles which underlie any elements of a CP, including those which underlie its interfaces, are not protected by copyright under this Directive.[961] The reasoning behind excluding ideas and principles from protection is to avoid any doubt relating to excluding those terms from protection.[962] The CDPA 1988 has referred to the expression in s 3(2) which require a fixation for the grant of this protection to works such as a fixation of a CP in a CD. [963]

There is no reference to the form of expression in FLIPC. It only stated that 'The provisions of this Code shall protect the rights of authors in all works of the mind, whatever their kind, form of expression, merit or purpose'. [964] This approach has been applied in Iraqi law which has not referred to the kind of expression, which could be fixation on a CD or any material form; neither has it granted protection for ideas and principles.[965]The Iraqi law approach in this point has emulated the TRIPs Agreement which referred to the requirement of expression without identifying any specific form of expression.[966] One may argue that this action from the Iraqi legislator is sort of harmonisation with the international approach.

5.3.3.3. Originality[967]

Basically, the requirement of originality is the basis of granting the protection of copyright to any work including a CP even though the BC does not mentioned it.[968]This raises the question of how the Directive deals with this requirement.

CPs will be protected provided that they are original works. The notion of originality within the concept of the Directive is "author's own intellectual creation".[969]

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[961]TRIPs stated that the protection of copyright is only granted to expression and not to ideas, procedures, and methods of operation or mathematical concepts as such. (Art 9 (2))

[962] Recital 13

[963] For a further detail, see section 2.2.2 of chapter 3

[964]FLIPC, s L.1112-1. See also WIPO Copyright Treaty 1996 which stipulates that "Such protection applies to computer programs, whatever may be the mode or form of their expression"

[965] S 1(1)

[966] Art 9(2)

[967] This issue has been explored in chapter 3/ s 3.2.1

[968] See chapter 3, section 3.2.1.2

Originality in the French approach was defined through the meaning of the term "authorship", and according to the FLIPC "Authorship shall belong, unless proved otherwise, to the person or persons under whose name the work has been disclosed".[970]Thus, the originality in a program is "an intellectual creation belonging to its author"

The difference between the notions of originality in the Member States and the need for a uniform notion were considered in depth in the Green Paper. The Paper demonstrated a detailed explanation of the situation of the originality required by Member States and reviews European case law in order to try to come to a common acceptable definition of originality.[971]The process of EU harmonisation has resulted in the standards of originality in respect of computer –generated works. This could be concluded through considering work original if that work is a result of "the author's own intellectual creation".[972]

It could be concluded that the criterion of originality gives us a common denominator between the two systems (common law and civil law). In other words, this definition , namely, the Directive's definition, can mean "originating from" the author as opposed to originating from an infringer (British perspective), or it can mean "personal to the author"(civil law perspective).[973]

5.3.3.4. Ownership of copyright

Article 2 in the first paragraph of the Directive has been addressed to "Authorship of computer program". It stated that "the author of a computer program shall be the natural person or group of natural persons who has created the program or, where the legislation of the Member State permits, the legal person designed as the right holder by that legislation". In case the program is created by a group of natural persons jointly, the Directive, in the second paragraph states that the exclusive rights shall be owned jointly.

With respect to creation by employees, Article 2, paragraph 3 decided that, subject to contractual provisions to the contrary, only the employer may exercise the economic rights

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[969] Art 1(3)

[970] S L. 113-1

[971] Derclaye E (n937) 61. see also Akester (n203) 280

[972]Art1(3) of the CPD. See also Eleonora (219) 531

[973] Derclaye E (n937) 61. See more detail chapter 3 regarding the meaning of originality

relating to the program 'created by an employee in the execution of his duties or following the instructions given by employer'.

The FLIPC sets out the same rule; it covered creating a program during the performance of duties or following instructions. Therefore, it can easily be accepted in FLIPC that a CP created according to the employer's instructions is deemed to have been created during the performance of duties.[974]

However, in a case of an employee's creation of a CP, the exercise of moral rights, such as the right of paternity and right of integrity, by employees will conflict with the employer's exploitation of exclusive economic rights. [975]

These two moral rights may play a prominent role as far as employee authorship in a CP is concerned: the right of paternity, namely the right to be called the author of the work and the right to maintain the integrity of the work. The reason is that a CP is subject to adaptations and modifications which, under the Directive, are defined as exclusive economic rights.

The FLIPC referred to the right of paternity in its legislation in general. The author of a work of the mind shall enjoy in that work the right attributes of an intellectual and moral nature.[976]This means the employee has moral rights in his/her program since moral rights in the program will belong to him/her even though his/her economic right will vest to his/her employer. However, France is a Member State in the EU so the CPD 1991 must be implemented into the FLIPC. As we know the Directive does not explicitly confer moral rights for the programmer (employee) thus the FLIPC does not grant moral rights for the programmer because of the influence of the principle of harmonisation with the Directive.

This could be implemented in Iraq according to the principle of harmonisation with FLIPC because there are no special rules in terms of the programmer's moral rights. Thus, the Iraqi Court can abstain from conferring any moral right on the programmer according to the principle of harmonisation through applying s 1(3) of ICC.

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[974] S. L. 113-9 (Unless otherwise provided by statutory provision or stipulation, the economic rights in the software and its documentation created by one or more employees in the execution of their duties or following the instructions given by their employer shall be the property of the employer and he exclusively shall be entitled to exercise them.)

[975] The economic rights are the rights included in Article 4 of the Directive, such as copying, modifying and adapting the program as well as distributing copies

[976] S L. 111-1

As mentioned earlier the British law does not grant moral rights in relation to CPs.[977]Indeed, since CPs are highly valuable in commercial dealings, we should look to them as a matter of dealing which is supposed to be different from other works. [978]

Lastly, Article 3 of the Directive grants to beneficiaries that protection of CPs shall be determined by national copyright legislation as applicable to literary works. The persons who would be eligible for protection are natural or legal persons. As the protection is afforded to all who are beneficiaries under national copyright laws the national treatment principle under Articles 3 and 5 of the BC should apply.[979]

Under Article 3, the BC Convention has identified the authors who should be protected. There are three kinds of eligible authors who may have protection under the Directive:

1- those who are nationals of one of the EU Member States, whether their works have been published or not;

2- those who are not nationals of one of the Member States provided that their works have been published first in an EU Member States, or simultaneously in a country outside the Union and within a country of the Union;

3- those who are not nationals of an EU country but resident in an EU country

On the other hand, Article 5 has indicated the enjoyment of authors in respect of works for which they are protected under this convention. The authors may have the protection when they are in countries of the Union other than the country of origin, "the rights which their respective laws do now or may hereafter grant to their nationals, as well as the rights specially granted by this Convention"[980]

The FLIPC has not identified the categories of authors who are protected by this law. However, France is bound by both the BC and the Directive. Thus, the categories of authors who are identified by the BC are eligible to have protection under the FLIPC. In addition, it grants an author the enjoyment of the right to respect his/her name, his/her authorship, and his/her work.[981]

The ARA 1971 has not specifically identified the authors who have protection. It has only indicated that any person who put his/her name on a work would be presumed to be the owner of that work .This flaw could hinder harmonising Iraqi law with the international

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[977] CDPA 1988, s s79(2) and 81(2). See also chapter 3, section 3.2.2.2

[978] See chapter 3, section 3.2.2.3

[979] See Recital (19) and Arts: 1(1) and 6(3) of the Directive

[980] Art 5(1)

[981] S. L. 121-1

approach particularly with the BC. To tackle this flaw, an Iraqi Judge can adopt the provisions in the BC into Iraqi law via France because as mentioned earlier France is a part of the BC so the Iraqi court can implement these rules into Iraqi law according to s1(3) of ICC.

5.3.3.5. Scope of protection: Exclusive Rights[982]

The Directive in Article 4 has indicated the exclusive rights of the right holders within the meaning of Article 2, namely, economic rights. These rights have been addressed in the Directive under "restricted Acts". They are subject to the exceptions in Article 5 & 6.

Despite the fact that CPs are literary works, it is understood that they are also of a special nature. The reproduction right, as included in Article 4 (a) of the Directive, illustrates this, as unlike other literary works CPs cannot serve their purpose unless they are "reproduced". This copying may be necessarily due to some error corrections and for technical reasons such as making a back-up copy.

According to this Article, reproduction of a CP, whether permanent or temporary, by any means and in any form is subject to permission of the right holder. Thus, taking or using any part of a program even if it is small needs permission from the right holder.[983] 'Reproduction' reflects a wide concept of form of reproduction which will cover future technological means.[984]

Accordingly, loading, displaying, running, transmission or storage of CPs necessitates permission of the right holder if these acts necessitate such reproduction.

Under Article 4(b), a bundle of adaptation rights is set out. Within the meaning of the Directive adaptation is a general concept and includes translation. Under this paragraph, translation, adaptation, arrangement and any other alteration of a program and reproduction of their results are restricted. They require the authorisation of the right holder. Translation of a CP comprises in this context the acts of compilation, disassembling or decompilation. Moreover, any change or alteration to an existing program such as additions, deletions and rearrangements are considered restricted acts and require authorization.[985]

Article 4(c) of the Directive speaks of the exclusive right to distribute a CP or copies thereof to the public. According to this Article, the right holder of a CP shall also have an exclusive right "to rental of the program or copies thereof".

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[982] These right has been explored in chapter 3.3.2.1

[983] This is referred by Infosoc Directive,Art 2

[984] *Football Association Premier League Ltd v QC Leisure* [2012]F.S.R. 12 [43]

[985] Art 4(b). see also Yilmaz (n353) 322-323.

Iraqi law does not refer to these exclusive rights for CPs in particular. However, there are some indications of those exclusive rights for works which are subject to the rules of that law. For example, the law stipulated that the author has only the right of exploitation and any other acts could be on the work without any permission from the author, these acts such as copying, translating, reproduction and so forth are to be infringements. These acts could be within the area of infringement if they have taken place without authorisation from the right holder.[986]

5.3.3.6. Special measures of protection

In order to circumvent any infringement that could happen of the right holder's copyright of a CP, the Directive sought to strengthen the legal protection of a CP. Accordingly; it has stipulated in art 7 that 'Member States shall provide, in accordance with their national legislation, appropriate remedies against a person committing any of the following acts.' This Article did not impose specific remedies. Rather it is left to Member States' national legislation to achieve the purpose of the Article and the Infosoc Directive 2001/29/EC.[987]

These acts are listed in paragraph one (a) to (c) of art 7 of CPD. Sub-paragraph (a) provided that ' any act of putting into circulation a copy of a CP knowing, or having reason to believe, that it is an infringing copy'. In addition, "the possession, for commercial purpose, of a copy of a computer program knowing, or having reason to believe, that it is an infringing copy"[988]

Sub-paragraph (c) makes removing and circumventing the technical protection device kinds of infringement. It stipulated that 'any act of putting into circulation, or the possession for commercial purposes of, any means the sole intended purpose of which is to facilitate the unauthorised removal or circumvention of any technical device which may have been applied to protect a computer program'.

Furthermore, 'Any infringing copy of a computer program shall be liable to seizure in accordance with the legislation of the Member State concerned'.[989] This applies to the infringing copies possessed for non-commercial and private purposes even if the possession itself for these purposes is legal. However, the use of such infringing copies is caught by the restricted acts envisaged in Article 4(a).[990]

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[986] ARA 1971,s 8

[987] See Recital (50), Arts: 5 & 8

[988] Art 7(b)

[989] Art 7(2)

[990] Yilmaz (n353) 335

The CDPA 1988 has already provided remedies for all kinds of literary work including a CP.[991]This is also implemented into Iraqi law.[992]

Finally, according to Article 8, the Directive does not have any effect on the other legal protection provisions governing CPs such as patent laws, TMs, unfair competition, TS, protection of semi-conductor product or the law of contract.

After explaining the main points in this Directive, the question still remains to what extent Iraqi law currently could benefit from this Directive? And how can these provisions be moulded into Iraqi law? Are they acceptable to the Iraqi legislature?

There are a few clues which could be used in approximating Iraqi law with the provisions of the Directive. According to section 1 (3) of the ICC the courts in Iraq may borrow rules and provisions if there is no rule or provision governing the situation in Iraqi laws. Thus, the court can implement the provisions of the Directive via the FLIPC since it is the first source of Iraqi law. Therefore, there is no obstacle to adopting this Directive into Iraqi law. However, this suggestion does not overlap with the main principles of Iraqi law whether these provisions might contradict with the common law principles of Iraqi law. For example, Iraqi law considers very much the provisions of moral right of the author of a work irrespective of the kind of that work; thus, any provision in this point could not be regarded by Iraqi law. Whereas the approach in the Directive is rather more to consider the economic aspect rather than the moral aspect; therefore, this point could be a factor against the principles of Iraqi author's right which deem moral right an important component of the works. The writer highly recommends that the ARA 1971 should consider the economic factor rather than the moral factor because of the cost of creation of a program which is usually high in comparison with other works.

As regards the first Article of the Directive, Iraqi law has applied this paragraph without any difficulties through the protection of a CP as a literary work.[993]

There is no indication that the restricted acts and the exceptions to these acts which have been mentioned in Arts 4&5 have been implemented under the ARA 1971. Thus, it would be useful to borrow these provisions to remedy the flaws in Iraqi law. This could take place through adopting the rules which are found in the FLIPC which has adopted this Directive.

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[991] Chapter VI

[992] Look at section 3.6.3 of chapter 3

[993]ARA 1971, s 2(2)

With respect to the exceptions rights, there is no obstacle to incorporating the exceptions to exclusive rights into Iraqi law through adopting these exceptions such as the reproduction right and adaptation rights and so forth as well as adopting the rights which cannot be contracted out such as back –up copies and the right to analyses.

In conclusion, all these provisions could provide help for Iraqi law and resolve the shortcomings in Iraqi law through adopting the provisions of the Directive through the FLIPC which is the source of Iraqi law according to s1(3) of ICC.

5.4.Harmonisation the rules of IP international law with Iraq as a developing country.

5.4.1. Introduction.

The WTO could have expanded the scope of international trade law beyond the classic border measures through introducing several Agreements. One of these Agreements was the TRIPs Agreement which was described being the deepest and the most controversial in terms of the scope and intensity of the compliance obligation it imposes one member states as well as the potential conflict between its substantive obligation and the policy priorities of many these countries especially developing countries.[994]

This raises the question related to the impact of compliance of the rules of the TRIPs Agreement into the developing countries in general and Iraq as developing country in particular

5.4.2. The anticipated problems from implementation IP international faced by the developing countries in general and Iraq in particular

5.4.2.1. The rationales which prevent the implementation and compliance

Iraq, as a developing country, has not acceded to the TRIPs Agreement yet because of the disproportionate nature of the implementation challenge that the Agreement poses for many of the developing countries.[995] On the other hand, many of the legal, regulatory and administrative requirements of the TRIPS Agreement reflect the standards and practices already well-established in the developed countries, for most developing countries, such institutional structures would either need to be created or substantially reformed, if at all they already exist. For example, the last amendment of the ARA 1971 referred to the purpose of this amendment ,when made a CP is a literary work, is ensure that Iraqi copyright law meet current international –recognised standards of protection and to incorporate the modern

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[994] Fasan (n18) 191

[995] ibid 192 and Malkawi (17)592

standard of the WTO in to Iraqi law.[996]However, Iraqi legislator has not implemented many rules in the TRIPs Agreement because this needs to make a comprehensive change in its law and because of its current conditions.[997] It could be argued that the implementation and compliance with any Conversion or Agreement depend on "perception of the legitimacy and appropriateness of the rules".[998] In other words; it must be no conflict between the domestic policy goal and complying with international commitment.

Another reason which could prevent implementation any Convention or Agreement in the developing countries, Iraq for example, is that they cannot be able to articulate their own needs and approaches with regard to IP, and they do not have to participate in the project-based approach to implementation, and financial assistance for developing country participation.[999]Iraq has not the ability currently to identify its needs regarding IP. The best example is that there is no any organisation or association concerns intellectual property right as well as it has not acceded to the WTO or the TRIPs Agreement.

It is not easy to identify all the factors in the developing countries which could be deemed obstacles to implement and compliance with the Agreements which concern regarding the developing the IP law. Thus, the author cannot identify the negative factors in developing countries as well as none of the studies have focused directly on the level of incentive for using IP in manufacturing companies in developing countries based on their activity.[1000]

However, it could be said that three factors could be obstacles for not implementing and compliance with the Agreement. These impediments are a state's *ex ante* preference, its subsequent domestic condition and its priorities. These factors could lead to compliance totally or partially or non- compliance with any Convention or Agreement.[1001] For example, Iraq has not complied with the TRIPs Agreement yet because there are some domestic conditions prevent it to be a member state and compliance with this Agreement. One of these reasons, Iraq has not stabilised yet politically and economically.[1002] Accordingly,

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[996] See the Appendix 1 of the thesis

[997] See chapter 1/ introduction to Iraq

[998] Fasan (n18) 193

[999] Jeremy De Beer & Sara Bannerman (n18) 217

[1000] Ghazinoory (n18)277

[1001] ibid, 193. See also, R. O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy,* Princeton University Press (1984)

[1002] See chapter 1/1.1.2

implementation of international law including European law depends on domestic preferences and priorities.

Finally, developing countries clearly differ from developed country in terms of industrial structure. Also, they face more challenge in their efforts to develop technology more than developed countries do.[1003] The reason behind that is the developing countries, including Iraq, do not usually develop a new technology by themselves because there is inadequate incentive among manufactures for protecting IP.

5.4.2.2. The impact of implementation of the TRIPs on Iraq as a developing country

The impact of implementation of this Agreement on developing countries in general and Iraq in particular could face greater challenges than developed countries.

The Agreement referred to its objectives through explaining the main goals from the protection and enforcement of IP. These goals are aimed to "the promotion of technology innovation and to the transfer and dissemination of technology".[1004]Accordingly, developing countries were promised certain rewards for agreeing to abide by these global standards. In particular, these standards are supposed to facilitate transfer of technology from developed countries which in turn would promote economic growth in the developing countries.[1005]

The question could be raised, to what extent this promising could be applied to Iraq, as a developing country, and other developing countries. In other words, is that possible to apply it in reality? Or developed countries might impede it for their interests and productions.

The answer would be that developed countries would not accept to transfer their technology to the developing countries. However, there are some thoughts have been raised could be assistant factors to achieve Agreement's objectives. These factors include the following: an open economy where there is free market access; a good education system which is necessary for human capital development; policies which encourage local innovation such as public assistance for R & D in local universities; and a competition regime to remedy anti-competitive practices.[1006]

[1003] Ghazinoory (18)269

[1004] Art 7

[1005] Loon(n18)163

[1006] See Maskus, Intellectual Property Rights in the Global Economy, 2000, p.11. In making this prognosis, Professor Maskus had already taken into account the situation of the small poor countries. In his more recent works, Professor Maskus appears to have become more guarded about the positive effects of the TRIPs. For example, in a 2003 paper which he co-wrote with Professor Jerome Reichman entitled "The Globalisation of Private Knowledge Goods", published as Ch.1 in International Public Goods and Transfer of Technology Under

In addition, it could be suggested that Iraq and other developing countries must also make use the flexibilities with the global standards to design IP regime which best suits own economic, social and cultural needs.[1007]

According to the last point, the question could be raised that how national IP regimes could be best designed to benefit developing countries within the context of the TRIPs Agreement. In other words, how developing countries, and Iraq, could benefit from "the TRIPs flexibility" to make protection to the products in general and CPs in particular.

It is suggested that it would be "unwise to focus on TRIPs as the principal means to facilitate technology transfer"[1008]

However, it could be focused on some measures. These could be as "external" to developing countries in that these are steps to be taken by developed countries or international organisation(e.g. provision for tax relief in developed countries to companies which license technology to developing countries; making available more public funds to promote indigenous scientific and technological capability in developing countries). In terms of what developing countries could do for themselves, two recommendations stand out: establishing

a Globalised Intellectual Property Regime (Cambridge University Press, 2005), while he maintained the view that there is potential for transfer of technology to developing countries which provide strong IPRs, he also warned that "[i]t seems increasingly likely that stronger global IPRs could reduce the scope for [firms in developing countries] to acquire new, and even mature, technologies at manageable costs" (p.44). But it seems that Professor Maskus's change of position is targeted at the attempts to harmonise or "fix" the standards of IP protection in developing countries at the level adopted by the developed countries. These attempts are made either through the other international IP agreements such as the WIPO Copyright Treaty and the WIPO Performance and Phonogram Treaty, or through regional or bilateral agreements such as the free trade agreements concluded by the US with developing countries. It is for this reason that Professor Maskus and Professor Reichman are calling for amoratorium on international IP standard-setting exercise so that there is time to empirically evaluate the "loose claims made for and against different modes of protection" (p.37). See also Professor Maskus's views expressed in his 2008 work, "Incorporating a Globalised Intellectual Property Rights Regime into an Economic Development Strategy", published as Ch.15 in Intellectual Property, Growth and Trade (Elsevier, 2008), para.3.3 (where he maintains the same optimism expressed in his 2000 work) and at para.4.3 (where he talks about a "system out of balance" as a result of upward convergence of IPR standards).

[1007] Loon(n18) 164

[1008] See the CIPR Report, Integrating Intellectual Property Rights and Development Policy (September 2002). The CIPR was commissioned by the UK Government to consider, inter alia, how national IPR regimes could best be designed to benefit developing countries within the context of the TRIPs Agreement, p.7).

effective competition policies, and exploring the flexibilities within the TRIPs Agreement when designing their IP regime.[1009]

If we tested the impact of IP, the impact of patent protection, for example, on developing countries which have significant scientific and technological capacities , we would find out that indigenous firms in these countries will be less able to engage in independent development of technology, found that strengthening patent protection will probably attract technology transfer into these countries through foreign investment direct but only in certain industries and only in those countries with "appropriate complementary capabilities" such as high education levels and a good business climate. In addition, these countries should design a patent system that excludes certain subject-matter and provides for a research exemption.[1010]

There are two categories could be subject matters for the flexibility within TRIPs Agreement which are: subject –matter which qualifies for protection and the scope of protection. These are particularly important for the developing country designing its IP regime. This issue will be examined in the next item.

5.4.3. How can Iraqi legislator benefit from the TRIPs flexibility and applying its rules to Iraqi law?

5.4.3.1. In the area of copyright

Having said Iraq is currently in the pipeline of acceding to the WTO to develop a comprehensive strategy to implement TRIPs successfully and expeditiously, as envisaged by TRIPs.[1011] Thus, the question is how Iraq, as a developing country, can benefit from the flexibility provisions which are mentioned in the TRIPs Agreement to develop its legislation and economy?

In the area of exclusive rights, the ARA 1971 have expanded the exclusive rights holders of copyright and related right, even though it is not a Member State, beyond the minimum standards in the TRIPs Agreement.[1012]

It could be argued that there is a potential of negative impact of stronger copyright protection on the ability of indigenous firms in copyright-based industries (e.g. CPs) to do research and

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[1009] Loon (n18)164

[1010] (Barton, "Patents and the Transfer of Technology to Developing Countries", Ch.21 in Patents, Innovation and Economic Performance (OECD, 2004), ibid 164

[1011] See chapter 1/ s 1.1.2
[1012] See ss 7 &8

innovate, and more generally, the public's ability to continue enjoying free exchange of information and developing creative works.[1013]

These concerns are also the subject-matter of debates that are taking place in other countries whether developed or developing. One solution that these countries have adopted, or are considering, is to widen the existing exceptions in their copyright legislation or to introduce new ones:[1014] for example, Iraqi law can consider that CPs are valuable products and not granting any kind of moral right for the programmer. Iraq can benefit from some exceptions related to the allowing for reverse engineering of CPs by decompilation[1015], observing , studying and testing. These exceptions could develop the computer industry in Iraq so it would be recommended that Iraq should apply these exceptions into its legislation. In addition, using the exception for "fair dealing for the purpose of research or private study" could help the area of industry to develop it in general and CPs in particular.

Should Iraq become a member state in the TRIPs Agreement; it must consist with the art 13 of the TRIPs which explains the "limitations and exceptions". These could be summarised in some points:

(a)   Exceptions must be confined to "certain special cases":

(i)   This step requires that the exception or limitation be clearly defined and narrow in its scope and reach

(ii)   It is not necessary to inquire into the public policies of the exception

(b)   Exception must not conflict with the normal exploitation of the work.

(c)   Exception must not unreasonably prejudice the legitimate interests of the right holder.[1016]

In the area of compulsory licenses: TRIPs stated that CPs and compilations of date are copyrightable works and subject to protection under BC.[1017] The Appendix of the BC referred to the possibility of granting non-exclusive and non- transferable compulsory licenses in

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[1013] Loon (n18)174

[1014] These recommendations were made in the Gowers Review of Intellectual Property (December 2006),recommendations which the UK Government announced it intends to take forward: see the public consultation paper("Taking Forward the Gowers Review of Intellectual Property: Proposed Changes to Copyright Exceptions") issued by the UK IP Office in January 2008. The consultation closed in April 2008, and the second consultation, according to the UK IP Office, was expected to begin later in 2008.

[1015] See chapter 3/s. 3.2.2.4.2, p. 104

[1016] See the Singapore Copyright Act 2004

[1017] BC, Art 10

respect of: (i) translation for the purpose of teaching, scholarship or research,[1018] and (ii) reproduction for use in connection with systemic instructional activities, of works protected under the convention.[1019] These licenses may be granted, after the expiry of certain time limits and after compliance with certain procedural steps, by the competent authority of developing country concerned. They must provide for just compensation in favour of the owner of the right.

In respect of reproduction, the period after which licenses can be obtained varies according to the nature of the work to be produced. Generally it is five years from the first publication.[1020] For works connected with the nature and physical science and with technology (and includes mathematical works) the period is three years.[1021] Accordingly, the period of licenses for reproduction CPs is three year from releasing them in the market.

TRIPs Agreement added one new exclusive right not found in BC. This right is the right to authorise or to prohibit commercial rental to the public. However, this right is limited to three categories including CPs. Thus, as to CPs it does not apply to rentals "where the program itself is not essential object of the rental".[1022] Accordingly, this rule could help in developing Iraqi law because the owner of CPs has the ability to make profit through paying royalties to him/her.

5.4.3.2. In the area of patent

The first question to arise is, whether there is any need for international harmonisation of national patent laws and if so to what extent these international conventions could develop the national law if not what the obstacles to this harmonisation are.

The patent system has been investigated in chapter 4 to understand whether this may provide favourable protection for CPs as well as copyright.

Iraqi law has no problem to harmonise international law, the TRIPs Agreement, with its law because nowadays Iraq is striving to follow the international approach. In addition, Iraqi law is silent in respect of patentability of a CP therefore there is no obstacle to implement that Agreement's approach to grant patents for CPs provided that the Iraqi legislator must

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[1018] Art II (5)

[1019] Art II(9/a)

[1020] Art III (3)

[1021] Art III (3/i). Graeme Dinwoodie and others, International Intellectual Property Law and Policy, Mathew Bender & Company , Inc 2001, 546-47

[1022] TRIPs , Art 11

legislate an Act to implement that Agreement. However, if that Agreement were implemented by the French law, the Iraqi Court can use the provisions of that Agreement through the principle of harmonisation according to s1 (3) of ICC. For example, Iraqi Patent Law makes patentable "Any innovative idea, in any of the fields of technology, which relates to a product, or a manufacturing process, or both, and practically solves a specific problem in any of those fields". [1023]

Accordingly, it could be concluded that if the invention via a CP has made a practical solution to a particular problem, this invention could be granted patentability. This hypothesis is likely to be the best example that could be provided in this research even though we do not have solid evidence to support this hypothesis. One may argue that Iraqi law may grant patentability for the CPs' invention according to the TRIPs Agreement and its legislation.

The question is how Iraq would benefit if it implemented the rules of the TRIPs Agreement related to patent protection.

According, to the WTO Doha Declaration on the TRIPs Agreement and Public Health 2001 is as follows:

"(a) The developing country should explore the flexibilities in Art 31 of the TRIPS Agreement which allows the country to issue compulsory licences, in particular, in 'a national emergency or other circumstances of extreme urgency'. The country is free to interpret the scope of this phrase to include a public health crisis, and on this basis, issue compulsory licences to manufacture patented pharmaceutical products in its territory.

(b) Further, the developing country should explore the flexibilities in Art 6 of the TRIPS Agreement which allows for international exhaustion of IPRs. The country's patent law may allow importation of patented pharmaceutical products made in another country by, or under licence from, the patent owner.". The question could it possible to apply these flexibilities to Iraqi law relating CPs?

It could be argued that there is no different between the value of CPs products and pharmaceutical products because both are precious in commercial life. The developing countries, Iraq, cannot be aided by countries with CPs manufacturing capacities because , while the latter may manufacture patented CPs under compulsory licence, they, Iraq, are not permitted to export CPs products. This is the effect of Art 31(f) of the TRIPs Agreement, which provide that the scope of a compulsory licence is only "predominantly for the supply

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[1023] S1.4. See Appendix 2

of the domestic market" of the WTO country issuing the computer licence. [1024]Thus, it is possible to grant a compulsory licence to manufacture CPs products for export and it is also possible to limit the exercise of copyright by way of the fair use doctrine.

In conclusion, it could be concluded that the impact of IP international law could added a hope for developing countries in general and Iraq in particular that implementation of IP international law could lead to the economic growth in the long term if Iraq adhered to the TRIPs standards of protection. One of the impacts of IP international on Iraq is the last amendment which consider a CP is a literary work according to art 9 of TRIPs Agreement in order to develop a comprehensive strategy to implement TRIPs successfully and expeditiously, as envisaged by TRIPs. This ambitious could make preferable protection for computer industry to join Iraq with, as a developing country, developed world.

5.5. How to achieve the principle of harmonisation into Iraqi law

The most obvious answer would be for Iraq to make legislative amendments. However, many of the writer's recommendations are already available to an Iraqi Judge due to a very special provision. S 1(3) of ICC states that if no provision in Iraqi law governs any case, an Iraqi Judge can, i.e. the Judge is given discretion and flexibility; use the rules and the provision of the laws which are nearest to Iraqi law. This section of ICC is the base of harmonising Iraqi law with other legislations whether they are Arabic, European or international laws. The reason for this section in ICC is that the Iraqi legislator when enacting this Act (ICC) in 1951 wanted to keep the door of development open where Iraqi law was silent.[1025]

Iraqi law can be most convenient use the provisions in French law (see the diagram 1) because the latter is the origin of Iraqi law. Iraqi Judge can make a "legal transplant" from French law to Iraqi law if the French legislator implemented any rules or provisions of European laws such as the CPD or implemented international laws such as TRIPS, WTC etc, an Iraqi Judge could use these rules and provisions as implemented into French law. Thus,

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[1024] Loon (n18)180

[1025] The Preamble of ICC stated that the purpose of enacting this section is to combine between Islamic laws with western jurisprudence in order to make a harmonisation between them. See the Appendix of the thesis.This section was criticised by some researchers in Iraq because there is overlap between Islamic law and western laws, the first builds the legal liability on the damage whereas the main requirement of legal liability in western law is the negligence. However, this criticism does not affect my arguments because the ARA 1971 as a special law allows for infringement of copyright without proof of damage (for example claiming an injunction). See section 3.6.3 of chapter 3

the legal transplants are considered to be most effective and beneficial when the legal systems of "donor" and "recipient" jurisdictions are similar. [1026]

For example, FLIPC has not granted the programmer moral right on his/her program which helps the Iraqi Judge not to grant this right despite the general rules of moral rights in the ARA 1971.[1027]

Regarding the international laws, Iraq is not a part to the WTO, the TRIPs or the WCT. However, France is a party of these Conventions and Agreements so an Iraqi Judge can use the provisions of these treaties to protect CPs via their implementations into French law.

The question may be asked, how Iraqi law can benefit from English law and especially case law. An answer this question may be made in two ways (see the diagram 2): the first one is that the Iraqi legislator could enact legislation to enable the Iraqi Court to follow any law or case law in any Iraqi case. The second way is where the case law concerns harmonised EU law. In this case an Iraqi Judge can borrow EU law as above and use English case law to interpret and apply EU law to the facts in the dispute before the Judge. A disadvantage of this method is that Iraqi judicial decisions are not reported widely or used as case precedent. It requires commentator to formulate these developments into "doctrine" (menhj in Arabic).

It could be summarised that into two questions:

Firstly, to what extent can s1(3) ICC be used for harmonisation?

It is submitted that the wording of the section is very wide and so enables an Iraqi Judge, applying Iraqi law, to do at least the following:-

1.   Adopt an interpretation from French law and apply to similar provisions of Iraq's ARA. For example, the right of decompilation could be borrowed from the FLIPC 1992 and applied it into Iraqi law by an Iraqi Judge because the ARA 1971 has not referred to this right. [1028]

2.   Read a newly defined right into the ARA from the FLIPC. For example, WCT and the Infosoc Directive 2001/29/EC making available right as part of Iraq's communication to the public.

3.   Apply the ARA so as to deny moral rights to authors of CPs, in accordance with French law because the latter does not grant a moral right for a programmer even though it grants for other works. The reason for that is the principle of harmonisation with the CPD.[1029]

[1026] See Watson (n 928) 21

[1027] See , s 3.3.2. of chapter 3 relating to moral rights

[1028] See, s 3.2.2.4.2/3, p.104

[1029] See, the reference (n 1025)

4.   Read in a limitation to author's right, known to French law. For example, the FLIPC has granted the user to making of a backup copy without authorisation from the owner of the program.[1030] This could be transplanted into Iraqi law through s1 (3) of ICC.

5.   Read in remedies for copyright infringement. Although this is theoretically possible, it should not be necessary as the ICC 1951 and the ARA 1971 granted many remedies for damages.[1031]

Secondly, what s1(3) of ICC cannot do?

The discretion is given to a Judge. It is submitted that it does not empower an administrative official to apply laws external to Iraq. So it cannot, for example:-

1.   Be used by a Patent Office examiner to apply the provisions of the European Patent Convention and grant/refuse a patent in Iraq. However, a Judge could apply relevant provisions in considering a counterclaim for invalidity of a patent.

2.   Be used by Customs officials to apply the border measures provisions of Reg (EC) 1383/2003[1032] in detaining infringing goods at Iraq's borders.

Finally, the question could be raised as regards the optimal scope of protection for Iraq. In particular, if Iraqi law is based on French law generally, why and how should Judges turn to the UK law? Or should they turn, via French law, to the existing acquis?

First of all, as I indicated above, applying the principle of harmonisation whether with European laws or international law via French law is the ideal way for applying these laws to Iraqi law. However, in case of implementation European law into the UK law , such as the CPD , the Iraqi Judge can implement that interpretation into Iraqi law through the principle of harmonisation. The reason for the Iraqi Judge should turn to English case law that Iraq has no database for the cases which issued the decisions because Iraqi Judge does not depend on the case precedents. This leads to undermine the ability of Iraqi law to follow the development its legislation which does not reflect the reality. For example, ARA 1971 is still devoid of the rules which regulate the restricted acts and the exceptions to these acts on CPs and how the Judge can apply these provisions to the reality. The interpretation of these rules via the case precedents could develop Iraqi law particularly with the provisions of CPs which could lead to growth the economy through the investment in the computer industry. The writer's view is

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[1030] See, s 3.2.2.4.2/4,p.107

[1031] See, s 3.6.3 of chapter 3

[1032] Council Regulation (EC) No 1383/2003 of 22 July 2003 concerning customs action against goods suspected of infringing certain intellectual property rights and the measures to be taken against goods found to have infringed such rights [2003] OJ L 196

that harmonisation Iraqi law with European law should be via French law with considering the interpretation that law – European law-into the UK to be supplementary source for developing Iraqi law. It could be summarised above through two diagrams in the next page regarding the two kinds of harmonisation as to how Iraqi Judge can use other laws and conventions via French law

International IP laws

Directive 2001/29/EC

European laws

Direct implementation, the BC, WTC or TRIPs

French law

S 1(3) ICC

Iraqi law

Diagram 1

English law, case law

EU

IP international laws

Implementation
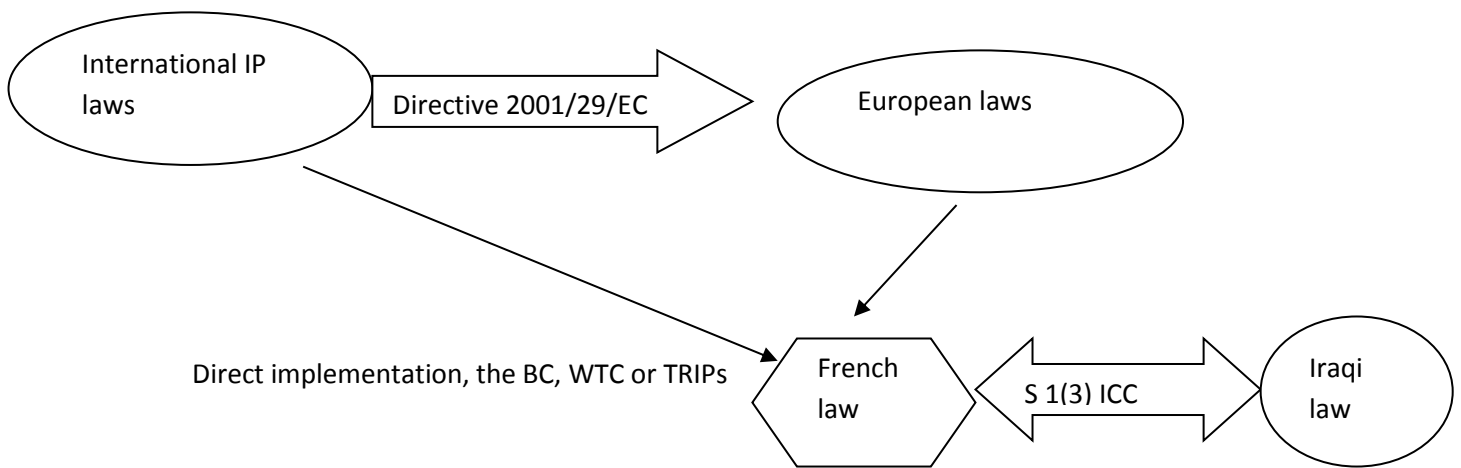
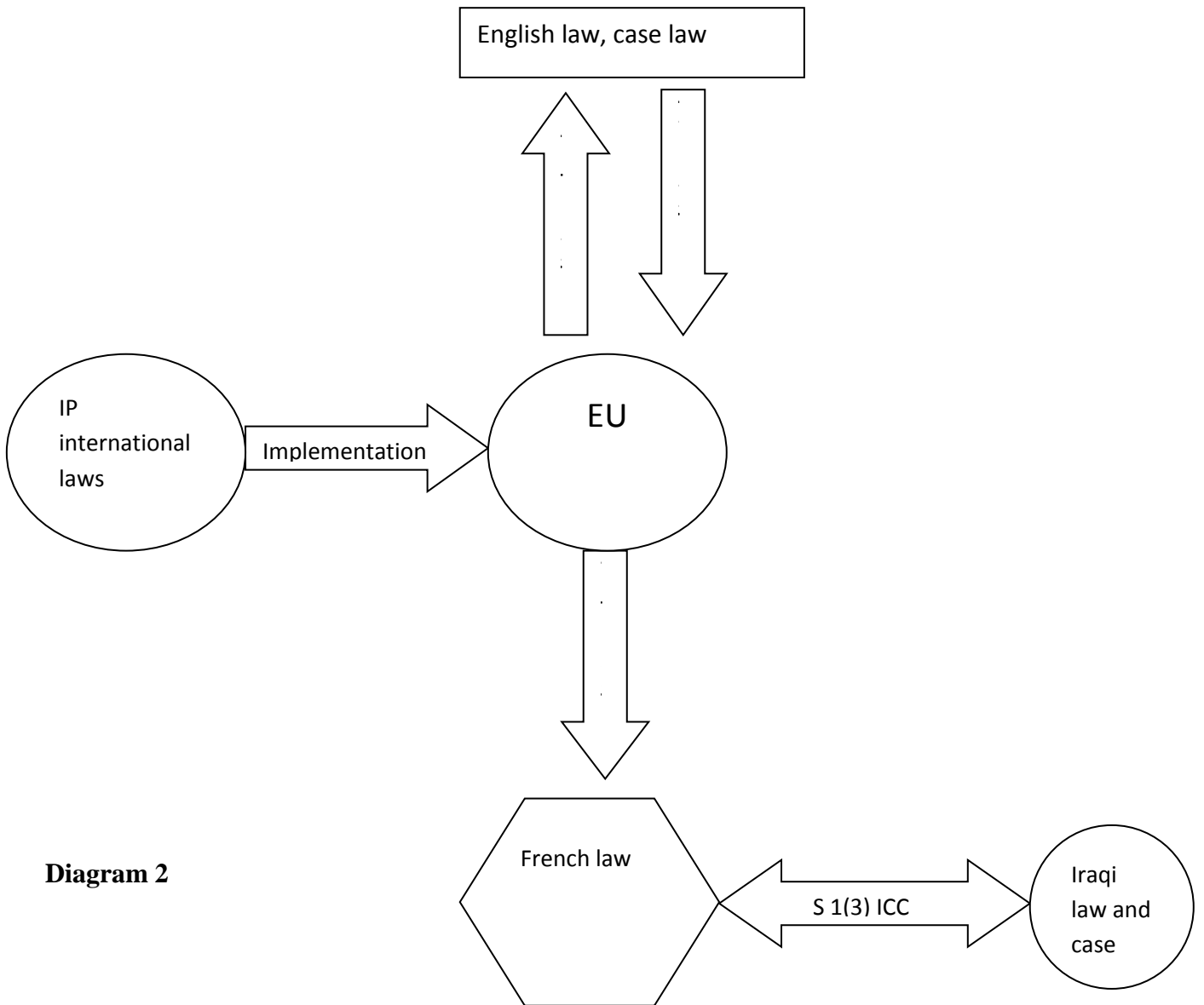French law

S 1(3) ICC

Iraqi law and case

Diagram 2

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Conclusion

The purpose of the current study was to determine the ways which lead up to make approximation between the national laws and international laws (conventions or agreements). Returning to the hypothesis posed at the beginning of this study, it is now possible to state that the possibility exists of harmonising Iraqi law with these conventions and with other laws that reflect international norms. For example, the EU Software Directive (CPD) on the legal protection of a CP could succeed within the area of CPs to make approximation between the EU and national laws of EU countries.

One of the more significant findings to emerge from this study is that Iraqi law in the field of IP could benefit from the privileges of harmonisation between the FLIPC and the CPD because French law is the main source of Iraqi law and contains suitable implementation of EU law. Iraqi law may use the provisions of legal protection of CPs from the Directive via the FLIPC according to section 1(3) of the ICC which allows the Iraqi Courts to use the rules and the provisions if there is no rule or provision governing the case as with CPs for example. This section of the ICC is the base of the harmonisation with the nearest legislations such as French law. This is a valuable alternative to legislative amendment of the ARA 1971 in the short term at least. In fact, judicial experience of applying French/EU law could guide the Iraqi legislator.

Harmonisation of international norms with Iraqi law was investigated in the fourth part of this chapter- Harmonisation the rules of IP international law with Iraqi law, as a developing country. It could be argued that it would be possible to apply the same way to borrow international norms via French law according to s1(3) of ICC because Iraq has not acceded in the WTO. The impact of implementation of international norms, such as TRIPs Agreement, into Iraqi law could have a negative effect because Iraq is still a developing country. However, the TRIPs Agreement could be assistant factor to develop its industry if Iraq could benefit from the flexibilities in that Agreement because it aims to the promotion of technology innovation and to the transfer and dissemination of that technology.

The results of this research support the idea that Iraq could develop its law in the field of IP through the principle of harmonisation. It would improve Iraqi laws through following the rules whether in comparable laws, especially French law, or international laws.

This chapter has thrown up many questions in need of further investigation, is there any need to follow the conventions and the rules in developed countries or do we need flexible rules to apply in developing countries? In other words, could we accept the idea that these countries,

developing countries, should follow these rules totally in these conventions although they might conflict with national laws of developing countries?

A merit of using the ICC approach to harmonisation is that it gives flexibility to Iraqi Judges in this regard. A disadvantage is the lack of precedential effect and transparency which may lead to legal uncertainty. However "doctrine" or "menhj" may a partial answer to this.

It could be concluded from these arguments that it would be acceptable if the developing countries did not follow totally the conventions and the developed countries because the developing countries (and Iraq is one of these countries) need flexible rules for protecting CPs. On the other hand, developed countries need strict rules to protect their goods. This flexibility in developing countries could bring inward investment and assist local industry in technology in general and CPs in particular.

Accordingly, it could be useful that Iraq must not be in a hurry to make a strong legislative protection because this could lead to reducing local development in this field. The writer is not against the principle of harmonisation provided that it is beneficial to developing countries; in this case it could be useful to apply it in the manner discussed

Chapter Six

Conclusion & Recommendation

Conclusion

Introduction

This study started from the point that the legal protection of computer programs (CPs) whether for CPs themselves or the rights holders is a necessity. Reasons for this were examined briefly in chapter 1 and suggest that this starting point was sound.

The main provisions enacted in Iraq's Authors Rights Act (ARA 1971) and the UK's Copyright, Designs and Patents Act 19888 (CDPA 1988) handle the problem of the legal protection of a CP. Both Acts have considered that a CP as a literary work which is protected by author's right or copyright. The task set for this study, as explained in chapter 1, has been to examine the effectiveness of such provisions in protecting CPs. This study endeavoured to find out the preferable protection for the right holder, whether property based or not and whether by means of copyright protection or other techniques of intellectual property (IP) or civil law or common law. Therefore, the main questions in this study were, what are the appropriate levels of protection for CPs which have been given by the statute of Iraqi law as a developing country and English law as a developed country? And to what extent copyright and author's right provide protection for the right holders of CPs in general and whether they support the Iraqi approach in particular? However, this study could not clearly demonstrate the reasoning behind not implementing other ways of IP such as via a patent system.

The primary problem of the protection of a CP in Iraq is the inadequacy of case law to determine whether the new amendment in 2004, which deemed a CP to be a literary work, is adequate to provide protection for the right holders of a CP or otherwise.

Accordingly, the focus of the analysis of the protection of CPs under the new amendment in this study is based on the hypothesis that the ARA 1971, as amended, provides an adequate protection for CPs even though there are some flaws in this law. On the other hand, English law, including European Patent Convention law and case law, has failed to adopt patent system as a way to protect CPs as such.

Consequently, the writer believes that, because the CDPA 1988 and the ARA 1971 depend restrictively on protecting a CP as a literary work, these jurisdictions have failed somehow in achieving that the right holders are completely protected.

The most significant findings of the study in relation to this are presented below, starting, for comparison purposes, with the situation in England. Finally, the writer reached provisional conclusions at the end of each chapter thus this chapter will summarise the results which have been displayed in those chapters.

The situation in England

As mentioned earlier, the main protection that right holders receive in the face of infringement of a CP comes from the copyright provisions. The CDPA provides specifically for the protection of CPs. This has reflected positively on the certainty of the law in relation to the issues examined by this study, which are the nature and legal status of a CP, the relationship between a CP and copyright, using other ways of IP to protect a CP, and finally the harmonisation between the CDPA and other laws such as the CPD 1991

1-The possibility of identification the nature and legal statues of CPs in England

CPs in operation can be considered as flows of information. English law does not recognise property in information or electricity. Chapter 2 examined from first principles whether (at the theoretical level) CPs should be considered as subject-matter for property rights. It applies Honore's incidents of property to CPs and concludes that the property analysis succeeds from a common law viewpoint and also a civil law viewpoint, but that CPs are *sui generis* in proprietary terms. This is because CPs have neither the qualities of real property nor personal property as the concept of 'property' needs actual occupation. This does not fit easily with purchasing a program online. Accordingly, the meaning of property in a CP is different from other things.

Since a CP is a *sui generis* property the effect of this result is that the right holders of a CP have the right of owners of personal property to assign. This result is consistent with the CDPA 1988(s 90/1).

This study has also shown that a CP has the characteristics of tangible things and at the same time it enters into the group of intangible moveable with pure intangible (IP) in relation to the

protection of a CP. Therefore, a CP is basically an intangible thing although it can have a material form.

This area of research found that a CP is not protected by copyright or patent unless it is fixed in a material form. Thus, a CP cannot have protection as a property right unless it has a fixation whether this property was acquired by touching through purchasing a CP by CD, or online, e.g. purchasing on the Internet, a CP coming into existence once it is downloaded.

This result could explain to us why a patent system does not protect a CP as such, as it was studied in chapter 4, because that program is only information even though the writer believes that information should be protected by confidential information (CI), trade secret (TS), or patent as process because it is valuable. Finally, "property" as such is not suitable protection for a CP because it does not provide comprehensive protection for CP as a literary work such as infringement of that work.

2-To what extent the CDPA 1988 could provide protection to CPs?

The purpose of the current study was to determine the reasoning behind English law in the CDPA 1988 adopting the copyright protection way to a CP and to what extent this way has the ability to provide an adequate protection to the right holder of a CP. Accordingly, this thesis was undertaken to design the main limitations in using copyright as a way of IP and evaluate those provisions which define these rights and obligations for right holders of a CP in order to know the capacity of copyright to provide complete protection for CPs and the right holders.

The study found out that the requirement of originality under English law is the main principle to grant copyright protection for a CP. This research has also shown that the idea itself has been ruled out from protection under that law. However, the principle of originality does not mean that a work must have novelty in the patent sense. Accordingly, the study has failed to find out the reasoning behind excepting the idea from protection. It could be argued that the claimant cannot prove his/her idea which has been taken without licence from him/her. However, if this idea was developed into a CP and one took this idea without permission from the owner that would be infringement of copyright of that program.

This study also found out in chapter 3 that the requirement of originality requires an amount of effort to create the program. In addition, CPs have special characteristics which distinguish them from other works. It is argued that any idea to create a CP having the characteristic of

intellectual creation should be qualified to be considered a program and protectable by some means.

In relation to the rights of the programmer on his/her program, under UK law, he/she has been denied enjoying moral right. This reflects the material aspect for a CP which differs from other works. The writer argues that this approach is proper for a CP which should be excluded from enjoying the moral rights which are being granted to the authors of other works. This argument is also consistent with French law, which is important when it comes to judicial harmonisation (discussed later)

As regards the issue of infringement of the rights of right holders of a CP, the results of this research in this issue support the idea that infringement has become widespread in the world because of the act of piracy. In the area of infringement, there are two kinds of liability, contractual liability and non-contractual liability. These have been discussed in this study in order to explain their effect in providing protection to, and remedies for, the right holders of a CP. Furthermore, this research has investigated the treatment of infringement through two kinds of remedy, monetary awards (compensation) and injunctions.

This study discussed briefly the advantages and disadvantages of the protection of a CP by copyright. The results of this study indicated that considering a CP as a literary work is not completely adequate because copyright protects only expression in which the idea or the concept is expressed. This limitation can give rise to exploiting that program freely by the developer if he separately develops the same program ideas. And this is inappropriate because it would infringe the rights of the previous programmer.

In adopting copyright protection for a CP under the CDPA 1988, it could be said to be consistent with an international and regional approach within Berne Convention (the BC) or the TRIPs Agreement and the CPD. Nevertheless, this study has raised the question why the UK, as a developed country, has not followed the USA approach which added patent protection for CPs. It could be argued that it is due to European Patent Convention, of which the UK is a member.

3- Other ways of IP could be useful adjunct to protecting CPs

This study has given an account of, and the reasons for, the widespread use of other ways of IP to protect CPs. Returning to the hypothesis posed at the beginning of this study, it is now possible to state that other areas of intellectual property could be ways to provide enhanced

protection to a CP as well as copyright or could be an adjunct to copyright. This research has divided this point of the study into four parts.

First, a patent system as has been used in the USA and Japan. As for the situation under English law and precedent case law, the results of this investigation show that the legal approach in the UK Patent Act 1977 (the UK PA 1977) s1(2) has denied the programmer having patentability for his/her CP. On the other hand, this study has found that generally the English case law has adopted the approach of a technical contribution as in the case of *Aerotel and Macrossan*. It could be argued that, in general, the English approach, whether statute or case law, does not favour conferring patentability on a CP although there were attempts to exclude CPs invention from the ambit of patent exclusions.

According to the European Patent Convention (the UK is a member of this Convention), this study has shown that the European approach in respect of protecting CPs has rejected conferring a patent system on them as such in the legal sense. However, the judicial approach in the Europe has conferred patentability on a CP if it produces "further technical effect". Hence, the results of this investigation show that the judicial approach in Europe has conferred patentability on a CP, with some restrains, if it had a technical character provided that the claim is not directed to a CP as such.

One source of weakness in this study which could have affected the results was that there was no measure to identify the phrases of "a technical contribution", "technical character" or "a further technical effect". Theses phrases have been used in the UK and the European approach. On the other hand, this study into a patent system needs more investigation to be of guidance to Iraq.

Second, this study has sought to assess how far contractual terms (CTs) could provide protection for the parties to the contract of a CP. Therefore, the present study was designed to determine the effect of CTs on the parties to a contract. The results of this investigation show that CTs could be deemed additional or ancillary protection for the right holders. In general, therefore, it seems that this way may create good interaction with other ways of protecting CPs through providing economic protection to the parties to a contract. This can increase protection to the right holders of a CP to reduce the deficiency in copyright in the UK and Iraq.

Third, this study has provided an explanation as to how a TS or a CI as a way of IP is protecting a CP, especially to what extent a CP could be protected as a CI. This subject was investigated in the third part of chapter four. This study found out that, in the UK, information is not considered property in the legal sense, as in the USA. Therefore, the right of a CI could arise from either contract or as a right under common law/Equity. For example, source code of a CP may be a type of a CI. Obligations could arise between an employee and his/her employer, and could give rise to conflict between the copyright owner and the breach of confidence particularly when an ex-employee has made the program during the course of his/her employment or there is no condition relating to 'ownership'.

This study also set out to determine the relationship between trade marks (TMs) and CPs regarding the ability of this way to provide good protection for CPs. The results of this study indicate a TM provisions are not capable of protecting a CP itself and the right of the owner of that program. However, some protection of a CP could be achieved indirectly through protecting the mark of that program.

The results of this research support the idea that English law and Iraqi law may benefit from the advantages of the ways of IP as well as copyright to provide complete protection to CPs and their right holders. This prompted the writer to investigate the methodology of creating approximation or harmonisation between Iraqi law and the UK's laws, international laws and European Directives.

4-The principle of harmonisation could strengthen the legal protection of CPs

This thesis has explained, in chapter 5, the central importance of the harmonisation in the scope of IP in the UK. This part of the study has focused on how Iraqi law can be harmonised within other countries such as the UK and France or with international laws such as the TRIPs Agreement and the WIPO Copyright Treaty 1996. The present study was designed to determine the effect of other laws such as the USA or the European Directives relating to copyright in the UK.

This study has shown that there is incomplete harmonisation between the European Patent Office judiciary, which granted patentability to a CP invention in many cases if it has a technical character, and English case law. It could be said that the case law in England tries to avoid any contradiction between the provisions of the Act and their applications. However,

The UK statute law has form made harmonisation with the European Patent Convention 1973 in relation to patentability of a CP.

This study has found that generally the law of the UK, as a member of the European Patent Convention, is apprehensive of applying the requirements of patent protection to a CP because of the high speed of CPs' development.

The situation in Iraq

ARA 1971 made a tremendous change in 2004 when deeming a CP to be a literary work. The purpose of that amendment was to make harmonisation between Iraqi law and international law in the scope of IP. It could be said that Iraqi law made this amendment to avoid any doubt relating to the sort of protection to a CP.

The problems with the protection provided by the Iraqi law are , in short, it is defective in terms of lacking an analysis of the nature of a CP, and the method of protection under the provisions of the ARA 1971 without any consideration of the characteristics of CPs which differ from other works, silence in regard to patentability of CPs, and finally it could be argued the main weakness of this investigation was the paucity of case law relating to protection of a CP because of the newness of this subject in Iraq. These factors, taken together, have rendered the protection sought in favour of right holders almost non-existent except on paper. This is explained further in the following four sub-sections.

1-The possibility of identification the nature and legal status of CPs in Iraq

The study has revealed that Iraqi law- as was the position in England- is ambiguous as to whether a CP is tangible or intangible. This is the first limitation shown by this study. However, Iraqi law whether in the area of the ARA 1971 or Iraqi Civil Code (ICC) may protect an intangible thing when it is fixed in a material form even though there is no indication of the material form but it could be concluded from s 2(1) of the ARA 1971 that protection could be granted upon publishing the work. Accordingly, Iraqi law has, effectively, the same position as in England.

This study found out that the ICC differs from the English law in the area of property. For example, the right holders of a CP may have real rights and personal rights even though a CP - in principle-is a kind of personal property. Accordingly, the right holder of a CP can

demand two kinds of rights, he/she may demand compensation for infringement of his program and at the same time has the ability to recover it from the infringer. The latter case may not be available in the area of English law unless that program is unique, as mentioned earlier. A CP is a *sui generis* property under Iraqi law. However, this property is not enough to protect a CP as a literary work because the later has characteristics differ from other properties such as copying a CP which leads to infringement the right holders of that program.

2-To what extent the last amendment under the ARA 1971 could provide protection to CPs?

This area of study was crucial because it explained the reasoning behind the amendment which was enacted by Iraqi law. This study investigated the abilities of the ARA 1971, as amended in 2004, to render the preferable protection to a CP whether itself or the right holders. It has shown that there is no place for protecting the idea itself of the works including a CP.

A number of important limitations need to be considered. First, there is no detail relating to a CP as a distinctive work from other works. Second, Iraqi law has granted two kinds of rights, economic and moral rights. It could be argued that the right holder of a CP does not need moral rights because a CP has a commercial value and moral rights could hinder the development of CPs. Third, there is no indication as to how the damages which result from infringement of CPs should be tackled. Finally, one further limitation could be added, namely the paucity of case law because of the newness of this subject in the realm of application as mentioned earlier. This limitation has weakened this study.

Finally, the present study provides additional evidence with respect to whether the ARA 1971 has created an adequate protection for CPs or whether there is need to follow the developed countries such as the UK, France and the USA to add more protection through distinguishing CPs from other works.

3-Other ways of IP could provide more protection to CPs under Iraqi law

Unlike the situation in England, the study has shown that the possibility of granting patentability to a CP has not been detailed in Iraq whether in statutes or case law. Iraqi law is silent as to the possibility of patentability of a CP. However, a CP as such is a mathematical issue thus it is not covered by patent protection. On the other hand, there is no judicial

indication of patentability of a CP since there has been no judicial application. This is a primary limitation in the scope of this study.

As mentioned earlier in England, CTs may play a role to protect a CP if it was in a contract. ICC has arranged the rules which govern the contract of CPs. The present study was designed to determine the effect of CTs under ICC as to the protection of CPs.

This study found out that CTs under ICC could remedy the flaws in the ARA 1971, especially as regards the interests of multiple authors of CPs. Accordingly; the writer believes that this way of protection provides suitable protection for the parties to a contract and it could be an ancillary or additional protection.

The ARA 1971 has referred to a CI or a TS in the case of unpublished works in general. These works are deemed CI or TS if someone takes information from them without permission from the owners. This information is deemed as a CI before the publication. Thus, a CP could be deemed a TS or a CI before realising it in the market and protected by this way of IP under Iraqi law.

Finally, as for the TMs, the law has arranged the protection of TMs without any indication of a CP itself. Therefore, it is not a method to protect a CP itself and the right holders but it can protect the sign of the program such as the sign of MICROSOFT. These results have prompted the writer to look for the methods of harmonisation as to Iraqi law with others laws and Conventions to remedy the shortcomings into Iraqi law

4-Iraqi legislator or Iraqi Judge could benefit from the principle of harmonisation to develop the Iraqi laws in the area of IP

In this investigation, the aim was – in chapter 5- to assess the necessity to follow the Conventions and developed countries completely or does Iraq need flexible rules different from the laws in the UK or the USA?

This study found out that Iraqi law is likely to benefit from the privileges of harmonisation between French law and the Directive of a CP since the source of Iraqi law is French or Latin law according to section 1(3) of ICC. Accordingly, the results of this research support the idea that Iraqi law is likely to use the rules of the legal protection of a CP from the European Directives via French law under that section of ICC.

In addition, Iraq can harmonise its legislation with international laws such as the TRIPs Agreement and the WIPO Copyright Treaty. This is clearly a purpose of the amendment of the ARA in 2004 which is to ensure that Iraqi copyright law meets current internationally-recognized standards of protection and to incorporate the modern standards of the WTO into Iraqi law. This more transparent method of harmonisation would be likely to reassure the international IP community and prospective foreign investors.

The second major finding was that Iraqi law has already benefited from the rules of the TRIPs Agreement as to applying a patent system to a CP. Therefore, this case has been deemed the first case of harmonisation of Iraqi law with international law. An implication of this is the possibility that Iraqi law could improve its law in the area of IP especially protecting a CP through the principle of harmonisation.

Finally, one may argue that Iraq, as a developing country, needs flexible rules to protect its goods. This flexibility could be applied to a CP for attracting investments in this field of industry.

Recommendations

The recommendations in this chapter will be dedicated to the primary points which correspond to the main findings of the study based on its aim as set out earlier. Therefore, the recommendations hope to improve the legal situation, by targeting: the nature and legal status of a CP; the scope of the protection afforded by the ARA 1971 and the CDPA 1988; other ways of IP to protect CPs; and the concept of harmonisation in Iraq and the UK.

Other suggestions and criticisms made throughout this thesis on specific points but not mentioned within the recommendations below are also relevant and it is recommended that they should be taken into consideration by English and Iraqi legislators when amending, or producing , laws on protecting CPs.

Observations regarding for England/the UK

Most of the major defects that the thesis has identified relate to the protection of CPs under the CDPA 1988. In summary those defects and corresponding recommendations are as follows.

1-   A CP has property characteristics when it is fixed in a material form. However, there is no property in a CP as such before the fixation because it is only information. Thus, the law

protects the form of a program but not the contents of program. This mirrors copyright provisions which protect the expression of the idea not the idea itself.

In addition, a patent system cannot be granted to a thing in action according to the Patent Act 1977, s 30(1). Therefore, the most important limitation lies in the fact that copyright protection and patent are unable to provide protection to a CP as such as long as it is not fixed in a material form. In addition, English law is ambiguous as to whether a CP is a tangible or an intangible thing or whether they are goods, services or something else. It is recommended that English law should identify the nature of a CP more specifically.

2-   This research has thrown up many questions in need of further investigation regarding the ability of a patent system to be applied to a CP because the English case law is reluctant to grant patentability to a CP. Accordingly, it is suggested that the association of these factors is investigated in future studies relating to harmonise the English approach with European case law as to granting patentability to CPs.

3-   The present study confirms previous findings and contributes additional evidence that suggests CTs could be added to the ways of protection as an auxiliary way. Accordingly, one may argue that this way provides suitable protection for the right holders in the contractual relationship between the parties. English law might consider using the approach to multi-author and sequential creations available under Iraqi law.

4-   It is recommended that further research be undertaken in the following areas: examine patentability to CPs in the case law, to what extent a TS could protect CPs, and finally studying the principle of harmonisation more deeply between European case law in the area of patentability of CPs, the USA case law and the English case law.

Recommendation for Iraq

Although the last amendment in the ARA 1971 has deemed a CP to be a literary work, there is no solid evidence affirming that this amendment has given complete protection to a CP and the right holders. Accordingly, linking back with the aim of this study, there are some recommendations made by this thesis. In summary those recommendations are as follow.

  1-   Even though Iraqi law has not ruled regarding the nature and legal status of a CP explicitly the main approach accepts that a CP is in principle intangible but it

grants protection for a CP if it is fixed in a material form. It could be recommended that the ARA 1971 must state the nature of a CP through recognition of a CP as sui generis property in terms of assignment as personal property. However, property as such is deficient to provide suitable protection for CPs because civil competition law actions seek to cover damages and issuing injunction by the court and property as such could not provide a comprehensive protection for a CP as a literary work .Thus, it would be recommended that IP rules, such as copyright, patent etc, could be sufficient ways to provide suitable protection to the right holders and the program itself.

2- The meaning of originality can play a significant role in determination of protection of CPs and other works. ARA 1971 considers any work is original as long as that work reveals the personality of its author. This means that Iraqi law chosen the French route. Also, it has the same meaning for the concept of originality for any work regardless the kind of the work. It would be recommended that Iraqi law should stay on with this meaning which is akin to the Software Directive (CPD) because it would compliance with this Directive and prevent the unfair competition, which Iraq is devoid of rules of trade secret (unfair competition) as it was explained in chapter 4. Finally, the rules of originality should be applied to the all works whether CPs or others for the reasons which were mentioned in this thesis.

3-   Iraqi law protects source code and object code of a CP according to the last amendment. This means that the idea of a CP is excluded from this protection. European law- Software Directive (CPD)- and IP international law-TRIPs Agreement- have the same approach. Also, that means the function of a CP is not protected by these legislations because it is only idea. Accordingly, the question was raised as regards the impact of imitation of that program on the local economy of the Iraq as a developing country. The answer was if imitation does not lead to IP abuse that would not cause any infringement of a CP. Thus, this imitation of CPs could boost the local economy if one imitated similar program. This could be concluded from Art 8 of the TRIPs Agreement which granted flexibility, particularly for the developing countries, which could help to a large extent in developing the economy growth of Iraq, as a developing country. Thus, the principle of harmonisation with these legislations whether in Europe or in international law could assist Iraq to develop its economy via the computer

industry. It would be recommended that Iraqi law should benefit from the flexibilities in TRIPs Agreement particularly the rules which organises the non-literary work because they could lead to make other programs in the field of computer industry, on condition that would not lead to abuse of IP.

4-   As regards the exhaustion right, Iraqi law is devoid of this right. The distribution right for a CP is exhausted once, by transfer of ownership, physical copies of a CP, such as CD or DVD, are put into circulation with permission of the right holder. The principle of community exhaustion applies to tangible media or online. It could be said that the expansion of the principle of exhaustion to include online distribution of a CP is based on a flexible interpretation of the wording of Art.4(2) of the CPD. ARA 1971 considers this issue falls under the scope the right to make a work available to the public rather than under the distribution right. It would be recommended to put this issue under the distribution right to enable the lawful user to make any act could assist him to benefit from that program without any permission form the right holders.

5-   As regards the right of decompilation-reverse engenering, it is very important for developing countries because the engineers in these countries will try to disassemble the advanced technological products from developed countries in order to learn regarding them. Thus, it allows a person who has lawfully obtained a copy of a CP in order to identify and analyse the elements of the program that have not previously been readily available to the person engaging in the circumvention activity for the solo propose of achieving interoperability of an independently created a CP with other programs. It would be recommended that Iraq, as a developing country, could develop its computer industry through technology transfer which was sated by the TRIPs Agreement. This recommendation could help Iraq to develop its technology via decompolaition even though it is not stated by the TRIPs Agreement. It could be suggested that Iraq could be benefit from this exception even though it does not state in ARA 1971 through the principle of harmonisation within Software Directive (CPD) via French law.

6-   Iraq in the last amendment sought to harmonise its law with international law when deemed a CP as a literary work. However, Iraq, as a developing country, has not implemented many rules of international law because this needs to make a comprehensive change in its law and because of its current conditions which were

mentioned in chapter 1. It could be recommended that Iraq should not comply with any Convention or Agreement unless the rules in international law not clash with the domestic policy goal and international commitment. Also, Iraq must be able to identify its needs regarding IP before acceding in any Agreement. The reason behind that is the developing countries, including Iraq, do not usually develop a new technology by themselves because there is inadequate incentive among manufactures for protecting IP.

7-   It could be argued that implementation TRIPs Agreement in particular and IP international law in general on Iraq could face greater challenges than the UK as a developed country. As was explained that the Agreement aims to develop technology through transferring and dissemination it. This gives a promise to the developing countries certain rewards for agreeing to abide by these global standards. Thus, Iraq could benefit from these promising if it became a Member State in this Agreement. It could be recommended that Iraq should be a Member State on condition Iraq should make some factors could help it to be able to implement the rules of this Agreement, such as make open economy, which Iraq is still under socialist economy, and create a good education system, which is necessary for human capital development; policies which encourage local innovation such as public assistance for R & D in local universities; and a competition regime to remedy anti-competitive practices. In addition, it would be suggested that Iraq must also use the flexibilities with the global standards to design IP regime which best suits own economic, social and cultural needs.

8-   According to the previous recommendation, Iraq should benefit from the TRIPs flexibility and applying its rules into Iraqi law if Iraq becomes as a Member State of WTO. Iraq is currently in the pipeline of acceding to the WTO so Iraq can benefit from the flexibility provisions which are mentioned in the TRIPs Agreement to develop its legislation and economy. It could be recommended that Iraq can benefit from some exceptions related to the allowing for reverse engineering of CPs by decompilation , observing , studying and testing. These exceptions could develop the computer industry in Iraq so it would be recommended that Iraq should apply these exceptions into its legislation. In addition, using the exception for "fair dealing for the purpose of research or private study" could help the area of industry to develop it in general and CPs in particular.

9- It could be argued that the impact of IP international law could add impart a hope to Iraq in that implementation of IP international law which could lead to growth the economic in the long term if Iraq adhere to the TRIPs standards of protection. One of the impacts of IP international on Iraq is the last amendment which consider a CP is a literary work according to Art 9 of TRIPs Agreement in order to develop a comprehensive strategy to implement TRIPs successfully and expeditiously, as envisaged by TRIPs. This ambitious could make preferable protection for computer industry to join Iraq with, as a developing country, developed world.

10- International Agreements and Conventions could play a prominent role in the development of the developing countries' legislations. For example, Art 111/21 of the Bern Convention which allowed to these countries to make rules more flexible than the rules of this Convention , the period of protection could be less than in the developed countries or translate some literary works without permission of their authors provided that paying fair compensation for them. In addition, this Convention allowed to the developing countries to use the literary works for education or observing without paying any monetary award. Accordingly, it could be recommended that Iraq Legislator could benefit from these privileges to make rules can be fit with its circumstances to provide suitable protection for its literary works including CPs industry.

11- It could be recommended that Iraq, as a developing country, should learn a lesson from other developing countries, such as China and India, how they could develop their industries including computer industry. Thus, Iraq must make a systematic methods through rules could be assistant factor to bring the investment inward.

12- Given that the ARA 1971 deemed a CP as a literary work, this thesis has thrown up many questions in need of further investigation relating to the standards of protection under Iraqi law, in particular does it need the same, less or greater property than the developed countries. It could be recommended that Iraq, as a developing country, needs flexible rules in order to attract investment to develop CPs. Accordingly, it could be argued that the current protection in the ARA 1971 is adequate to protect a CP and the right holders. In addition, there are general rules fixed in civil law which could be added to the protection of CPs. Thus, Iraqi law has made a proper amendment in considering a CP as a literary work. This was because of the impact of harmonisation with international laws particularly

with the TRIPs Agreement. The author highly recommends that Iraqi law should not be in a hurry to make a strict protection due to the massive gap between Iraq, as a developing country, and the UK and the USA as developed countries. The writer argues that although the rule is suitable to the situation in the developed countries, it is not fit for the Iraqi situation.

13- Iraq is currently in the pipeline of acceding to the WTO. Thus, Iraq needs to develop a comprehensive strategy to implement the TRIPs Agreement successfully and expeditiously, as envisaged by the TRIPs Agreement. In addition, Iraqi law is silent as to the patentability of a CP. Accordingly; it could be recommended that Iraqi law may grant patentability of a CP if it has the requirements of patent unless it is purely a mathematical matter.

14- CTs have been detailed in the scope of ICC. Those terms could be a way to protect the parties to a contract through contractual liability. Thus, this way could be an ancillary or additional way to protect CPs and the right holders.

15- This study has not found any indication that TS is a proper way to protect a CP. However, the ARA 1971 has referred to the case of unpublished works as kinds of TS. These works must be kept a TS before publication. Thus, CPs must be as a TS before the publication according to the ARA 1971. This study highly recommends that Iraqi law should refer to this way explicitly in its legislation, especially as TRIPs Art 39 requires protection of undisclosed information.

16- Iraqi law could benefit from the principle of harmonisation to develop its legislation, as Egyptian law does, through harmonising its law with European Directives via French law because the latter is the main source for Iraqi law and judges may borrow any rule of provision from the Directives which is not found in its law according to s 1(3) of ICC. It could be argued that the Iraqi legislator does need to enact especial legislation relating to IP because it has the ability to borrow the rules and provisions in the European Directives and international laws via the French law. Those provisions could remedy the shortcomings and flaws in Iraqi law.

17- As regards the optimal scope of protection for Iraq. In particular, if Iraqi law is based on French law generally, why and how should Judges turn to the UK law? Or should they turn, via French law, to the existing acquis. It could be recommended that applying the principle of harmonisation whether with European laws or international law via French law is the ideal way for implementation these

laws into Iraqi law. However, in case of implementation European law into the UK law , such as the CPD, the Iraqi Judge can implement that interpretation into Iraqi law through the principle of harmonisation.

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