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Serious Games: Video
Game Design Techniques
for Academic and
Commercial Communication.

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Serious Games: Video game design techniques for academic and commercial communication

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by Christian Bull-Hansen
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Abstract

Serious Games: Video game design techniques for academic and commercial communication, by Christian Bull-Hansen, Department of Informatics, University of Oslo, Norway.

Traditional academic and commercial communication sources, like schools and television, are losing ground to video games. People of all ages spend increasingly more time engaged in virtual worlds and on the Internet, and are becoming used to actively pursuing the information they want to know more about, while rejecting the old passive communication channels where information is presented, but not requested. The result is a generation in need of new ways of informing.

This thesis aims to provide ways for academic and commercial communication to exist in commercially popular video games while retaining the entertainment value of the games. Thus making students learn while gaming, as well as provide means for commercial interests to reach the gamer audience.

The thesis provides information and analysis of game culture, player-types, social structures, game design techniques, and how knowledge of this information can be used to create and improve academic and commercial communication in video games.

The thesis utilizes a custom made prototype, “The Renaissance Prototype”, designed for the purpose of researching and test the theories presented in this thesis.

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A big thank you to Rogue Dao Studios, Roxidy Games (DLA), and the Malevolents of Xibalba for letting me observe and participate in the development of games, and for all the hours of pure fun!

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1 Introduction

“And remember, you should all have reached level 15 by Friday. We’ll have a pop-quiz on tactics and player management on Friday, so it is important that you have attempted to kill the boss in the Depths of Karnog”. Is that what teachers will tell our kids in the future? Or is that how many kids are already learning advanced subjects at a rapid pace today?

The truth is that kids, and adults alike, are spending an increasing amount of time playing video games and less time studying, watching TV, or other activities that traditionally has been occupying people in the last decades. The question is how can academic and commercial interests communicate with this audience, as the old ways of informing no longer holds the interest of the target audience?

As video games have progressed from simple colorless two-dimensional games to full blown highly sophisticated 3D online virtual worlds, the possibilities for presenting information has expanded. Online worlds are now being used for a multitude of purposes, ranging from simple communications between people to sophisticated military training across nations. Could video games be used for serious purposes, like academic and commercial communication, but still remain entertaining? If so, how would the information have to be designed?

This master thesis has been titled “Serious Games: Video game design techniques for academic and commercial communication”. I will be researching how games can be used as grounds for conveying serious information. What techniques do games use to make sure that the player remains interested? How can the knowledge of the video game culture and history help us understand this generation who is gradually moving away from traditional academic and commercial information outlets? How can the techniques used by game developers be used to educate a generation hooked on video games? What techniques can be used to create games that incorporate academic information? Why is it that our television broadcasts are filled with commercials, yet there has still been fairly little use of commercials in games? How come the most advanced army in the world, create a game called “America’s Army” and present it free of charge to anyone interested? Obviously some very serious actors in the world are starting to noticing games as a potential medium for presenting their information. Games are no longer just fun, they are serious business.

1.1.1 Problem

Academic and traditional commercial information sources, like schools and television, are losing grounds to video games. More and more people of all ages spend increasingly more time engaged in these virtual worlds. The old communication channels are slowly failing, and the need for new communication channels is increasing. The problem is thus, how can academic and commercial communication channels be implemented in video games while retaining the video games' popularity? Thus in turn make people want to play games that expose the player to academic and commercial information. What obstacles are there? What has been done, is being done, and could be done?

In other words, how do you successfully integrate academic and commercial communication in video games?

In order to solve this problem, I will be using a variety of different methods, which I will explain in depth later on in this chapter.

1.1.2 The five goals of this thesis

The first goal of this master thesis is to provide and establish an understanding of the culture, history and personality of the gamer. Once that is done, the next goal is to provide an understanding of the game design techniques the game developers use to appeal to the gamer audience. Armed with this knowledge, the next goal is to understand what is being done in the fields of academic and commercial communication through video games, and why these efforts fail or succeed. The fourth goal is to utilize the knowledge gained from the previous three goals, to enhance and develop new ways to convey academic and commercial communication in video games while preserving the entertainment value of the game. And finally, the fifth goal is to create a prototype and test the theories.

The end result will hopefully be a way for both serious information and entertainment to co-exist in virtual worlds.

1.2 Definitions and explanations

In order to proceed, I will be explaining some key terms for this master thesis.

1.2.1 What is a “Video Game” in this context?

The term “video game” can be used for a variety of purposes. For the purpose of this thesis, I will be using “video game” as a broad term for all stand-alone games (and modifications made to these) made for the computer, or consoles like the Xbox360, Playstation 3, etc.

This means that web-browser based games, as well as traditional types of games, like tabletop games or sports will be excluded. I do want to point out that I have included Second Life¹ as a game in this context. While it does not have all the typical traits that define most games, like quests or a story, and thus in some areas is more like a virtual world chat-room, it is of too great importance to simply be overlooked in this context.

1.2.2 What is Information Design and Polyscopic Modeling?

Introducing and implementing academic and commercial communication channels in video games, is in many ways similar to exploring new ways of designing information. But what is Information Design and Polyscopic Modelling?

“Information design as this expression is defined and used within polyscopic modeling, is a new approach to information, alternative to all traditional approaches. Traditional informing is practiced according to the hereditary rules of traditional informing professions (physics, philosophy, journalism and others). Information design is practiced according to consciously chosen and explicitly stated principles and criteria. The purpose behind information design is to free information from traditional automatism in order to:

¹ Second Life (2003), internet-based virtual world developed by Linden Research, Inc.

- *Take advantage of modern information technology.*
- *Take advantage of modern epistemological, cognitive and other insights.*
- *Meet the needs of modern culture and its people. “*

- *Dino Karabeg, University of Oslo*

Polyscopic modeling is in turn the free and conscious creation of scopes. We choose to use different views of the same subject explored. In the example below, I have created an area in my prototype to show how vastly different two scopes can be of the same area. My hope is that it illustrates how important it is to not become stuck in one scope, but be able to switch scope when necessary.



(Picture 1 – A narrow scope)

As we can see, the first picture illustrates a narrow view. We see two people in front of a house. Now, if we zoom out...



(Picture 2 – A broad scope)

... it becomes apparent that the narrow scope only showed a very small part of the truth. The truth is that the two people we saw in front of the house are actually living on someone's desk!

In other words, polyscopic modeling means that one assumes a situation, or subject from more than one view. While traditional learning and teaching might have been sufficient in the past, the techniques used for traditional learning do not fully incorporate all the possibilities that are given by modern technology, thus one cannot fully understand, in example, a virtual world, by simply reading about it. One has to see it from different perspectives, and doing so is necessary if one is to be able to research ways to implement academic and commercial information into games. This in turn is why I have chosen a multitude of methods for my research, ranging from researching the theoretical background, to the consumer-role, to the cultural internet phenomena, to the game developers, to the academic and commercial interests. In this way, I hope to get several different scopes from which to be able to fully conduct a proper study.

1.2.3 What is a Serious Game?

While games have been developed for educational purposes, usually in the form of simple math or language games, known as “educational games”, they have been primarily designed for young children. A serious game can be similar to an educational game, but is intended for a mature audience. They often simulated real world events or processes, ranging from academic features, to military operations, to marketing, advertising and other business operations. The advantages of these games is that they are meant to be run just as normal games would, and thus require nothing more than what a normal game would need to run, typically a CD-ROM, DVD, or a download from the internet. In addition to their special feature, the serious games attempt to be engaging and fun. They utilize lessons learnt from the video game industry in order to create fun games that include serious content. This means that you could for instance learn, while playing a fun and engaging game. That is the main theory behind a serious game, and is the basis for which I will conduct my theoretical and practical research.

The use of serious games is also becoming more important now that the children of the 70s and 80s, who are experienced with games, become the next generation of leaders in business and government. They are used to solving problems in video games, and will utilize their knowledge from these games to the real world.

In order to get an overview of the various serious game genres attempted, J. Alvarez and O. Rampnoux proposed classifications for the serious game categories. Listed below are the five suggested by Alvarez and Rampnoux from the European Center for Children's Products, University of Poitiers²:

- **Advergaming** – The practice of using video games to advertise a product.
- **Edutainment** - Form of entertainment designed to educate as well as to amuse.
- **Edumarket Games** - The games that are part of this family of products aim at conveying a message meant to increase the value of product, an institution, a concept or even an ideology, by using a recreational approach with an educational dimension.
- **Diverted or News Games** - These games discuss, in a direct way, political or geopolitical problems.
- **Simulations or Simulation Games** – Simulation of a real scenario. In example, a flight simulator.

1.3 Thesis structure and research methods

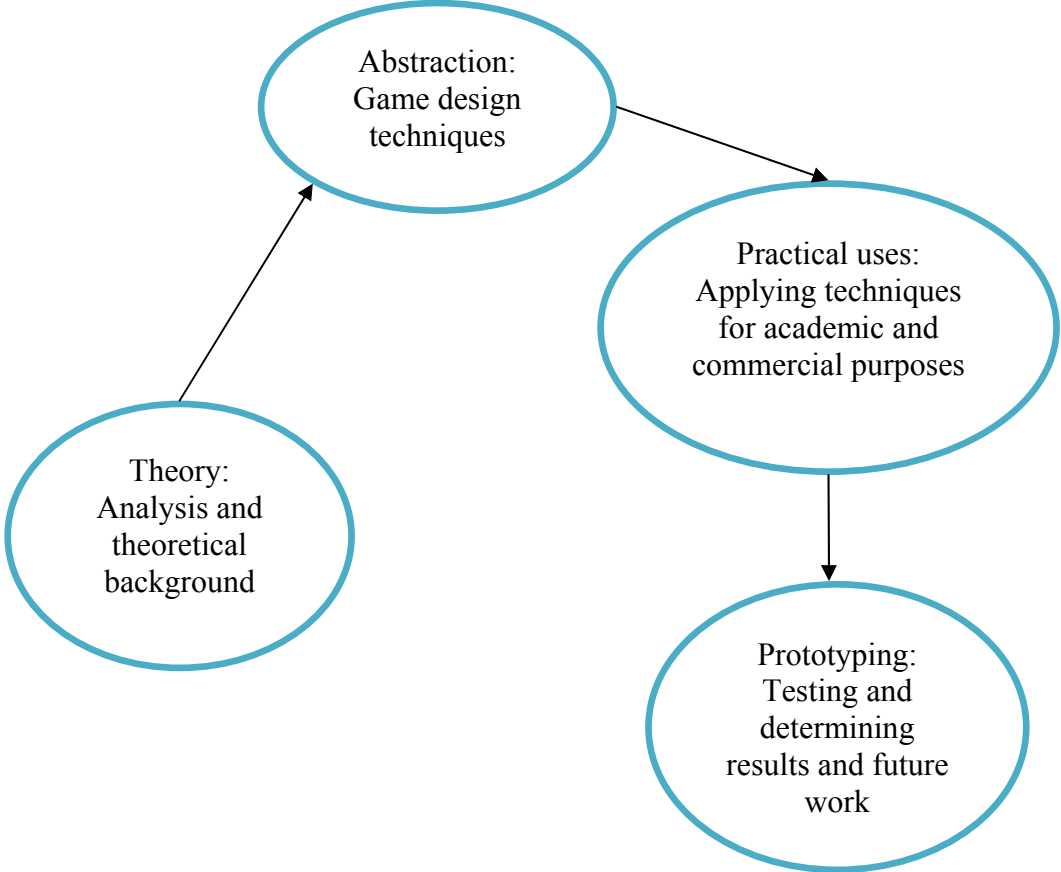
In the following chapter, I will discuss what methods I will be using to research the problem, as well as the methods used to reach the goal.

1.3.1 Thesis structure

The way this thesis is structured is to first examine the design techniques used by game developers to design and create games. In order to do this, I have examined the audience for which the games are designed, and then identified the techniques the developers use to appeal to this audience. Once the techniques have been identified, I have examined how these

² Rampnoux, Olivier – Alvarez, Julian (2007): "New Advertising Tools: Edumarket Game",

techniques, tools and games can be used for educational and commercial purposes while retaining the interest of the audience for which the games are designed. And in the end, I have created a prototype for which I have tested and examined the feasibility of the theoretical conclusions, as well as found suggestions for future work.



1.3.1.1 A note on the footnotes and bibliography

Throughout this thesis, you will find references in the form of footnotes. The choice of using footnotes as a means to refer to sources was chosen in order to retain readability and to be able to give added information on some of the sources. Thus if a game is not known to the reader, he or she will be able to look at the footnote and get a quick understanding of what type of genre the game is. Footnotes are also used to explain certain game culture specific terms that may not be known to the reader. Footnotes are marked by a small number, which in turn links to a similarly numbered footnote. However, if a game is referenced multiple times in a short span of text, it will for practical reasons only be referenced the first time.

1.3.2 Research methods

I will be using a variety of different research methods. In order to understand fully how one can design information for a gaming community, it is my belief that one has to explore the issue from all sides. In this case, I have explored the issue from both the gamers' point of view, the game developers' point of view, and the academic and commercial interests' point of view.

1.3.2.1 Researching existing information

I will be utilizing published articles, books and information from academic, as well as commercial sources in order to create a foundation for the thesis. You will find references to these sources in the text, and information on how to acquire the sources in the bibliography.

1.3.2.2 Hands-on experience

To me, researching anything game related without actually spending enough time in the games themselves would not be wise. No shortcuts, like the use of cheat codes to pass certain obstacles, have been taken. This is because I believe that the challenges the player face is a large part of what makes the game entertaining. Too often have I seen people do research on games with the use of cheat codes, and thus not fully grasped what is fun in the game. Thus in order to get the best possible understanding, I have not utilized any cheat codes during testing of the games.

During this research period, I have set out to try a multitude of both single-player and multi-player games, including the vastly successfully Halo trilogy³, to the unique Second Life⁴, to the cultural phenomena World of Warcraft⁵, to the role-play heavy Lord of the Rings Online⁶, to ad-supported Anarchy Online⁷, to the vast universe of Eve Online⁸, as well as several others. I also bring with me my knowledge gained from more than 20 years of gaming. No game is alike, and I find it important to be able to assess the ideas with basis in several games,

³ Halo 1 (2001), Halo 2 (2004), Halo 3 (2007), sci-fi fantasy first person shooters, developed by Bungie Studios.

⁴ Second Life (2003), internet-based virtual world developed by Linden Research, Inc.

⁵ World of Warcraft (2004), abbreviated "WoW", MMORPG developed by Blizzard Entertainment.

⁶ The Lord of the Rings Online (2007), abbreviated "LOTRO", a MMORPG based on the works of J.R.R. Tolkien and developed by Turbine Inc.

⁷ Anarchy Online (2001), sci-fi MMORPG, developed by FunCom.

⁸ EVE Online (2003), sci-fi based MMO developed by CCP Games.

and not just one. Where applicable, I will refer to the games of interest so that they can be looked up by others interested in exploring that particular part of the thesis further.

1.3.2.3 Observance of a gaming community

In addition to getting my hands dirty, I have been monitoring and interacting with a large multi-game gaming community called the “Malevolents of Xibalba” or “MoX” for short. Having been able to witness the day to day business of a 300+ player community, from both member and officer perspective, has helped me gain an understanding of the various player types and social structures, as well as an insight to how such communities can be utilized for academic and commercial means.

1.3.2.4 Collaboration with game developers

In order to gain an understanding of the game development process, I have been working with two game developer teams. First of the game developers is Roxidy Games (previously DLA), known for “The Wyvern Crown of Cormyr⁹”, a retail expansion pack for Neverwinter Nights¹⁰, as well as unrevealed upcoming projects. Second is, Rogue Dao Studios, known for its “Planescape Trilogy¹¹”, an ongoing project which aims to release three episodes for Neverwinter Nights 2¹² based on the Planescape universe.

This means that I have been able to get an understanding of the underlying concepts that make up a game. It has also given me the ability, and skills needed, in order to work on a prototype game world concept, called the “Renaissance” project, where I can test and experiment with different theories of implementing academic and commercial information.

⁹ The Wyvern Crown of Cormyr (2006) is a premium expansion pack module made by DLA for Neverwinter Nights (BioWare, 2002).

¹⁰ Neverwinter Nights (2002), RPG developed by BioWare.

¹¹ Planescape Trilogy Mod (Still to be released), developed by Rogue Dao Studios.

¹² Neverwinter Nights 2 (2006), RPG based on Dungeons and Dragons rules, developed by Obsidian Entertainment.

1.3.2.5 Analysis through game modification; “Renaissance” prototype concept

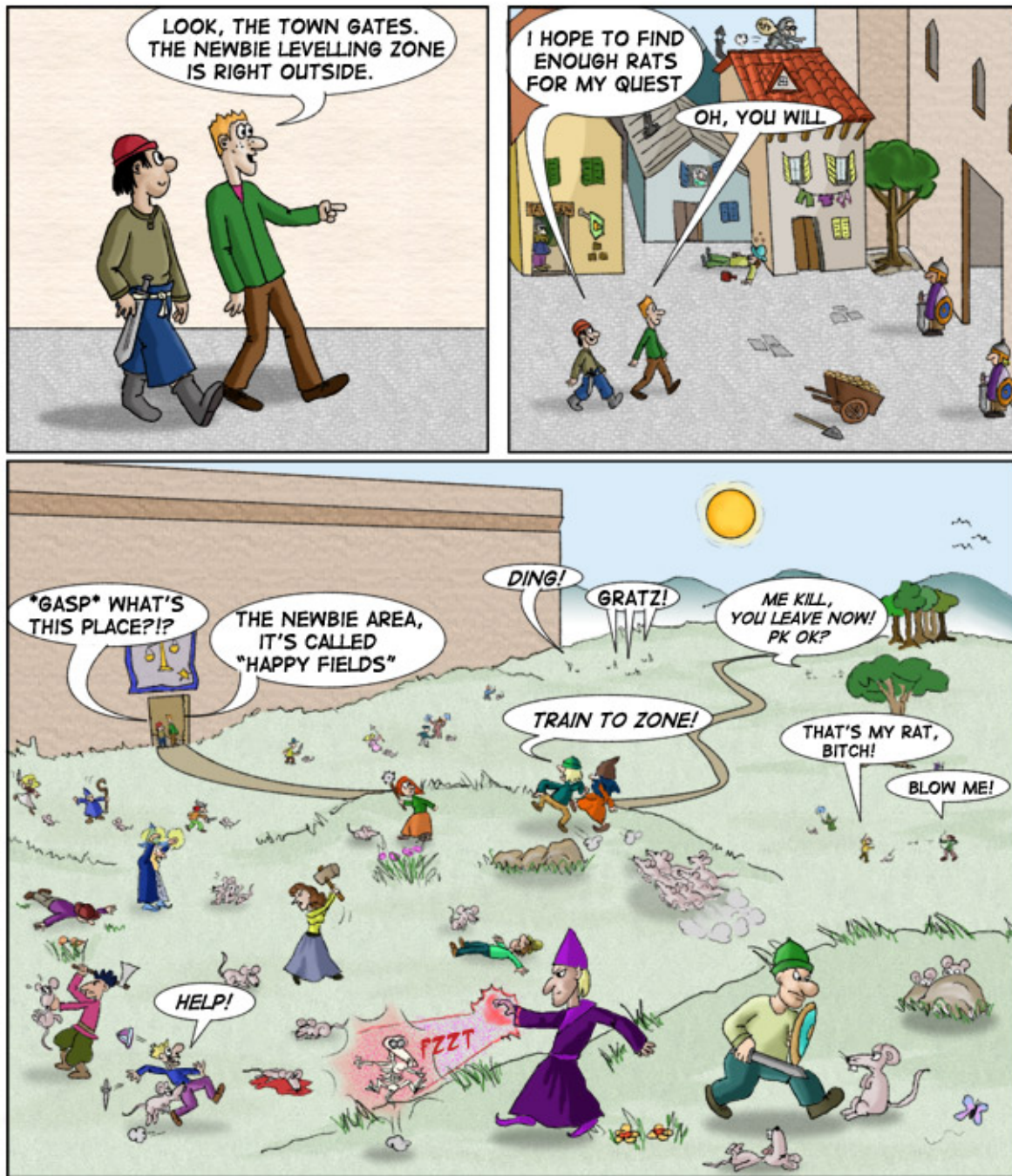
In addition to the above, I have created a prototype called the “Renaissance” project. It is a modification of the commercially popular game Neverwinter Nights 2 by Obsidian Entertainment. This prototype has allowed me to experiment with implementing academic and commercial communication methods, as well as be able to determine the feasibility of adding such interests. This prototype is named after an idea proposed by Dino Karabeg, at the University of Oslo, which involves finding new ways of educating through modern technology. It is inspired by the advances done in the historic era of the Renaissance.

2 An introduction to modern video games and game culture

Before we can start testing with the prototype, one has to research what it is one wants to test. The following chapters will provide an understanding of the game history, game culture and the gamer. While some of these issues are worthy of their own thesis', the aim here is to provide a foundation to base the theories on. This gives an introduction to modern video games as well as an understanding of the culture and history that influenced the modern games. This knowledge is the foundation on which we have to build, and should give an insight to many of the different aspects one has to cater for when trying to mix academic and commercial communication with video games.

2.1 A short review of the history of video games

In order to get an understanding of the culture surrounding games, one has to look at the history of video games. The following is a compressed history of the evolution of video games. Many of the modern games of today utilize unwritten laws deprived from gaming culture and an understanding of the background is thus necessary. An example of such an unwritten law would be that you will be hard pressed to find a role-playing game without one of the quests involving the slaying of oversized rats. This is a salute to the first role-playing games which more often than not had you clear some unfortunate soul's basement for rats. These unwritten laws can in turn be used to appeal to the gamer, thus you have to understand the unwritten laws in order to understand how to design information for gamers. As an example of how an unwritten law from gaming culture can affect other types of media, one can look to "The Noob Comic" by Gianna Masetti, which is using game culture elements in order to make humor on multiple levels. In example, the aforementioned rats are used in the comic, and they would be an element that appeal first and foremost to a gamer, as only a gamer would fully understand. So, the first step is to get an overview, although short, of the history and culture of video games, and thus see if we can get a better understanding of the people we want to reach.



© 2004 by Gianna Masetti

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(Picture 3 – The Noob Comic’s take on rats¹³)

¹³ The Noob Comic (2004) is made by Gianna Masetti and is used with permission.

2.1.1 The beginning of an era and the coming of the new age

In 1962 the era of the video game started. At the Massachusetts Institute of Technology (MIT), the first game, “Spacewar!”, was played on a PDP-1 computer^{14 15}. This was the start of video games, but it was still a long way from becoming the everyday medium it is today. With limited availability to computers, the existence of computer games did not become public entertainment until the release of the arcade games of the 70s. With “Pong” hitting the streets in 1972 and becoming an instant hit, the road was paved. The technology improved and so did the games. With these advances came, among a multitude of other games, the instant classic, “Space Invaders”, which would be the first game to feature a high score table¹⁶. This meant that games now appealed to the social status as well, and competition between players became possible as they tried to top each other’s high score.

Household gaming became more accessible when Atari released the first cartridge-based console, the “Video Computer System (VCS)” later known as the “Atari 2600”, and games no longer had to be hard coded into the system. Now you could use multiple games with the same system, and thus create a library of games.

If we fast forward a bit, we enter the 80s era of the IBM PC, Apple II and Commodore Amiga. With introduction of dial-up bulletin board systems, the early age of online game playing saw its first horizon with the MUDs, the multi-user dungeons. Typically, the MUDs were text-based multiplayer adventures where the players would take their old Dungeons and Dragons habits online and be able to play through adventures with the presence of others around you¹⁷. This meant that unlike the tabletop Dungeons and Dragons, your role-played character could now meet “the unknown”. In other words, games moved from being static, where the game-world remains the same, to a dynamic game-world inhabited by people, people one did not necessarily know.

While the 1980s gave birth to an impressive line of ground-breaking game genres that are still vastly popular and worthy of their own thesis alone, it wasn’t until the 1990s the gaming business matured into a Hollywood-esque business with ever increasing budgets. This change meant that games were no longer developed by small teams, but large teams, which had

¹⁴ Bellis, Mary, “Computer and Video Game History”.

¹⁵ Poole, Steven (2004), “Trigger Happy – Videogames and the entertainment revolution”.

¹⁶ Wikipedia: “History of video games.”

¹⁷ Bartle, Richard (1990): “Early MUD History”.

publishers desiring to maximize profits and decrease the potential risk. This fueled the use of “shareware” distribution. Shareware gives consumers the chance to test a portion of a game, in example, the first level, before purchasing the rest of the adventure. This way of distributing games gave room for the now giant gaming powerhouses of 3D Realms (previously Apogee), id Software, and Epic Games (previously Epic Megagames). Whereas in example, the last, Epic Games, recently released the blockbuster title “Gears of War¹⁸” for Microsoft’s Xbox360 console. The shareware practice is what gave room to the culture of providing gamers with demo versions, which is still popular through the use of CDs or DVDs bundled with gaming magazines, or over the internet¹⁹.

This practice of being able to test the game before buying it is one that is still embedded in the gaming culture. A common answer to why people pirate software is that they want to test the software before it is bought. Now, while some will claim this is self-deception, because once a full version is acquired, the chance that the pirate buys the retail version is slim, the “try before buying” notion is a strong one in the gaming culture. And unfortunately, less serious actors who try to make money off very poor games enforce the notion. Of course, the whys of pirating is something one could write an entire thesis about, and is far beyond the scope of this chapter, but it is worth mentioning, because for some it symbolizes the freedom that has often been connected to computers. And that is something one should remember when designing “intrusive” information for the games.

This notion of freedom is also embedded in the Internet. While MUDs and other text based games were possible through BBS (Bulletin Board System), the house-hold introduction of the Internet meant that people now got access to large amounts of information at their fingertips at home.

Thus online gaming started picking up in mid to late 1990s, with games like SubSpace²⁰, Ultima Online²¹ and the still vastly popular Half-Life²² modification Counter-Strike²³ leading the way. As the player base and bandwidth costs rose, the introduction of monthly fees for

¹⁸ Gears of War (2006), tactical third person shooter developed by Epic Games.

¹⁹ Wikipedia: “History of video games.”

²⁰ Subspace (1997), shoot ’em up MMO developed by Virgin Interactive Entertainment. Now known as Continuum, and entirely maintained by the community.

²¹ Ultima Online (1997), or UO for short, role-playing MMO developed by Origin Systems.

²² Half-Life (1998), first person shooter developed by Valve Software.

²³ Counter-Strike (1999), commonly abbreviated as ”CS”, is a multiplayer first person shooter Half-Life modification originally made by Minh “Gooseman” Le and Jess “Cliffe” Cliffe.

online gaming was also introduced. With, of course, additional benefit for the developers, since monthly fees means that games no longer are a one-off shot, but can now provide long-term substantial income.

As we reach the time we live in, the online gaming industry has become huge. With games boasting bigger online populations than several countries, and where a success might result in billions of dollars of income, games are no longer just toys. Radical new designs are also being tested, where the player does not necessarily play a game, but can help create an online world. An example of this would be Second Life²⁴, where the players themselves can create objects, clothes and so forth, sell them to other players, and exchange the in-game currency for real-life currency. Players of other games, typically first person shooters or real time strategy games, also compete in world wide leagues, with big prizes for the winner(s). In Asia, these masters of the game, or “Gosu²⁵”, have the popularity of rock stars.

Thus games are no longer just fun, they are serious fun with large real life benefits for those who excel at them!

2.2 An introduction to Massively Multiplayer Online Games:

If we move to present time, one of the fastest growing games genres is the massively multiplayer online games (MMOG) genre. In short, they are games that allow a large population of players to play alongside (or against!) each other on servers around the world through the internet. This makes them exceptionally interesting, because it means that things can be dynamic. What was true yesterday might not be true today. In this sense, they, in a way, simulate the real world. This is also the reason for why MMO games are of particular interest for research purposes.

Secondarily, massively multiplayer online games are a relatively new information portal. Having evolved from so called Multi User Dungeons (MUD), which were text-based games where the user would write what his/her character was doing in the game, the gaming area of

²⁴ Second Life (2003), internet-based virtual world developed by Linden Research, Inc.

²⁵ In Korean, the word Gosu is used for a person with great skill. Its origin is from martial arts, although urban legend claim it to be an acronym for “God Of Starcraft Universe”, as its most common use is for players highly skilled in StarCraft, a game developed by Blizzard Entertainment in 1998.

a MMO can in large part be described as a “Virtual World”. This virtual world often allows the player to conduct in a variety of activities, thus the notion that MUDs and MMOGs are too large to fall into one particular gaming category has been forwarded. While MUDs, and consequently MMO games, may be too diverse a phenomenon to be conceptualised as one kind of game, as stated by Ragnhild Tronstad²⁶, a variety of categories have been made to simplify the differences between these MMO games. In most cases, the standard game categories are simply prefixed by MMO. An example would thus be MMORPG, meaning a Massively Multiplayer Online Role-Playing Game. Another example would be MMOFPS, which would in turn be Massively Multiplayer Online First Person Shooter. And so forth the categories go. Combinations are also frequently appearing, in example, “MMOFPS with RPG elements”, which would indicate that the main game-play is a massively online multiplayer first person shooter, but that certain elements are taken from role-playing games (in example, character development).

In this joint playground, or virtual world as they are called, the players create an Avatar, which is their virtual representation in the game. They are also free to communicate and interact with the virtual world according to the rules set by the game. This freedom does however also mean that player can often create games within the game that are not essentially meant to be there. I will discuss this tendency and its ramifications later on.

2.2.1 What is a MMOG?

An MMOG, or Massively Multiplayer Online Game, can be described as a game with populations of players playing the same game at the same time, both independently, and as a team. Unlike limited multiplayer games, in example, 64-player deathmatch²⁷ in Quake III Arena²⁸, MMO games have the ability to accommodate several hundred, or thousands of players at the same time and the created avatar is often limited to the server it is created on (thus the term “server population” is used). MMO games usually also have a persistent world (or universe in cases like EVE Online²⁹), which the players, or rather, their avatars, inhabit.

²⁶ Ragnhild Tronstad (2003), ”Defining a Tubmud Ludology”.

²⁷ Deathmatch is an all vs. all game-play mode where the goal is to get as many kills (or “frags”) as possible.

²⁸ Quake III Arena (1999), also known as Quake 3, or abbreviated as Q3A, developed by id Software.

²⁹ EVE Online (2003), sci-fi based MMO developed by CCP Games.

An example here would be the world of Azeroth, which would be the virtual world inhabited by World of Warcraft³⁰ gamers.

Edward Castronova speaks of three defining features that make a virtual world (or MMOG) in his article “Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier”³¹:

- **Interactivity**: it exists on one computer but can be accessed remotely and simultaneously by a large number of people, with the command inputs of one person affecting the command results of other people.
- **Physicality**: people access the program through an interface that simulates a first-person physical environment on their computer screen; the environment is generally ruled by nature laws and is characterized by scarcity of resources.
- **Persistence**: the program continues to run whether anyone is using it or not; it remembers the location of people and things, as well as the ownership of objects.

One could say that, a MMOG is the resulting product of combining the graphical 3D environment of games, like Tomb Raider³² or Doom³³, with the chat-based social interaction system developed in the world of MUDs.

2.2.2 A typical starter scenario in a MMOG

After the first introductory cut-scenes, usually including the game-designers logos and sometimes a short game-introductory animation, the game will start with the player finding him-, or herself being introduced to a character creating screen. Normally, this is where you will choose your in-game characters race, attributes, looks and name. The player is thus given a choice to take on a role as a fiction character. So if I was to create, say an Elf. I choose “Elf” as my race, and then I would have to make a choice for my character’s attributes. Do I want him to be a healer taking care of others or do I want him to be a strong warrior perhaps? Often

³⁰ World of Warcraft (2004), abbreviated “WoW”, MMORPG developed by Blizzard Entertainment..

³¹ Edward Castronova (2001), “Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier”

³² Tomb Raider (1996), 3D platform style game originally developed by Core Design.

³³ Doom (1993), first person shooter by id Software known for its pioneering 3D graphics.

you will find the typical Dungeons and Dragons attributes like Strength, Agility, Intelligence, etc., prepackaged in “classes”. These classes are preset collections of attributes that the players can choose from, thus simplifying the process by giving the option of choosing a specific player-type rather than the underlying attributes. So, if I pick an Elven Warrior, my next two options would be to customize his looks and give him a name. This part gives individualization to the player. As with real life, looks are important in online worlds as well. Game designers figured this out a long time ago, and usually give a variety of customization options. The name I give the character will be my online name, or “nickname”. This is what people will refer to me as, and it finalizes the character creation process. Now all that remains is to log in to a game-world.

2.2.3 An example MMOG world - Azeroth

In the game, World of Warcraft³⁴, you find two rivaling player factions called “The Alliance” and “The Horde”. Being based on a tabletop game, called Warcraft, large parts of the background and lore for this game has been taken from this table-top game, and the surrounding books. Here is how Blizzard describes their game world:

“World of Warcraft draws heavily upon the lore of the Warcraft universe. Long-time fans of the Warcraft games are finally able to step into the world from a player's perspective, and experience the universe firsthand. People, places, and units from the strategy games are brought to life in World of Warcraft.

You can visit such places as the Burning Steppes, where Grom Hellscream fell in battle against the demon lord Mannoroth, and Ironforge, where the dwarves make their home below the mountain. Legendary heroes, such as Thrall, Cairne Bloodhoof, and King Magni Bronzebeard, are also in the game, presiding over their respective peoples as leaders in their race's capitals.

Guards in the human city of Stormwind look just like footmen from Warcraft III, peasants in the human town of Hillsbrad look exactly like their counterparts in the strategy games, and orc peons shuffle about the farms of Go'Shek in the Arathi Highlands. Night elf players can

³⁴ World of Warcraft (2004), abbreviated “WoW”, MMORPG developed by Blizzard Entertainment.

even see gargantuan Ancient Protectors patrolling the elven lands of Teldrassil, while a towering Ancient of War waits to greet all visitors to Darnassus. “

- *World of Warcraft – FAQ – What is WoW?*

It is obvious that the game developers have gone to great lengths to make sure that fans of Warcraft are not disappointed. That in turn shows that one has to be careful when trying to design information into these games that are not part of the background lore. The information must be made to fit the lore and background; else the game will not be satisfactory to the fans which it is intended for.

2.2.4 Game world size – Lord of the Rings Online

In order to get an understanding of how large a game world is, one can look to the MMORPG “The Lord of the Rings Online” developed by Turbine Inc. and released in 2007. They list the approximate size of their game world, Eriador, to be 50 million square meters when the game launched³⁵. This gives an idea of the size of the game worlds being developed, and one can only assume that they will continue to grow in size. This also means that there are huge amounts of content which could potentially be areas where both academic and commercial interests could be present. Space should definitely not be an issue.

2.2.5 A Game within the Game

While one can fairly easily grasp the concept of a MMO, there’s a byproduct that comes with MMOGs that is important to know of. This byproduct is that the players tend to utilize the freedom and the worlds to create their own games within the virtual worlds. An example from the MMOFPS PlanetSide³⁶, a game that features full-scale wars between three factions, and where the main goal is capturing and holding bases and continents, the players utilized the avatar’s ability to drive vehicles to create a “Gumball Rally³⁷”. These player driven events are

³⁵ Turbine Inc. (2007), when answering “How large is the game world planned for launch?”.

³⁶ PlanetSide (2003), MMOFPS by Sony Online Entertainment.

³⁷ PlanetSide 2nd Gumball Rally Video, 2005.

interesting because they show the creativity of the players, and can give ideas for untraditional ways to advertising and educate.

The players organizing such events were first mentioned by E. Randall Farmer in 1988. Farmer was working on LucasFilm's "Habitat³⁸" as a system administrator from 1986-1988, and in 1992 he wrote a paper on player personalities. He called these event organizers, "Motivators".

"The real heroes of Habitat. The Motivators understand that Habitat is what they make of it. They set out to change it. They throw parties, start institutions, open businesses, run for office, start moral debates, become outlaws, and win contests. Motivators are worth their weight in gold. One motivator for every 50 Passive/Active users is wonderful. Nurture these people."

- E. Randall Farmer (1991) – "The Lessons of Habitat"

In example, one could imagine sponsoring certain players so that they use their particular in-game abilities to arrange, say, "The **Pepsi** Gumball Rally". One should not underestimate the abilities of the players of MMOs, they are in a large part an untapped resource. Although some games have experimented and had success with making Motivators take on the form as Caretakers for new players, most MMOs of today do not utilize this group of people. The interest of the Motivator is also tied to the player type that the Motivator is. In example, a Socializer player type (I will discuss the player types in the next chapter), who is interested in the social part, will most likely have a higher chance of being a Motivator helping new people. While for others, the Motivator trait will result in the creation of guilds, trade events, PvP³⁹ events, raids, role-playing events and many other activities. There are however, Motivators who are not necessarily good for the game, but who still do activities within the game that makes them Motivators. In the following example, we see the result of a Motivator whose goal is less honorable than what we might normally expect.

³⁸ Habitat (1986), forerunner to the MMORPG genre, developed by LucasFilm Games.

³⁹ PvP, abbreviation for Player vs. Player.

In the game EVE Online⁴⁰, the power of a player's creation within a virtual world was shown, when the player "Cally" created an in-game virtual banking system, and then after a long period of time with people depositing their online savings in hopes of a trickle of interest, split off with all the virtual money.

"For example, the players have been discussing advanced financial systems. They've been starting things like banks all by themselves. The problem is, however, that there's a lack of trust in the current arrangement." And that distrust is rightfully there, as the last person to set up a really prolific banking system ran off with 790 BILLION ISK."

*- Dr. Eyjólfur Guðmundsson, Economist for EVE Online
(Interview at AGDC with Tentonhammer.com, Cody Bye, 2007)*

Now, with 1 billion ISK being worth approx. 58 US Dollars⁴¹ on the illegal gold-sellers market, this means that the player "Cally" potentially stole 45820 US Dollars. This virtual scandal even made it to real life news agencies, and it shows what a gamer can do within a virtual world if the motivation is there. After all, stealing someone's virtual money is not yet a real life crime, although virtual items and money can, and in most cases do, have a real-life monetary value as players buy and sell through both legal and illegal sites on the Internet. In turn, this little story brings us to the next chapter, understanding the gamer and his or her motivations.

2.3 Understanding the user base – the gamer explained

In order to understand how to design the information, whether it is academic, commercial or pure entertainment, one has to understand who you are designing the information for. While the gamer is often portrayed as a teenager, Nick Yee's study shows that the average MMO gamer is actually around 26 years old⁴². In fact, according to Nick Yee's study, only 25 percent are teenagers. On the other hand, 50 percent work full-time, and 36 percent are married. This means that the market can be considered to be a fairly mature one. Yee's study shows that it is not just teenagers and kids who are playing games. On the contrary, the player

⁴⁰ EVE Online (2003), sci-fi MMO by CCP Games.

⁴¹ Value taken from IGE, a well-known gold-seller site.

⁴² Yee, Nick (2003): "Motivations of Play in Online Games"

demographic is diverse; it stretches from children to retirees. With the average MMO gamer spending 22 hours a week playing MMOs, this means that the market for both academic and business endeavors is huge. In addition to having a user base stretching from young to old, that on average spends more than 3 hours in a MMO each day, you can accurately monitor their activities in the game. Due to the gamer having to log on to a server in order to play, you can monitor how popular each area, or quest is, meaning you can get extremely good intelligence on the market you wish to reach. The game companies are in possession of good information on their user base, and could in turn use that information to design information that appeals to their user base. This is important because, as said, if one is to design information, you have to know who you design it for.

“[t]he body is the tool by which the mind receives sensation and manipulates the environment, and this avatar body does exactly and only that. And it makes sense to think of it as your body, just as someone with a prosthetic arm should think of it as his arm.”

- Edward Castronova (2005)

2.3.1 Player and people types

In order to fully understand the market you are trying to reach with your information, you have to understand what makes the player actually play the game. In earlier MMO games, or Multi-user dungeons (MUD) if you prefer, Richard Bartle identified four different player types in his article; *“HEARTS, CLUBS, DIAMONDS, SPADES: PLAYERS WHO SUIT MUDS”*. These were classified as "Achiever, Explorer, Killer and Socializer". In modern MMO games, the above categories are present, but you can in my opinion also find a fifth player type identified as the Anti-Socializer. I have expanded the taxonomy in agreement with Faltin Karlsen's opinion that Bartle's categories are insufficient in describing all the player types of modern MMO games⁴³. It is also important that I consider these player types to be used as an interest-gauge for the player. In agreement with Nick Yee, I believe there is unlikely to be any player who can be classified as being 100 percent one archetype⁴⁴.

⁴³ Karlsen, Faltin (2004), "Media Complexity and Diversity of Use: Thoughts on a Taxonomy of Users of Multiuser Online Games".

⁴⁴ Yee, Nick (2005), "A Model of Player Motivations".

“The more of an Achiever you were, the less of a Socializer, Explorer and Killer you could be, but just because you like ice-cream doesn’t mean you will hate pasta.”

- Nick Yee (2005)

Most people can be described as being a certain percentage of each archetype, in example, 35% Achiever, 20% Killer, 15% Explorer, 25% Socializer, and 5% Anti-socializer. This is due to modern MMOs very rarely allowing you to only focus on one part. In example, you can usually not explore the entire world just after logging in to the game (it would result in the avatar just dying repeatedly). Most MMOs require you to mix all of the above in order to be able to play, thus I find it ill advised to assume that an Achiever would not also be an Explorer. The reasoning for using these player types is to get an understanding of the different aspects of online gaming that motivates the player to log in and play. For that, they are useful.

Secondarily, E. Randall Farmer wrote that in LucasFilm’s “Habitat⁴⁵” he noticed 5 types of people.

1. **The Passive:** This group was easily the largest group (50% or more) and consisted of those who only logged on for a few minutes a day. In modern MMO lingo, these would be classified as “Casual players”.
2. **The Active:** These players are the second largest group, and consist of those who play a lot, and thus easily lose track of how much time they spend in game. In modern MMO lingo, these are classified as “hard-core”.
3. **The Motivators:** These players are the ones Farmer classifies as the real heroes. They arrange events and happenings, and thus bring an added element to the game that the developers are unable to provide.
4. **The Caretakers:** Often employees who are hired to look after newbies. In modern MMOs, these are the customer support representatives. Some games do however, use Socializer Motivators as Caretakers.

⁴⁵ Habitat (1986), forerunner to the MMORPG genre, developed by LucasFilm Games.

5. **The Geek Gods:** These are the system operators. Even in modern MMOs, the presence and changes conducted by the system operators, or game developers if you prefer, have massive consequences for the virtual world.

Being the system administrator for “Habitat⁴⁶”, E. Randall Farmer has an interesting say on his role as a “Geek God”;

“I was the first Oracle/Operator. The operator's job is most important. It really is like being a Greek God from the ancient writings. The Oracle grants wishes and introduces new items/rules into the world. With one bold stroke of the keyboard, the operator can create/eliminate bank accounts, entire city blocks, or the family business. This is a difficult task as one must consider the repercussions of any "external" effects to the world. Think about this: Would you be mad at "God" if one day suddenly electricity didn't work anymore? Habitat IS a world. As such, someone should run it that has experience in that area. I suggest at least 10 years experience in Fantasy Role Playing and 2 years on telecommunications networks (specifically ones with CHAT programs). A Geek God must understand both consistency in fictional worlds, and the people who inhabit it.”

- F. Randall Farmer – “Habitat Anecdotes”

It is however, important to not only consider the difference between casual, hard-core, motivators, care-takers and geek gods, but to know the different motivations that drive these people. Thus a look at the player types is in order.

2.3.2 The Achiever

The Achiever plays in order to complete goals, get better or to reach new levels of status. More often than not, the status is the clue to it all. The Achiever is always looking to improve his or her status in game, whether it is by gaining new equipment, a high character level, or a reputation of being dominant in a certain player skill. A strive to become the best. The motivation comes from the joy of being successful, as well as respect of peers and overall status in the community. Status in the community of online worlds manifests itself as primarily player skill (and subsequent reputation), and where applicable, character levels and

⁴⁶ Habitat (1986), forerunner to the MMORPG genre, developed by LucasFilm Games.

items⁴⁷. The Achiever also applies his personal traits to his choice of guild, and thus often ends up in a guild with high game-related achievement goals. It is a natural selection because most MMOs require teamwork in order to achieve the most difficult goals.

2.3.3 The Explorer

To the explorer, the immersion in the game world is important. They enjoy traveling to new areas and explore locations, quests or find artifacts that may not be very well known to his or her peers. This could also include understanding the background story of the game, and learning the lore behind the people and monsters in the game. The Explorer seeks to discover the unknown.

2.3.4 The Killer

The Killer is seeking to beat his or her peers in combat. It is the basis of the Player vs. Player server type. It is however, a clear distinction in the online communities between a player killing players in fair fights and a player who kills others who do not have a fighting chance. While Karlsen suggested that Killer should be added to a Anti-socializer category⁴⁸, it is my opinion that this move would be a mistake. The Killer is not necessarily an Anti-socializer, and many MMO games support Player vs. Player combat in many honorable forms. I have thereby decided to keep the Killer as a separate category as suggested by Bartle⁴⁹, but included the dishonorable Killer player type, “The Ganker”, as a sub-category of the Anti-Socializer.

⁴⁷ Klasturp, Lisbeth (2003): ”Towards A Poetics of Virtual Worlds – Multiuser Textuality and The Emergence of Story”.

⁴⁸ Karlsen, Faltin (2004): “Media Complexity and Diversity of Use: Thoughts on a Taxonomy of Users of Multiuser Online Games”.

⁴⁹ Bartle, Richard (1996): ”Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs”.

2.3.5 The Socializer

To the Socializer, the presence of others is the main motivation. Chatting, interacting and socializing are the main motivating factors. Most modern MMOs include a variety of chat options, and playing a MMO without ever talking to someone else would be a challenge. In most games, socializing is required for the more difficult objectives, as well as in Player vs. Player combat, thus it is fairly safe to say that all MMO gamers have a part of The Socializer player type in them. As Baur and Kolo point out in their article on Ultima Online⁵⁰, a dominant motive for playing MMORPGs is the social experience of being part of a virtual environment and community. However, as with everything else, there are extremists. A term, the Carebear, has been coined for those whose main motivation for logging on is helping others. I have included them as a subcategory, because they can differ heavily from your average gamer.

2.3.5.1 The Carebear

The Carebear player type is interesting, because he or she will go out of his way to help other players. It is an important player type, because it can significantly help gaming communities in the day to day running of the game. Several games have had success with utilizing this player type to help beginners get to grips with the game, as well as using them for customer support for trivial game based matters, an example being the volunteer program in EVE Online known as the ISD⁵¹. In games where character levels matter, the Carebear will also be seen running lower level characters through dungeons and instances where he or she might not have been able to go on his or her own. The Carebear is often a popular character in the "mafia-family" social structure suggested by Jakobson and Taylor⁵², which will be discussed in the next chapter. However, in extreme situations, a too eager Carebear will eventually get a negative reputation due to his over-zealous care. The majority of players wants to cope on their own and do not want help they have not asked for. Thus on occasion, the Carebear steps on the virtual toes of the Achiever and earns himself a poor reputation.

⁵⁰ Baur, Timo and Kolo (2004), Castulus: "Living a Virtual Life: Social Dynamics of Online Gaming".

⁵¹ The ISD is an organization of players helping players to familiarize themselves with the mechanics of the game and the game universe, assist players in resolving technical issues, act as liaisons between the players and the Game Masters and will also serve as Good Will ambassadors across the Eve galaxy (EVE Online FAQ).

⁵² Jakobsen, Mikael and T.L. Taylor (2003): "The Sopranos Meets EverQuest: Social Networking in Massively Multiplayer Online Games".

2.3.6 The Anti-Socializer

There are several terms that can be used for the Anti-Socializer. Most frequent ones would be “cheater”, “lamer” or “griever”. The Anti-Socializer player type has no respect for the intended game design and will strive to do anything that is not the intended way of playing. This is in agreement with Karlsen’s suggestion that a category for cheaters and counter-players should be added⁵³. The online communities coined the terms “lamer” and “griever” for those intentionally ruining the fun of other players. This involve abusing bugs in the game, stealing items, team killing, disrupting events and so forth. On rare occurrences, the Anti-Socializer gains a reputation and will attract other Anti-Socializers, thus creating a separate status hierarchy where the one who can do the most mischief become respected. An example of this would be The Sims Mafia⁵⁴ which operates in The Sims Online⁵⁵.

2.3.6.1 The Ganker

The Ganker enjoys killing peers regardless of whether or not it is a fair fight. The term “Ganker” is a derogatory to describe a dishonorable Killer player type. Main characteristic would be to attack a player while that player is nearly dead from fighting something else. This negative reputation often results in the Ganker to fall outside the mafia culture of online gaming, which I will discuss in the next chapter, as he becomes an outcast with no honor and thus not worthy of participating within the "mafia-family" as suggested in "The Sopranos Meet EverQuest⁵⁶". The question of whether or not to put the Ganker as a subcategory to the Killer player-type or the Anti-Socializer is difficult, because the Ganker does not abuse the game mechanics in the same way as a cheater would. Ganking is simply a cheap way of killing someone else on a Player vs. Player server, but due to its derogatory nature, I believe the player-type does fit better under the Anti-Socializer because the Ganker is actively ruining the fun of others on purpose, which is similar to what cheaters do.

⁵³ Karlsen, Faltin (2004): “Media Complexity and Diversity of Use: Thoughts on a Taxonomy of Users of Multiuser Online Games”.

⁵⁴ Bray, Hiawatha (2004): “Justice has its price in Sim world”.

⁵⁵ The Sims Online (2002), MMOG based on The Sims, a family / life simulator by Maxis.

⁵⁶ Jakobsen, Mikael and T.L. Taylor (2003): “The Sopranos Meets EverQuest: Social Networking in Massively Multiplayer Online Games”.

2.3.7 The result, mixing the people with the players

If one considers both the player types provided in part from Bartle⁵⁷, and the modern version of the people types provided by Farmer⁵⁸, one can piece them together. In example, you can have the Hard-core Socializer – which could be the guy who knows everyone on the server. Or you can have the Casual Achiever, the guy who wants higher level equipment, but is not interested in spending the time. This in turn, gives a better image of the player demographics. While certain combinations, like the Care-taker Anti-socializer are rare, they are still possible. An example would be someone insisting on helping people who do not want help.

2.4 Understanding the online social structure

In addition to understanding what motivates the player, one has to understand the social structure found in MMO games. In Jacobsen and Taylor's article, "The Sopranos Meets EverQuest⁵⁹", a theory comparing socializing in online games to the mafia family culture is discussed. In the previously vastly popular EverQuest⁶⁰, as well as modern MMO games, players are often required to build a social network in order to experience all the aspects of the game. In example, raiding in World of Warcraft⁶¹ takes up to 40 people. In order for gamers to be accepted within a particular social network, they have to gain a reputation, or prove their worth through trial periods. Jacobsen and Taylor argue that these social networks, often manifesting themselves as Guilds or Clans, have similarities with the mafia family structure. These families of players are founded on mutual trust and respect, thus anyone wanting to join must first pass through a series of trials where they prove that they are trustworthy as well as being family-material. Observance of the MoX guild, also reveal that the terms "potential MoXie" and "MoX material" are often used for new recruits⁶².

⁵⁷ Bartle, Richard (1996): "Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs".

⁵⁸ Farmer, F. Randall (1988): "Habitat Anecdotes".

⁵⁹ Jacobsen, Mikael and T.L. Taylor (2003): "The Sopranos Meets EverQuest: Social Networking in Massively Multiplayer Online Games".

⁶⁰ EverQuest (1999), abbreviated "EQ", MMORPG developed by Verant Interactive and published by Sony Online Entertainment.

⁶¹ World of Warcraft (2004), abbreviated "WoW", MMORPG developed by Blizzard Entertainment.

⁶² In observance of the guild Malevolents of Xibalba, abbreviated "MoX", which is an international online guild founded in 1998.

Guilds in turn are dependent on upholding a certain reputation in order to attract like-minded gamers. Failure to do so would result in the guild failing to achieve its goals, and the member base will in turn decrease. There are however certain guilds that are not covered by this mafia family structure. There are some who prefer to recruit new members with no thought to who they are recruiting. These large guilds have more in common with pyramid schemes than a mafia structure. The leaders are often the ones who benefit from it through tapping the member base of resources, time, equipment, in-game money and so forth. So while guilds often have similarities with the honor and structure of the mafia family, it would be a mistake to think that this is the case for all guilds. For these pyramid-scheme guilds, a new term has been coined by gamers, “Zerg guild⁶³”.

2.4.1 Pyramid-scheme guilds and Elite-guilds

The term used for these large pyramid-scheme guilds, “Zerg guild”, has its origins from a Blizzard game called Starcraft⁶⁴, where the "Zergling" unit is useless on its own, but can be produced in huge numbers, and thus conquer obstacles by sheer numbers alone. This is in contrast to the mafia structure guilds, which often operate by strict rules and pride themselves with displays of teamwork, a particular social standing, or other forms of coveted status. The use of sheer numbers as means for success, as well as a skewed amount of benefits going to the people on top of the pyramid (the guild leaders), have given the pyramid-scheme guilds a very poor reputation in MMO games.

On the other end of the scale, we find the Elite-guilds. These are collaborations of extremely talented players that come together in order to avoid the whole social upholding problems of a large guild. Recruitment in these guilds is often rare, and the member count is usually low. They use practice, individual skill, and teamwork to perform tasks that normally is only accomplished by larger groups. The FPS and RTS versions of the Elite-guilds (or clan), typically also compete in E-sports in various competitions throughout the world. The common denominator is that each player in the group has an enormous interest and skill in the game, and this means they can rely on fewer people, and management-wise often requires less effort.

⁶³ Urban Dictionary (2006), “Zerg guild”

⁶⁴ Starcraft (1998), real-time strategy game by Blizzard Entertainment.

The Elite-guilds is a trend from first-person shooter games, where there are limited online capabilities (rarely more than 64 vs. 64 players, and usually less). This means that overcoming obstacles is normally not possible with sheer numbers, as there are not enough people on each team to make that happen. The trend of preferring and supporting skill over numbers is becoming apparent in the MMO games as well, with major games like World of Warcraft⁶⁵ putting population-caps on their raid dungeons, thus making it impossible to be victorious with the use of only sheer numbers. In item based MMO games, which includes nearly all MMORPGs, the use of less people means that the earnings will be distributed much more evenly among the participants. Thus Achiever player types will often prefer an Elite-guild.

For us, the social differences between these guilds is important, because if one is to use players for say, advertising, one needs to be able to identify who are considered being the best players in the game. A pyramid-scheme guild can in cases be the guild with the biggest presence, but in the MMO world, bigger is not always better.

2.4.2 Social differences

So why do the Zerg-guilds continue to exist? Having seen Zerg-guilds, Elite-guilds and the more common mafia-structure guilds all operate in a variety of games; it appears that the major difference between the guilds is the social structure they use to operate. While mafia-structure guilds strive to keep the members in a hierarchy based on mutual interest and fun, and the Elite-guilds are based on mutual advantage of playing together with equally skilled players, the Zerg-guilds are based around fooling its members with promises and false hope. Thus the managers of a Zerg-guild these days operate more in the form of a drug dealer. You provide a possible new member with a taste of the good side, usually in the form of character equipment. Then once that member is secured, the leaders exploit him or her for their own benefit. If the member understands that he or she might actually not get anything out of the guild, the guild leaders drop them another glimpse of the good side, giving them false hopes that if they just help the guild further, they in turn will get more of what they want. This method makes it possible to keep up a large number of members with minimum “expenditure”.

⁶⁵ World of Warcraft (2004), abbreviated “WoW”, MMORPG developed by Blizzard Entertainment.

This is in great contrast to the Elite-guilds who often divide their rewards with regards to how the guild may to maximize its potential. It also differs from the mafia structure guilds, which are likely to reward its members based on performance, attendance or DKP⁶⁶.

⁶⁶ DKP, or "Dragon Kill Points", a virtual currency often used by guilds participating in end-game raids. A member earns DKP by participating on raids and killing bosses. Usually the leaders of the guild use a website to communicate how many points each player has earned, and these points can be spent in order to get loot from bosses that are killed on the raids. The system was originally created by the guild Afterlife in 1999 and is named after the two original EverQuest end bosses, which were both dragons.

3 Analysis of game design techniques

We already know that several different types of players have been identified, and that these have different motives for playing, but why do people spend time playing a video game rather than visiting an art gallery, go to class or watch the television? What makes games unique compared to other media? In order to get an understanding of this, we need to understand the design techniques that separate games from other entertainment, and in turn make them popular. What techniques are used to engage and interest the player? In this chapter, I will identify and analyze the different techniques and design elements that make video games special as a form of entertainment media.

3.1 Identifying the techniques

In order to identify the techniques used to keep the interest of the player, I have been in close contact with the development teams, Roxidy Games as well as Rogue Dao Studies. This has given me an insight in what they emphasize when they design and develop their games. In turn I have also analyzed and examined a multitude of single-player and multiplayer games, in order to see how the different techniques suggested by the development teams, as well as established game designers like Richard Rouse III, are implemented in the games. The aim of this chapter is in turn to provide an understanding of the game design techniques so that we in turn can utilize the information to create entertaining academic and commercial communication.

3.1.1 The Challenge

First off, players want a challenge. I am sure we all have experienced being bored in a class at school or university when we already know the subject being taught. Just in the same way as a movie is far less fun the second time you watch it because they no longer challenge your mind by making it attempt to predict what happens next. Games on the other hand, provide multiple challenges of varying difficulty, and they often aim for “replayability”, meaning the same challenges can be completed multiple times, but feel different each time they play, and thus remain challenging. More often than not, games also come with difficulty sliders. An example

being Duke Nukem⁶⁷'s four difficulties: "Piece of Cake" (Easy), "Let's Rock!" (Normal), "Come Get Some" (Hard), and "Damn I'm Good" (Insane).

“When a person faces a challenge and then overcomes it, that person has learned something. It does not matter if that challenge is in a math textbook or in a computer game. Challenging games can be learning experiences.”

- Richard Rouse III, Game Design Theory and Practice

Thus games force players to think actively, and in turn, interest is generated. While puzzle games like Tetris⁶⁸ might survive on the challenge alone, most players seek more from their games. However, it is important to remember that at the core, most games are based on a series of challenges demanding decisions done by the player. This is true for first person shooters (how can I kill my opponent without dying?), role-playing games (how do I convince the King that my intentions are honorable?), real time strategy games (how can I build up an army before the enemy arrives?), and all the other video game genres out there⁶⁹.

3.1.2 Quest, incentive and direction

With a quick look at some of our world's most popular games, World of Warcraft⁷⁰, The Elder Scrolls IV: Oblivion⁷¹ and Lord of the Rings Online⁷², they all use the same way to give the player tasks (challenges) to do. They use *quests*. A quest is in simplicity, a task given to the player, with a reward for completion. In similar means as a mother tells a son he will get an ice-cream if he goes to the store and buys groceries, a game designer tempts the player with a reward to go do a task of some sorts. This is an *incentive* to begin the quest. The quest itself, once begun, might have a storyline in itself and may result in several sub-quests previously unknown to the player. This is usually referred to as a “quest-line”, which is a series of quests in a time-line where each quest has to be completed in order to make the next one available. This makes quests a very viable way of telling an interactive story where the

⁶⁷ Duke Nukem (1996), widely popular first person shooter developed by 3D Realms.

⁶⁸ Tetris (1985), is a world famous falling-blocks puzzle game originally designed by Alexey Pajitnov.

⁶⁹ Prensky, Marc (2006), quoting Bruce Shelley, Head Designer at Ensemble Studios in “Don't bother me Mom, I'm learning”.

⁷⁰ World of Warcraft (2004), abbreviated “WoW”, MMORPG developed by Blizzard Entertainment.

⁷¹ The Elder Scrolls IV: Oblivion (2006), a single-player RPG developed by Bethesda Game Studios.

⁷² The Lord of the Rings Online (2007), abbreviated “LOTRO”, a MMORPG based on the works of J.R.R. Tolkien and developed by Turbine Inc.

players themselves are the main characters. This in turn gives the player the expected *direction* which they need in order to know what to do. While good games are often about letting players do what they want, that is only true up a point. They need an idea of what to do, or else they get frustrated⁷³. Players also expect to accomplish a task incrementally⁷⁴ (in example, you don't start by killing the main boss), and for this purpose, quests are well suited as a mean to make sure the player jump through all the hoops. For games that have no ultimate goal, like Will Wright's SimCity⁷⁵, the goal is often imposed through the player's idea of what would be a success⁷⁶. In SimCity's example, the conception will be based on what would make a real-life city successful (well-run big city with happy residents). Interestingly enough, other games made by Wright that are based on concepts not as familiar to the player, like SimAnt⁷⁷ or SimEarth⁷⁸, are far less popular. In turn, perhaps the most successful game ever, The Sims⁷⁹, is based on the most well-known concepts to man, the cycle of life. Who does not have an opinion on what would be a successful life?

“The quest designers and level designers work together to make sure all of the pieces are in place to tell the story. Once the level design process nears completion, the quest designers work with Chris⁸⁰ to flesh out the specific details of how each quest will work, what characters or world groups will be involved, and how the quest will contribute to the overall story of the zone and the game.”

- Jeff Kaplan, *Quest Designer, Blizzard Entertainment,*
in an interview by Allen Rausch (2004,), Gamespy

Unlike a movie or book, games make the player's actions shape and determine the progress and at times even the story itself. In example, in most role-playing games, the player has the option of being good, neutral, or evil, and depending on whether or not the actions of the player has been deemed good, neutral or evil, the player may be presented with different endings or results. This brings us to the matter of *interactivity*.

⁷³ Rouse III, Richard (2005): “Game Design Theory and Practice”.

⁷⁴ Rouse III, Richard (2005): “Game Design Theory and Practice”.

⁷⁵ SimCity (1989), city-building simulation game designed by Will Wright for Maxis.

⁷⁶ Rouse III, Richard (2005): “Game Design Theory and Practice”.

⁷⁷ SimAnt (1991), Ant-life simulation game designed by Will Wright for Maxis.

⁷⁸ SimEarth (1990), planet development simulation designed by Will Wright for Maxis.

⁷⁹ The Sims (2000), strategic life-simulation game designed by Will Wright and developed by Maxis.

⁸⁰ Chris Metzen, Vice President of Creative Development, Blizzard Entertainment.

3.1.3 Interactivity, putting the player in charge

It may seem like the most obvious and simplest of elements to use in order to generate interest. Give the audience some form of means to control what is happening and interest may follow. But if one considers *interactivity* for a second, there are numerous media that are successful but which do not have interactivity. Movies, books, comics and other forms of entertainment are rarely interactive, but are forms of passive entertainment where the audience does not have any way of controlling what is happening. The same can be said for many forms of education, in example, a university class where the student have severely limited ways to influence the outcome of the lesson. On the commercial side, very few advertisements and commercials have the targeted audience actually interacting with the message being sent.

However, if one is to look to perhaps the oldest form of entertainment, and perhaps the most successful entertainment in the world, sports, it is filled with interactivity. In this field of entertainment, the players have a real shot at determining the outcome. A great striker may score that winning goal, or a golf player may miss that winning putt by a few inches. It is all in the hands of the player. This chance of being the hero is something which games offer.

So does this put video games in a particular interesting position? Does the interactivity really let people experience the thrill of being the hero? After all, it combines the pre-determined outcomes scripted by the developers, with player interaction determining the outcome and success. Thus creating scenarios where what could be described as a “hero situation” in sports become possible in games as well. The interactivity means that you yourself might be the one who saves the day. In turn, interactivity in multiplayer games gives the player a chance to be the hero (or villain) in front of a group of people, which in turn fuels the generation of *social status* and *reputation*.

Secondarily, unlike a movie, where the outcome of the hero is pre-determined and there will be no change the second time you watch it, a modern game will very rarely be the exact same each time it is played through. This is even truer for a MMO game, where not only are the actions of the player determining the outcome, but the actions of others influence the outcome as well. In example, a player may be trying to reach a chest guarded by a dragon. The first

time he comes to the area, the dragon kills the player, so he gives up. However, the next day, he travels to the area again, and this time other players in the world have already killed the dragon, making reaching the chest fairly easy. This shows how interactivity of other people around the globe can influence the outcome for a MMO player, and in turn make the difficulty dynamic, causing the mentioned challenge factor to remain fresh and interesting.

While interactivity puts the fate and outcome in the hands of the player, and is an important ingredient in the soup which makes for good entertainment, interactivity in itself is not enough. In order to make interactivity interesting, the player has to have a reason for interacting with the game⁸¹. The player needs a reason to reach a goal, which brings us to the next element, *incentives*.

3.1.4 Incentives and rewards

Now that interactivity has been determined as a key part of making quests, and subsequently games, entertaining, we need to look at the reasons for why a player should actually play the game. If we take a closer look at the quest, we see that all the different rewards given the player can be looked upon as an *incentive*. Since the player needs a reason to do the quest, the quest-giving NPCs usually give the player a variety of reasons to complete a quest. In example, experience for your avatar (so that you reach the next level), gold, items, access to new areas, titles and so forth, are all possible rewards. As we see, the incentives appeal to the different player types. For the Achiever there are new items and experience, for the Explorer there is the chance to find new areas and see all corners of the world. For the Killer, there are titles and renown to be gained. For the Socializer there is the possibility to adventure and face enemies together with others. Finally, most quests are not designed for Anti-Socializers, which in turn can be a motivational factor for them to find ways to sabotage others.

“The cookies on my computer know more about her interests than her teachers do.”

- *Henry Kelly, President, Federation of American Scientists (Prensky, 2006)*

In real world scenarios, incentives for performing tasks are far more subtle than in a video game. Could this be one of the reasons for why gamers would rather kill fifty wild boars in a

⁸¹ Rouse III, Richard (2005): “Game Design Theory and Practice”.

video game rather than learning fifty new French words? While normal academic books will present information that the student might get to use eventually, there is no instant reward given (in most cases). A student's incentive might be to get good grades, or to be able to do a certain job later on in life, or another somewhat long term goal. Games on the other hand, usually give rewards right after completion of a task. In other words, games provide instant feedback on how well the player performed. This does not however, mean that players do not expect to fail at times, as this is a needed element in order to retain the challenge element⁸². Can the academic circle learn something from games in this aspect? I personally believe that it would be easier to motivate someone to do something if they get to experience a tangible benefit after completion of a task. And that way of thought, certainly seems to be shared by game developers. Hardly do you ever find a game giving the player a quest without it having some form of reward. Whether it is reaching the next level, getting points, or receiving that new armor, there is always a reward suited to a player-type. So in our quest to identify the techniques used by game developers to retain the interest of the gamer, we cannot overlook the importance of tangible rewards and interesting incentives to complete a task.

However, of what importance are rewards if there is no ultimate use for them? This brings us to the next two identified elements, *social status*, and *progressive story-line*.

3.1.5 Social status and reputation, the new high-score

In early video games, the only means of determining the skill of a player was the high-score. In modern MMO games, the high-score has been replaced by items, reputation and titles. Unlike a simple points system, the player can wear armor and wield weapons that show that he or she has successfully completed parts of the game. In example, in the game World of Warcraft⁸³, the most sought after items are only obtainable upon successful completion of massive raid dungeons, player vs. player combat or other hard to achieve tasks. This means that being able to show off a great set of armor gives a comparable status as having a high-score in the local arcade would have in the 80s.

⁸² Rouse III, Richard (2005): "Game Design Theory and Practice", p.1-19.

⁸³ World of Warcraft (2004), abbreviated "WoW", MMORPG developed by Blizzard Entertainment.

In turn, this means that average people, who may live less interesting lives, may reach a revered status and reputation in a game. For many, this chance of shedding one's real life skin, and become a legend in a game might be very appealing. Thus giving people the chance to compete with others can be classified as an identified element which increases the entertainment value of the games. This competition for a "high-score" and subsequent ability to show it off, gives the incentives a meaning. With this high-score system, the quest which just gives a few gold pieces may be worth doing, since the incentive for doing the quest is now no longer just the gold pieces, but the fact that the gold pieces (and other rewards) ultimately increases your social status "high-score", since the quest rewards in turn will provide, or allow you to obtain better items. This craving for social status is also a reason for why people "grind", a term used for killing the same monsters over and over⁸⁴, because the result of such behavior is better items or more gold, and thus in turn a perceived higher social status as a result. Interestingly enough, a large portion of MMO game players are grinding on a regular basis, despite this repetitive behavior is considered something that players do not want to do⁸⁵. Observing the guild MoX, the players themselves even say that they dislike grinding, but will do it since it is necessary to reach new challenges, to reach a higher in-game status, or for the benefit of the guild⁸⁶.

Ultimately, achieving the best items, weapons, etc. would be the goal for Achievers. The subsequent reward of obtaining a revered status and reputation may in most cases be the goal of Socializers, Anti-Socializers and Killers. However, the remaining player-type, the Explorer, remains. To understand the full motif of the Explorer, we have to remember that this player-type is interested in exploring and understanding the story and lore in the game. This brings us to the element of a *progressive storyline*.

3.1.6 Progressive storyline

The Explorer player-type is interested in learning the full story behind pretty much everything. In modern games, and particularly MMO games which have an abundance of quests (more than you actually need to complete in order to reach the highest level), it can be

⁸⁴ Wikipedia: "Grind (gaming)".

⁸⁵ Rouse III, Richard (2005): "Game Design Theory and Practice".

⁸⁶ In observance of the guild Malevolents of Xibalba, abbreviated "MoX", which is an international online guild founded in 1998.

a hard task to figure out which quests one should do in order to understand the main story. However, with the very newest MMO games, the developers seem to have understood this problem, and thus present a new technique for presenting the main story line. In Lord of the Rings Online⁸⁷, the main story line is simply referred to as the “Epic book” quest-line. This means the player can be sure to at least get the main story by following these well marked epic book quest-lines. This technique is one also seen in single-player games like Elder Scrolls IV: Oblivion⁸⁸ and is a way for the developers to ensure that players will not miss out on the main story-line. It ensures *direction* in an open world, as is one of the expected game design elements Richard Rouse III has identified⁸⁹.

Secondarily, the progressive story-line technique is the standard way of presenting a story in a single-player game. I am sure all who have played a FPS, RTS or other genre with a story will agree that the most common way of providing the player with direction is to make sure he or she will follow the story. Some games, like Halo⁹⁰ 1, 2 and 3 take the concept a bit further and make the progressive storyline span over multiple games, just like a trilogy of books or movies would, thus the player need to buy the follow-ups to be able to get to a satisfying conclusion to the story-line.

3.1.7 Anonymity, Escapism, Immersion, and building an Identity

One of the important parts of playing a game is to be able to leave your real life worries behind and escape into a virtual world. Whether or not it is Mario, an orc, a police officer, or something else that the player takes on the role as, you are allowed to look past your real life limitations. In MMOs, this means that the real life janitor can be a virtual king, and the real life king can be begging for money outside the virtual Auction house. A prerequisite for this escapism is the ability to keep your real-life persona anonymous, as well as the game not having elements that remind you (too much) about real-life. Thus retaining an element of immersion is important as well.

⁸⁷ The Lord of the Rings Online (2007), abbreviated “LOTRO”, a MMORPG based on the works of J.R.R. Tolkien and developed by Turbine Inc.

⁸⁸ The Elder Scrolls IV: Oblivion (2006), a single-player RPG developed by Bethesda Game Studios.

⁸⁹ Rouse III, Richard (2005): “Game Design Theory and Practice”.

⁹⁰ Halo 1 (2001), Halo 2 (2004), Halo 3 (2007), sci-fi fantasy first person shooters, developed by Bungie Studios.

“Starting a new character is like backspacing over your identity mistakes and retyping them a different way. It’s only possible in virtual worlds.”

- Richard Bartle (2004), Designing Virtual Worlds

This ability to backspace over your identity, and the fact that you are anonymous, means that you can be who you really are. Or if you prefer, be who you aren’t by acting a role, which in some cases is encouraged for role-playing purposes. The identity created in turn becomes important to the player, because it is them, and when the avatar has many relationships and activities going for them, leaving the game is often comparable to leaving a long-time job, or say goodbye to your fellow high school students.

“In short, KTMA was a rich and detailed character, with a history, a personality, and goals. Eventually, as a result of real-life changes, a new job, shifting priorities, game changes, and everything else, I decided to leave the game; unexpectedly (and certainly unlike any single-player game I can remember), this was a hard decision. SWG⁹¹ was my far-and-away primary game for over 2 years, which is almost certainly a record. (I can think of franchises I’ve tracked faithfully over long periods of time, but certainly no single games.) Honestly, there was nothing within the game that wasn’t available in some other game — it was mostly a sense of attachment or even loyalty to this persona that kept me playing.”

- Tachevert’s blog (2006)

This creation of an online identity can in other words also make a game addictive in the sense that you personalise yourself with the avatar in the game. This addiction can of course also be dangerous because one can risk a situation where players prefer to stay online in their virtual persona, rather than to live in the real world.

⁹¹ Star Wars Galaxies (2003), abbreviated SWG, MMORPG based on the Star Wars universe and developed by Sony Online Entertainment.

4 Serious Games – Academic Communication

Before beginning prototype testing, I had to research what was already being done within the field of Serious Games. It is a vastly growing business with all kinds of educational and commercial interests all wanting a piece of the cake. Some are serious actors, most are not. There have been cases of smaller developers trying to make a quick buck by selling poor sub-standard educational games. And for a non-gaming parent, it might seem like games are a total waste of time for their children. “Why don’t you go outside instead of playing that stupid videogame”, would be a phrase I believe most gamers would have heard at some point.

However, recent studies show that one of the reasons why games are so popular is that they are indeed teaching the players something⁹². One could even say the games are to some degree preparing them for adulthood, as several of the elements found in games are indeed parts of adult life. Thus, I have decided to try to pinpoint what are the main existing elements of edutainment in games, preferably the not so obvious elements, and examine how they can be expanded on for our purposes.

4.1 The nay-sayers – are games bad for you?

Before we begin, it is in order to look at what the nay-sayers have to say about using game-elements in education. Are games really bad for us? This is an important aspect to consider, because if one is to add educational interests to a game, it would be of advantage that the game itself is not bad for the students!

“Studies generally show that violent video games can have short-term or momentary effects on children, but there is little evidence of long-term changes.”

- Anahad O’Connor, science editor, *the New York Times* (Prensky 2006)

Of course, one does not want games in education if it turns out that games literally destroy a child’s mind. The last part being something trial lawyer Jack Thompson⁹³, as well as other

⁹² Prensky, Marc (2006) – “Don’t bother me mom, I’m learning”.

⁹³ Jack Thompson is one of the most outspoken opponents of sexuality and violence in video games (jackthompson.org).

high profile media and political persons want you to believe. Thompson, a well known front-man for the nay-sayers even compared the head of Entertainment Software Association (ESA), Doug Lowenstein, to Saddam Hussein⁹⁴ as well as Hitler⁹⁵. So with such bold statements, it would seem an obvious choice to examine whether or not games are actually bad for you, or if it is all in the interest of suing the games industry in order to make money. The question seems to be if playing games is worse than other past-times, like football, basketball, and other sports.

One of the key researchers, who believe that games can be bad for us, is Craig Anderson of the Executive Council of the International Society for Research on Aggression. Anderson does research on attribution theory, depression, social judgment, covariation detection, biases and human aggression⁹⁶. When appearing before the Senate Commerce Committee hearing on "The Impact of Interactive Violence on Children", Anderson said that:

“Children who are exposed to a lot of violent media learn a number of lessons that change them into more aggressive people. They learn that there are lots of bad people out there who will hurt them. They come to expect others to be mean and nasty. They learn to interpret negative events that occur to them as intentional harm, rather than as an accidental mistake. They learn that the proper way to deal with such harm is to retaliate. Perhaps as importantly, they do not learn nonviolent solutions to interpersonal conflicts.”

- Craig Anderson, 21st March, 2000

His claims are however highly disputed by various other researchers. Among these is Dr. Dmitri Williams, who after a long-term study found no correlation between games and aggressive behavior⁹⁷. Dr. Henry Jenkins of MIT, even testified before Congress disputing the violence claims⁹⁸. An interesting part of Anderson's claim is that, if one reads his quoted statement again, he says that the children learn all kinds of things, and therein lays the truth. Now, if we are to assume that his statement is indeed correct, then certainly games can be used to teach the opposite. Hardly all games are violent, and thus it is safe to say children can be thought all kinds of lessons, positive ones as well.

⁹⁴ McCauley, Dennis (2007), Prensky, Marc (2006).

⁹⁵ Thompson in an open letter to ESA calling for Lowenstein's resignation, posted 2005.

⁹⁶ Prensky, Marc (2006) – “Don't bother me mom, I'm learning”.

⁹⁷ Williams, Dmitri and Skoric, Marko (2005): “Internet Fantasy Violence: A Test of Aggression in an Online Game”.

⁹⁸ Jenkins, Henry (1999): ”Professor Jenkins Goes to Washington”.

4.1.1 Addicted to games

A result of the identity creation discussed previously which happens when you play a game, and which is especially strong in MMOGs since your avatar can form relationships with other avatars (people), is that there is a risk of becoming addicted. It is no coincidence that EverQuest is often referred to as “EverCrack⁹⁹”. The bond with the avatar can in many cases prove so strong that the player prefers to stay in the virtual world rather than to live in the real world. Game addiction is however, a largely difficult problem to address, and finding solutions to game addiction is far beyond the scope of this thesis. Game addiction is after all a result of a variety of elements, from distress to love, and getting a comprehensive understanding of all the elements would require skills in fields that I do not possess (like neuroscience and psychology). For such an understanding, I would suggest reading Clark, Niels L. (2006) thesis on “Addiction and the structural characteristics of massively multiplayer online games” which you find in the bibliography. However, game addiction is a serious problem that we are likely to see a whole lot more of in the future, and ethically, one cannot ignore it when considering finding ways to use games for academic and commercial purposes.

“The situation has grown so acute that 10 South Koreans -- mostly teenagers and people in their twenties -- died in 2005 from game addiction-related causes, up from only two known deaths from 2001 to 2004, according to government officials. Most of the deaths were attributed to a disruption in blood circulation caused by sitting in a single, cramped position for too long -- a problem known as "economy class syndrome," a reference to sitting in an airplane's smallest seats on long flights.”

- Anthony Faiola, *Washington Post*, 2006

So, with game addiction being a potential problem, it should not be overlooked if games are to be used in educational training (although I’m sure some would love their pupils to be addicted to school!). I do however theorize on basis of observed behaviour from the guild MoX, as well as personal experience, that leaving your avatar is hardest the first time around,

⁹⁹ “EverCrack”, a nickname for EverQuest due to its addictive properties. The nickname is a reference to the addictive narcotic drug known as crack cocaine. See article by Jon Frankel for CBS News, 2002.

and gets easier and easier as you progress from game to game¹⁰⁰. That means that once the MMO genre matures and more titles are available at a more frequent rate, people are likely to generally become less attached to their avatars. However, on the other hand, many people do play more when the game is new, this is particularly true for Achievers and Explorers who want to get items or see the content before anyone else, so it is an argument with multiple sides that needs to be analyzed properly in another research project.

It should however, be pointed out that there are many people who are not addicted, but still play video games. As in all things in life, there are extremes in all directions.

4.2 Edutainment: Learning through games

Before we start, an understanding of what edutainment is, would be in order. In the later years there have been several games that are made for the educational market. The word “edutainment” has been coined for these educational games. Aiming to teach children how to read, write, do basic math and so forth, these games are targeting parents and teachers who want their kids to do something else than shooting monsters. While these games are fine for specialized purposes, they do not compete with commercial games, and are not the most common choice when kids fire up their computer or console to play the latest hype. And therein lays the problem of edutainment. How do you get kids to play educational games when the games they play in their free time are far superior in every department, whether it is the storyline, graphics, sound, immersion or any other aspect that makes video games entertaining? My answer is that you do not try to compete head on, but you use a better stealthier method. I call this method, “Cloaked Edutainment”. It means that instead of creating specialized games for teaching certain subjects, you cloak those subjects into the commercial games. Sounds crazy does it not? Well, some subjects are already cloaked in the commercial video games; they are just not pointed out.

¹⁰⁰ In observance of the guild Malevolents of Xibalba, abbreviated “MoX”, which is an international online guild founded in 1998.

4.2.1 The Cloaked Edutainment

This form of cloaked edutainment has existed for decades. I myself owe much of my knowledge to just this form of cloaked edutainment. But where does it exist? Usually right before our noses – in the form of a comic, game or movie. An example would be the Donald Duck writer Carl Barks. Carl Barks used Encyclopedia Britannica, hundreds of National Geographic magazines and several hours in the library to make sure the facts about the different areas that Donald, Scrooge and the others explored were correct¹⁰¹. Yet if you read a typical multi-page long comic about Scrooge, Donald, and his nephews being on an exotic trip, it does not feel like you are reading a scientific paper. Yet you are presented with a lot of scientific information, it is just disguised cleverly. One example is the story where Donald Duck raises a yacht from the ocean floor by filling it with ping pong balls. This idea was later tried by the Dane Karl Krøyer.

A 1949 Donald Duck ten-pager features Donald raising a yacht from the ocean floor by filling it with ping pong balls. In December 1965 Karl Krøyer, a Dane, lifted the sunken freight vessel Al Kuwait in the Kuwait Harbor by filling the hull with 27 million tiny inflatable balls of polystyrene. Although the suggestion is often made, Krøyer denies having been inspired by this Barks story. Some sources claim Krøyer was denied a Dutch patent registration (application number NL 6514306) for his invention on the grounds that the Barks story was a prior publication of the invention. However no definite proof of this story is available. Krøyer later successfully raised another ship off Greenland using the same method, and several other sunken vessels worldwide have since been raised by modified versions of this concept. The television show MythBusters also tested this method and was able to raise a small boat.

- Wikipedia – Carl Barks

While Krøyer claims he had not read the story, the example shows how a scientific idea can be read as one of Donald's crazy ideas, and then actually proven to work later on. It also shows how non-conventional media can be used to spread ideas far and wide. Children and adults alike all over the world are picking up facts through the Scrooge and Donald comics, whether it is information on the Mayans or how far Alexander the Great's empire stretched.

¹⁰¹ Tollesrud, Kari (2003), NRK: "Vår tids eventyr".

My suggestion is thus that academic communities collaborate with commercial video game designers to create games where the facts are indeed correct. Next we will see how this can be done through the use of the information previously learnt regarding game culture, player types, and game design techniques.

4.2.2 Distance learning

For students occupied in distant learning, the virtual worlds created for entertainment purposes might give an unexpected advantage. At Rowin's Blog¹⁰², he explains how he experienced being part of a presentation held by Dr. John Bransford on "Virtual environments as ways to organize thinking about research and education" in the online world of Second Life¹⁰³.

"At first, I was disappointed that the event had been very much like a real world lecture, with us all sitting around 'listening' to a presenter and watching a brief video. But then it occurred to me that it was the fact that this event was being held at a set time and place, and the fact that we all had some kind of visible, tangible presence within the event, that made it much more immediate and meaningful than it would have been to listen to a podcast or read a conference paper. Having been a distance learning tutor, and now being a distance learning student, the opportunity SL gives for genuine engagement with colleagues shouldn't be underestimated."

- Rowin's Blog, October 3rd, 2006

In other words, the presence and socialization a virtual *identity* provides, means that the student is given the ability to communicate, and interact, with other players (or in this case, students). The result for the student is being able to be active with the subject at hand, as opposed to passive learning by listening to a podcast, or by reading a conference paper. This advantage means that globalized education is within reach. One can easily imagine a scenario where linguistics class pupils interested in learning a particular language would be able to go

¹⁰² Rowin (2006) posted "Learning in Second Life?" in his blog where he writes about his experiences of education in virtual worlds.

¹⁰³ For John Bransford's full presentation, see the link to "Virtual environments as ways to organize thinking about research and education" in the bibliography.

online to speak and interact with the native-speakers. This brings us to the first subject which is already being indirectly and directly taught through games, linguistics.

4.2.3 Cloaked Edutainment – Linguistics

In the early days of PC gaming, blockbusters like Sierra's "King's Quest"¹⁰⁴ series had the player type out their commands for the avatar. This meant that in order for the avatar to do what you want, you were required to type out the words correctly. If you typed "Pick up ruck" instead of "Pick up rock", the avatar would simply not know what to do. Thus grammatically, the words had to be correct. For a parody game which features the same ways of controlling the avatar, see "Peasant's Quest"¹⁰⁵ by Videlectrix. There's a link in the bibliography.

Although this method of controlling the avatar is long gone, it did have serious implications, even for me. It meant that in order to play such games, I would spend hours with a dictionary nearby, looking up the words I did not understand. So by the time I was 6 years old, I had a fairly good understanding of a second language, the English language, which was purely due to my interest in games. Undoubtedly, games of today do also give a strong source for children to learn languages. One can even say that by playing games that have dialogue, you are indirectly learning a language, just in the same way as you do while watching a movie. In the example below, we will see how multiplayer online games can be used as a medium for youths from two different parts of the world to teach and learn English.

4.2.3.1 Globalized education through games

At the Game Developers Conference in 2007, Professor Edd Schneider and the student Kai Zeng tried using games in order to teach English to Chinese teens. Schneider explains the theory behind it:

¹⁰⁴ King's Quest (1984), adventure game developed by Roberta Williams for Sierra On-Line (now known as Sierra Entertainment).

¹⁰⁵ Peasant's Quest (2004), adventure game parody designed with the graphics and elements of the old Quest series games. Developed by Videlectrix.

“Basically, I took one of my classes and I said, “We’ve got Chibou High School in Shanghai. You can teach them English using any games you want.” They used WoW¹⁰⁶, Scrabble, casual games. All my students were getting up at three o’clock in the morning, putting on their headsets and chatting with these 12 year-olds in China. The Chinese kids were berserk about it. The teachers were saying it was their favorite class. It was really a win/win thing.”

- Edd Schneider, interviewed by Ruberg, Bonnie (2007)

The clue here is motivation through entertainment (games are fun!), and that they are using the familiar grounds of games to communicate. You also indirectly force communication in some of these games, as it is vital in order to survive. In example, certain quests in World of Warcraft¹⁰⁷ are undoable with just one person, so in order to do them, you will need to communicate and cooperate.

“They would say “M.T.”; it’s a Warcraft term. Or then there’s the fact that by the end you would hear the occasional “Oh shit!” Some of them were really starting to sound like Americans. A lot of time it was more a confidence thing than a language thing. Also, they’re getting conversational English they wouldn’t get in a normal class, more authentic English, with phrases they wouldn’t get in textbooks.

It’s not going to be like, “The ball is good.” It’ll be like, “You’ve got to get over there!” It’s a conversational thing. Besides, I think the biggest obstacle for a lot of Asian students who eventually come to America is the cultural difference. This sort of social interaction gives them a safe space to learn.”

- Edd Schneider, interviewed by Ruberg, Bonnie (2007)

In Schneider’s opinion, opening up the servers so that people from all over the world can play on the same server means that you will help people whose native language differs from English, to learn English, and in turn also increase the competition level, because your Guild or Clan is now not only competing against only the local guilds, but the entire world. This is unlike the current situation where European, US and Asian game versions only work on their respective server-parks.

¹⁰⁶ World of Warcraft (2004), abbreviated “WoW”, MMORPG developed by Blizzard Entertainment.

¹⁰⁷ World of Warcraft (2004), abbreviated “WoW”, MMORPG developed by Blizzard Entertainment.

"[...] it just bothered me that games are supposed to let us play together, then [for most MMOs] they split everyone up on servers. I think that's totally asinine. If you play WoW, wouldn't you like to play against the best players from China? Everyone would say "yes." What we're hoping people are going to do is say, "Let's make an ESL-friendly¹⁰⁸ server. Tell the Americans that not everyone is going to have perfect English, but they're going to want to learn."

- Edd Schneider, interviewed by Ruberg, Bonnie (2007)

4.2.4 Cloaked Edutainment – Mathematics

Unlike linguistics, mathematics in its pure form of two plus two equals four is not usually found in video games, but it exists on a variety of levels in the form of puzzles and “abstract strategic games”, which are strategy games with no chance involved. An example of a puzzle based game could be the ancient “Tower of Hanoi”, where the goal is to move disks from the first pin to the last, although only one disk can be moved at a time, and no disk may be placed upon a smaller disk.



(Picture 4 - The tower of Hanoi)

This puzzle has been in a variety of modern games, including titles like “Black & White¹⁰⁹”, “Star Wars: Knights of the Old Republic¹¹⁰”, and many others. However, seldom do commercial games have the player actually calculate the result. The above puzzle can be solved by trial and error, and while that in turn can be educating, I would have liked to see

¹⁰⁸ ESL, abbreviation for “English as Second Language”.

¹⁰⁹ Black & White (2001), a God-simulator developed by Lionhead Studios.

¹¹⁰ Star Wars: Knights of the Old Republic (2003), often abbreviated as KotOR, RPG based on the Star Wars universe and developed by Bioware.

games include the possibility for gamers to actually utilize their brains before they try. While puzzle games are fine because they are forgiving, one does not usually get any information about the underlying mechanics of the puzzle. Yes, you might have learnt the way to solve the puzzle, but did you learn the algorithm or did you just get lucky? While games like “Castle of Dr. Brain¹¹¹” are indeed challenging the mind with its variety of puzzles, it can be hard to take this knowledge and turn it into real life use. How often do you need the knowledge of how to solve the Tower of Hanoi in your day to day business? Thus, for my prototype testing, I will be looking for ways to include mathematics which can be utilized for multiple purposes.

4.2.5 Cloaked Edutainment – Management

While gaming is traditionally looked upon as a solo or small group activity, online massively multiplayer games are definitely not. Most of the MMOs on the market today require a great deal of cooperation in order to be played as intended. In example, Blizzard’s World of Warcraft¹¹² requires real-time coordination of 40 players in order to kill some of the greater monsters in the game. Those 40 players are also very likely to be of different nationalities, living in different time zones and with varying understanding of the English language, as well as varying understanding of the game mechanics. This means that a hierarchy is often necessary in order to delegate responsibility and roles.

The way this is done is usually through the use of a guild. Most MMOs have support for these in-game organizations (guilds or clans), and more often than not, include a variety of tools to determine ranks, skill-sets and so forth. This means that a guild leader will possess tools that can be used to manage hundreds of people on a day to day basis.

“I remember my mom and dad yelling at me [for playing too much] – they didn’t know I had a 200-person [online] guild to manage.”

- *Stephen Gillette, entrepreneur (Prensky, 2006)*

This also opens up a new market for recruiters to look for possible management-material. Or as IBM Institute for Business Value states;

¹¹¹ Castle of Dr. Brain (1991), puzzle adventure game developed by Sierra Online.

¹¹² World of Warcraft (2004), abbreviated “WoW”, MMORPG developed by Blizzard Entertainment.

“Globalization is placing new demands on today’s corporate leaders. As organizations continue to expand and operate in a more virtual environment, executives are being asked to provide guidance and direction to teams working across time zones and distances. In addition, the competitive environment is requiring leaders to make sense of increasingly disparate sources of information and make decisions more rapidly. In this changing environment, where can organizations turn to see the future of leadership? How can they determine the skills and tools that leaders will need to be successful? We believe that online gaming provides a window into the future of organizations and the leadership capabilities necessary to guide enterprises to success.”

- IBM Institute for Business Value, 2007

With these bold words from IBM, it would seem that management can be considered a cloaked edutainment element. I highly doubt anyone have gone and bought a MMO game because they wanted to brush up on their management skills, but those who do end up in managing roles in MMO games for large guilds certainly get to know how people react to their actions. In addition, an interesting fact is that age matters when it comes to who are likely to become guild leaders. Nick Yee’s study show that older guild leaders were much more likely to assume leadership of a guild they did not create, whereas younger guild leaders tended to have created their own guilds¹¹³. One can only assume that the guild leaders are in turn picked by the guild’s members in some form of democratic way. This correlates to IBM’s reports^{114 115} because it shows that experienced people with proven management talents are likely to take over the guild once the need arises. So perhaps searching for leader material among guild leaders, as well as training leaders through the use of games, is not such a bad idea after all.

¹¹³ Yee, Nick (2006): “The Origin of Guild Leaders”.

¹¹⁴ IBM Institute for Business Value (2007): “Virtual Worlds, Real Leaders”.

¹¹⁵ IBM Institute for Business Value (2007), “Leadership in a distributed world”.

4.2.6 Cloaked Edutainment – Economics

When it comes to the subject of economics, there's a variety of different games one can look at. First off, you have the simple trade systems where people can trade goods and items for gold with other players. Following this face to face, or far more likely, avatar to avatar trade, is the creation of virtual auction houses where players can buy or post items for sale.

The auction house and the economics in MMO games are often subject to typical real life economic effects. However, unlike real life, the economies and span of these effects are often more volatile than a real world scenario. In MMO games, inflation and deflation can be severe. In example, the release of the first World of Warcraft¹¹⁶ expansion, "The Burning Crusade¹¹⁷", resulted in sums which had previously been large, were now no longer so great, since the new areas made gathering large sums of in-game gold easier than what had previously been possible. This meant prices for items rose, and the community experienced inflation.

Secondarily, the basics of supply and demand get very apparent in online games which have some form of auction house. Players will instantly notice prices changing depending on whether or not that item is in demand. In example, high level crafting materials will typically be extremely expensive in the start, and then drop as more and more people get access to producing those materials as they level up.

However, going beyond the simple basic economics are games like EVE Online¹¹⁸. With its fully player-driven economy, the developers of EVE Online has hired economist Dr. Eyjólfur Guðmundsson to publish quarterly reports on the state of the EVE Online economy as well as ongoing analysis of other economic indicators, such as inflation, economic growth and price trends¹¹⁹. His research is designed to give players information necessary to make strategic decisions, as well as help developers understand the implications of events to the game economy.

¹¹⁶ World of Warcraft (2004), abbreviated "WoW", MMORPG developed by Blizzard Entertainment.

¹¹⁷ World of Warcraft: The Burning Crusade (2007). Expansion pack for World of Warcraft with 2,7 million copies sold in the first day. Developed by Blizzard Entertainment.

¹¹⁸ EVE-Online (2003), sci-fi MMO by CCP Games.

¹¹⁹ For Guðmundsson's quarterly EVE-Online reports, see the bibliography.

"First I watch the economy and give players basic information about the economy, like the status of the markets, historical overviews and analyzing particular events. Second, I coordinate research with universities, which is where we're seeing a great amount of interest on all kinds of social science research. Everything from governance to economics is being covered. Finally, I use all the knowledge I gather from the game to go back and enhance the product for the future."

*- Dr. Eyjólfur Guðmundsson, Economist for EVE-Online
(Interview at AGDC with Tentonhammer.com, Cody Bye, 2007)*

So, now we're not just talking about simple trading of items, but full blown economic systems, where players will specialize in certain fields. Whether they are doing mining operations, hauling goods for others, or doing player vs. player operations ranging from full blown wars to mafia-style protection money schemes¹²⁰, these specializations show us that as with real-life, players find a path they excel at, and try to be the best in that area.

The question is then if games like EVE Online can be used in actual real-life tests and simulations. After all, the beauty of a simulation is that if one fails in a virtual world, the implications are far less serious than if you fail in a real life scenario.

"If you were a large corporation, why couldn't you use EVE as a training tool to make sure that your recently hired employee could actually run a solid business, especially if the business is in a virtual world and not in a real life situation,"

*- Dr. Eyjólfur Guðmundsson, Economist for EVE Online
(Interview at AGDC with Tentonhammer.com, Cody Bye, 2007)*

In turn, universities around the world are already seeing the possibilities for studies done within the universe of EVE Online, and several universities are in contact with the developers, CCP Games, in order to arrange studies performed on the virtual world. Once released, the result of these studies could in turn provide us with more options for how to use games for cloaked edutainment purposes.

¹²⁰ In The Sims Online (2002, developed by Maxis), a notorious player-run "Sim Mafia" appeared, whose actions simulated those of the real-world mafia. With extortion, destruction of property, harassment and other actions was performed by the mafia in exchange for simoleons, the Sims in-game currency.

4.2.7 Cloaked Edutainment – History and culture

Interestingly, for World of Warcraft¹²¹, Blizzard has chosen to present a large part of the lore in the game through the use of in-game books. These books are similar to our traditional books, but they are found inside the game, and read inside the game. This is interesting because it shows one way of presenting information that is not directly necessary for the game mechanics. It basically means that if the developers saw it fitting, you could add books including any form of information, including scientific information, and one can imagine scenarios where libraries of information would be available.

An early adoption of this in-game library can be found in the game-series Civilization¹²². Civilization is a strategy game where the player takes control of a civilization in the dark ages and follows it to modern age and beyond. The player has access to a “Civlopedia”, which main use is to describe the use of the buildings and units in the game; however, it also includes historic snippets so that the player may actually learn a bit as well. In example, this is what it has to say on the “Spearman” unit:

“Though early man probably employed spears of fire-hardened wood, spearheads of knapped stone were used long before the emergence of any distinction between hunting and military weapons. Bronze spearheads closely followed the development of alloys hard enough to keep a cutting edge and represented, with the war ax, the earliest significant military application of bronze. Spearheads were also among the earliest militarily significant applications of iron, no doubt because existing patterns could be directly extrapolated from bronze to iron. Though the hafting is quite different, bronze Sumerian spearheads of the 3rd millennium BC differ only marginally in shape from the leaf-shaped spearheads of classical Greece. The spears of antiquity were relatively short, commonly less than the height of the warrior, and typically were wielded with one hand. As defensive armor and other weapons of shock combat (notably the sword and mounted troops) improved, spear shafts were made longer and the use of spearmen became increasingly specialized. The Greek hoplite's spear was about nine feet long; the Macedonian sarissa was twice that length in the period of Alexander's conquests. The Middle Ages would see the evolution of the spear into the pike and halberd.”

- Civilization III Conquests Civlopedia

¹²¹ World of Warcraft (2004), abbreviated “WoW”, MMORPG developed by Blizzard Entertainment.

¹²² Civilization (1991), turn-based empire-building strategy game originally developed by Sid Meier for Microprose. With time, multiple sequels have been released.

This shows a very simple way of adding historic information to a game. Unlike many implementations of educational information, it is not forced upon the player, but is information that the player will be seeking to understand, as it will help him or her know how to utilize the unit, and thus be successful in the game.

In a MMO setting, the same way of delivering historical information could be through the use of libraries which the avatar the player controls could enter. Since the majority of modern games also come with powerful 3D engines that allow objects to be viewed from all angles, this means that information can be described not only in text, but through the use of 3D objects, pictures, and even video and sound where applicable. An example, which is being tested in the online socializing game, Second Life¹²³, would be that the developers, or volunteers from the community, are able to create 3D visualizations of items. And thus things, that previously had to be shown in 2D, can now be shown in 3D, and thus may be easier to understand. This could in turn help students keep interest, as well as get to grasp subjects, in a more tangible way through animations and interaction.

In Second Life, museums where the player can see exhibitions already exist¹²⁴. One can imagine an art student wanting to see the inside of Louvre, but without the means of travelling to France. He or she could then instead log on to a game like Second Life (or one of its eventual successors) and get a virtual tour where he or she may virtually walk around a virtual reconstruction of the famous attraction. It would of course require significant work for such a large construction, but even so, with new and exciting technology, like Microsoft Live Labs' Photosynth¹²⁵, and the use of user-contributions (as we know from such web pages like Wikipedia) to the games; it would only be a matter of time before it happened.

¹²³ Second Life (2003), internet-based virtual world developed by Linden Research, Inc.

¹²⁴ See "Institutes and Organizations in SL" in the bibliography.

¹²⁵ Photosynth (2006), software by Microsoft Live Labs, that takes a large collection of photos of a place or an object, analyzes them for similarities, and then displays the photos in a reconstructed three-dimensional space.

4.2.8 Cloaked Edutainment – Simulations

Perhaps the most intuitive genre for educational games to exist in would be the simulations genre. Giving potential pilots the chance to experiment with a Boeing 747 in a flight simulator is obviously far more preferable than to send them up with a real aircraft. One could thus say that a simulator mimics real life to a greater degree than most other genres.

“When you are controlling an orc in a dragon-infested volcano crater, it’s obvious that you’re in a fictional world. Even with photorealistic human characters in a modern city world, unreal gaming elements, such as running score, music, and freely available weaponry, clearly indicate that you’re playing a game. Simulations on the other hand, are made to totally mimic real situations.”

- *The Book of Games, Volume 1, gameXplore (2006)*

For edutainment purposes, there are multiple games one could look at. Perhaps you want to learn more about the art of flying, and then Microsoft Flight Simulator¹²⁶ would perhaps be a logical choice. Or maybe you want to simulate being a rally driver and thus grab Colin McRae Rally¹²⁷ off the shelf. Even one of the best selling games of all time, The Sims¹²⁸, is in turn a simulation of family life.

There is little objection to the fact that the simulation genre can help people respond and react in the proper way in real life. Playing a simulator that mimics real life is after all, just practicing and exploring “What if...” scenarios in a safe way. After all, there has still to be a fatality from being hit by a virtual car!

The question at hand is though, whether or not it actually works. Are people who play Colin McRae Rally, better drivers? Or do the games make them more dangerous drivers because they believe that since it worked in a game, it will work in real life? That is of course, one of the dangers about simulations. However, according to Swedish scientist Henrik Engström, players who had played driving simulators, did indeed get better grades¹²⁹. They were more

¹²⁶ Microsoft Flight Simulator (1982), originally developed by Bruce Artwick and later on licensed to Microsoft. Highly popular simulator aiming to simulate realistic piloting of airplanes. Numerous sequels has been released.

¹²⁷ Colin McRae Rally (1998), rally racing game developed by Codemasters.

¹²⁸ The Sims (2000), strategic life-simulation game designed by Will Wright and developed by Maxis.

¹²⁹ Interview with Henrik Engström by Aftonbladet, 2007.

attentive in traffic, reacted faster in difficult situations, and drove with higher margins of safety.

“The true secret of why kids spend so much time on their games is that they are learning things they need for their twenty-first century lives.”

- Marc Prensky, 2006

So with simulations being used by NASA to train astronauts, by flight schools to train pilots, in driving training, and many other fields, how come they are not found in general schools? It would seem obvious that students who can experience everything from being a captain in Ship Simulator¹³⁰, to reading maps and piloting aircraft in World War II, to handle tax budgets in SimCity¹³¹ would get a natural advantage when it comes to experience and getting an understanding of issues beyond what is normally taught in school. In turn, simulators are often already highly realistic, and thus would need an absolute minimum of modification to be suited for academic purposes. The issue however is money, how can schools afford to implement simulators in the curriculum. In the final word section, I have provided ideas on how simulators for academic purposes can be mixed with commercial interests to create a win/win situation for both interests.

4.2.9 Cloaked Edutainment - Other studies

In addition to the above, a multitude of other studies are possible. In example could social studies based on MMOs be extremely interesting, and it is even already being done in EVE Online, where research on democracy is being done.

“At the University of Iceland, we are looking at democracy and how we can extend to the community in more democratic ways. That's a long term project.”

- Dr. Eyjólfur Guðmundsson, Economist for EVE Online
(Interview at AGDC with Tentonhammer.com, Cody Bye, 2007)

¹³⁰ Ship Simulator (2006), developed by VSTEP and released by Lighthouse Interactive.

¹³¹ SimCity (1989), city-building simulator designed by Will Wright and developed by Maxis. Highly popular with multiple sequels and spinoffs released.

Games can also be used for gymnastics and exercise, so called “Exergaming”. This is an important part because video games are usually played while sitting in front of a TV or computer screen, and thus it is rarely a physically active activity. In order to avoid the, as previously mentioned, potentially fatal problems that those who spend too much time sitting still may suffer, console giants like Nintendo have developed new ways to control the avatar that involve movement of the entire body.

In example, Nintendo’s latest console, the Nintendo Wii, has a motion sensitive controller which allows people to play Tennis, Golf or just do crazy activities like shaving sheep or throwing cows in Rayman Raving Rabbits¹³². All activities require the player to move the controller in ways which simulate the real movements, as if you would play tennis with no tennis-ball.

There is also special equipment, available for a multitude of consoles, designed for dance games that make the gamer jump around to the beat of the music in games, where “Dance Dance Revolution¹³³” may be the most well known. In 2006, Dr. Ernie Medina, Jr and Attorney Joel Peterson opened up dedicated exergaming centers such as the XRtainment Zone, where exercising is made fun by introducing games to the exercise^{134 135}. This form of entertaining exercise is a hit with youths and adults, and several academic institutions are implementing this form of Exergaming even today. In example, PCFormat reports that studies performed by the School of Physical Education at West Virginia’s state university show that the use of Dance Dance Revolution not only improves fitness, but also self-image and attitudes towards exercise. In turn, West Virginia, plan to have Dance Dance Revolution equipment in every school in the state by next year¹³⁶.

This shows that games can be successfully used for purposes beyond simple entertainment, and I believe we can expect this trend to continue. The technology is available and its up to academic institutions to take the initiative to utilize these possibilities.

¹³² Rayman Raving Rabbits (2006), game consisting of multiple mini-games, developed by Ubisoft Montpellier, developed for multiple platforms, where the Nintendo Wii version requires the player to mimic real-life (and not-so real) actions with their bodies.

¹³³ Dance Dance Revolution (1998), music game where the player stands on a pressure-sensitive controller and has to dance to the instructions on the screen. Developed by Konami.

¹³⁴ Watts, Kit (2007): “SPH alumnus uses video games to entice kids to exercise”.

¹³⁵ For more info on Xrtainment Zone, see the bibliography entry.

¹³⁶ PCFormat, issue 202, page 17.

4.3 Cloaked Edutainment – implementation and responsibility

The above shows that already, several subjects are being taught through games, but often without academic backing, and often cloaked from obvious view. It is now in large part up to the academic institutions to recognize games as a medium that can be utilized to teach the children of today. It is easy to point to the possible negative effects of gaming, by taking an extreme case and try to convince people that his grades have dropped due to gaming, or that he is overweight due to gaming. However, gamers will still play games. The important and more difficult approach, is to actually address the problem and try to implement academic information in a medium that the children, youths and adults find interesting. Is the day of the book gone, no, I do not believe so, but I do believe that games can, and do, teach a whole lot about a variety of issues, as well as provide experience that books are simply unable to give. I believe that one could get a whole lot of academic information integrated into popular games while retaining the fun, and with my prototype, I aim to prove so. The responsibility of utilizing and adapting to this new era of entertainment and information exchange is in turn up to the politicians and academic circles. However, as game designers get better at retaining the interest of the players, the old way of informing will only fall further and further behind. Luckily, there is a growing community of people wanting to reform and update the ways of informing. For more information, please check the bibliography.

5 Serious Games – Commercial Communication

Recently, the use of in-game advertisements has increased rapidly. With gaming power-houses like Electronic Arts integrating dynamic in-game advertisement back in 2006¹³⁷, and announcing that they plan to continue to integrate dynamic advertising in their upcoming games¹³⁸, there is little which suggest this trend will stop anytime soon. This is further enforced by Microsoft buying Massive¹³⁹, one of the leading in-game advertisement companies, as well as Intel's purchase of IGA, another in-game advertisement company¹⁴⁰. These are just a few of many steps that are currently underway to make advertising and commercial interests a larger part of games. Unfortunately for gamers, this also means that they may be facing a future similar to television broadcasts, constantly interrupted by commercial messages. It also means that in many cases, the use of product placement and advertisement might mean that previous game play possibilities are no longer possible. In example, if you want to use real cars in a game you will have to get a license from the car manufacturer, and if, say Mercedes-Benz, do not want it to be possible to wreck their cars, the players may all by a sudden no longer get to damage the cars in driving simulators. One could thus say that product placement and similar commercial interests might hamper the players' freedom in the games. This is however, something which can be prevented if the proper actions are taken.

Secondarily, many players, including one of the writers for the magazine Gamereactor, Jon Cato Lorentzen, say that games are an escape from reality. With people being bombarded with advertisements and other commercial messages all day from a variety of different media, Lorentzen say that when he is escaping into his virtual world, he is not interested in seeing the same advertisements he saw in the morning newspaper, on his way to work, on the TV, and so forth. He argues that real life advertisements in virtual worlds destroy a too great portion of the immersion level in these virtual worlds and thus are counter-productive to bringing entertainment to the game media¹⁴¹.

¹³⁷ Anderson, Nate (2006): "Electronic Arts inks two deals for in-game advertising".

¹³⁸ Microsoft PressPass (2007): "Premier EA Titles to Go Live in Massive Network".

¹³⁹ Anderson, Nate (2006): "Microsoft buys Massive".

¹⁴⁰ Anderson, Nate (2006): "Intel wants your eyeballs".

¹⁴¹ Lorentzen, Jon Cato (2006): "Reklameguru Meditation Error", GameReactor, Issue 43, September 2006.

Lorentzen argues that once the advertisers start offering huge sums of money for key product placements, it will take a lot of integrity from the developers to avoid cases where their hero all by a sudden smokes Camel cigarettes, drinks Coca-Cola, use only Heckler & Koch weapons and drives a BMW 740i¹⁴². This is even truer for smaller development studios, for which the increased revenue could be highly needed.

However, I believe the two can co-exist. Thus with the warnings of Lorentzen in the back of my mind, I will be examining the current status of commercial elements in virtual worlds, and then use the Renaissance prototype to test the proposed ways for commercial interests to be implemented in games. Hopefully the implementation will be at a minimal expense to the immersion and entertainment levels in the game, and preferably in a way which would increase the gamers' interest in the game.

5.1 The potential market – commercial interests

“Revenue from in-game advertising was \$56 million last year (2005), but that figure is expected to grow to at least \$732 million by 2010, according to the Yankee Group.[...]”

Advertising executives also recognize television ads may not be the most effective form of advertising for the highly coveted segment of males between ages 18 and 34, who tend to spend a lot on retail items. They are seeing this audience moving increasingly toward Web and video games.”

-Ryan Kim, San Francisco Chronicle, 2006

With an user base with an average age of 26 years old, playing on average 22 hours a week¹⁴³, and with 9 million subscribers worldwide¹⁴⁴, it should be clear that promoting a company or a product through World of Warcraft¹⁴⁵ could be very good business. Since the game developers have the possibility of monitoring what the gamer does during his time online, it should be possible to figure out what part of the game world people spend most time in. In example, one of the major gathering points for the Horde faction in World of Warcraft would

¹⁴² Lorentzen, Jon Cato (2006): “Reklameguru Meditation Error”, GameReactor, Issue 43, September 2006.

¹⁴³ Yee, Nick, The Daedalus Gateway: “Player Demographics”.

¹⁴⁴ Blizzard Entertainment (2007), press release: “World of Warcraft surpasses 9 million subscribers worldwide”.

¹⁴⁵ World of Warcraft (2004), abbreviated “WoW”, MMORPG developed by Blizzard Entertainment.

be the city of Orgrimmar. If one could find a way to make advertisements or other commercial interests available in Orgrimmar, without breaking the lore of the game in the process, one could potentially have a very good market. Ad Age also reports, although from unnamed studies, that an astonishing 30% of in-game ads were recalled by players on the short term basis, and 15% were recalled after five months, which if true, would make in-game placements superior to traditional advertising¹⁴⁶.

So far we know the average user, we know the size of the online population, we know the size of the world, we know that the developers take great care at designing their games true to the lore, we know what elements the designers use to make the games interesting, and we know the potential effects of academic and commercial communication in games, is immense. So the question is; how do you integrate and develop successful commercial communication in video games?

5.2 What is in-game advertising?

While attempts of including products and brands in games are nothing new, with brands having made cameos in video games since the early time. With one example being a version of Lunar Lander, made in 1973 by Digital Equipment Corporation, which had a McDonalds restaurant appear if you landed at the exact right location¹⁴⁷. The astronaut would come out, order a Big Mac to go, then reenter the spacecraft and take off again. Subsequently, if you crashed on top of the McDonalds, it would print out “You clod! You’ve destroyed the only McDonald’s on the Moon!”

We have come a long way since the early days of the Lunar Lander. Recent technology has made it possible to monitor and change in-game ads dynamically. With the internet now being accessible throughout an ever expanding part of the world, the requirement of having to be connected to the internet in order to play has become more commonplace. In example, game developer studio FunCom announced that all their upcoming games will require internet access¹⁴⁸. Not only is this a way for game-publishers to stop people from using illegal copies,

¹⁴⁶ Electronic Gaming Business (2004): “Can Product Placement Make Games into Media?”.

¹⁴⁷ Vedrashko, Ilya (2006): ”Advertising in Computer Games”.

¹⁴⁸ Bakken, Jonas Blich (2007), DagensIT: ”Pirater tar knekken på Zoe”.

but the requirement of an internet connection is also the golden ticket to creating in-game advertising, which unsurprisingly, is something FunCom has already been doing in Anarchy Online¹⁴⁹, thus it makes good business sense as well¹⁵⁰. With players being connected to the internet, you can monitor the amount of time spent in a game (and even in a certain area), as well as update the ads and commercials in the game. This means that ad-positions within games can be rated and priced. It also means that commercial interests can run ad-campaigns over periods of time for new products, rather than using generic logos and ads.

“At a time when we’ve learned to skip commercials on TV and ignore web banners, in-game advertising puts brands in front of the most “lean-forward” medium known to man – interactive games.[...]”

While products and brands have appeared in games for years, these product placements have historically been “hard-coded” and couldn’t be changed. Double Fusion now provides the technology that makes these advertising opportunities dynamic and real-time, so that advertisers who want to promote their products for a specific period of time, or change their messaging during the campaign, can now take advantage of the huge audience of game players.”

- Double Fuzion- In-game advertising agency

So in order to develop new ways of implementing commercial communication in games, we have to get an understanding of the different ways advertising and commercial messages are being sent in the games that exist today.

¹⁴⁹ Anarchy Online (2001), sci-fi MMORPG, developed by FunCom.

¹⁵⁰ Jenkins, David (2005), Gamasutra, “FunCom signs Anarchy Online to Massive Ad Network”.

5.2.1 Games vs. Other media

One of the greatest mistakes often done when considering implementing advertisements in games, is to believe that what works in other media will automatically work in games as well.

"In some games, ads can make it more realistic; it can look more like real life," said Albert Chae, a 19-year-old student at UC Berkeley and an avid gamer. "I don't have a problem as long as it doesn't really interfere with the play. You can't be in the way."

-Ryan Kim, San Francisco Chronicle, 2006

While under the hood, the similarities between TV and games are numerous and striking, and games are increasingly using actors and personalities from TV and films to put an edge on their games. For example, the latest Command & Conquer game, "Tiberium Wars"¹⁵¹, features professional "Lost" actor Josh Holloway, as well as other Hollywood personalities like Tricia Helfer (Battlestar Galactica) and Michael Ironside (Top Gun, Starship Troopers). These actors appear in the cut-scenes shown between missions that also help carry the progressive storyline forward. Potential commercial interests will also recognize concepts and conventions from film and television theory, like spatial orientation, camera angles, lighting, editing, character development, and dialogue¹⁵². Some shows are even entirely shot inside a game, so called machinima, like the four-season popular Red vs. Blue made in the game Halo¹⁵³ by Rooster Teeth Productions, which is sold on regular DVDs at comparable prices to mainstream TV shows. To top it off, games that require nothing but the DVD they come on, are often included on movie DVDs. An example of such a game would be Disney's Chicken Little DVD that comes with a trivia game playable with the TV remote. Movies based on games, and vice versa, are also available. So why do I say that it is a mistake to believe that what works in other media does not automatically work in games? After all, if Angelina Jolie can be Lara Croft¹⁵⁴ on the silver screen, then surely there must be elements that can be taken from the movie and placed in the game as well?

¹⁵¹ Command and Conquer 3: Tiberium Wars (2007), real time strategy game developed by Electronic Arts.

¹⁵² Vedrashko, Ilya (2006): "Advertising in Computer Games".

¹⁵³ Halo (2001), first person shooter developed by Bungie Studios.

¹⁵⁴ Lara Croft is the player-controlled main character in the popular game series "Tomb Raider" originally developed by Core Design.

While, there's little doubt that the two media are alike, and that they both use similar elements to engage and entertain the user, the main difference is that unlike a film, book, or radiobroadcast, the gamer is used to begin in charge of the action. This means that if you attempt to use standard commercial breaks in a game, you will upset instead of interest the audience. If we take a quick glance at the majority of games out there, the player is in charge of the action in more or less all of them. This is unlike a TV broadcast, where the viewer is not used to direct action. They are not used to being able to command the news-anchor to move about, nor are they used to being able to take control of a football player during a televised match. They are used to passive entertainment, where their control of the action is limited to whether or not to switch to another channel, and there is consistency in the way the entertainment is experienced. In example, television broadcasts are watched, and books are read, there is very little different in the interactivity between the medium and the user. Games on the other hand are not consistent in how they let the player interact with them.

“While the process of reading Wall Street Journal remains consistent from one issue to the other and switching to The New York Times hardly involves a steep learning curve, games differ from each other and their own sequels not only in content but also in interface design (what does this icon do?), virtual geography (how do I get from point A to point B?), the mechanics of their peripherals (what button do I push now?), hardware requirements and settings (why is my mouse so slow?) and numerous other aspects.”

- Ilya Vedrashko, *Advertising in Computer Games*, 2006

In other words, games should be treated as a new night sky, where each game is a planet that needs to be examined properly before you send a spaceship to land on it. Unfortunately, it would seem many actors believe that all games can be subject to the same treatment. To me, that would be like launching a spaceship to the moon without checking if it is made out of cheese or not. In the following section, we will see a few examples of this type of advertising attempt, where knowledge from other media is tried imposed on games.

5.2.2 Your killing of monsters will continue after this break

Recently, Ubisoft re-released several old games for free, but as ad-sponsored games¹⁵⁵. Among these games were FarCry¹⁵⁶ and Prince of Persia: The Sands of Time¹⁵⁷. These games have McDonalds advertisements placed in several places at the game menu. The advertisements are banners promoting one of the latest McDonalds menus, and they are not modified in any way to fit with the game, or game genre, that they are added in. I think everyone would agree that they look out of place¹⁵⁸. They remind me of banners found on web pages. The question I can't help asking is if this really is the best way to include advertising in a game.

Another concern is whether or not if gaming in the future will be similar to watching TV? Will the action be interrupted by commercials? Can you imagine being set in a sci-fi shooter, hunting aliens, and then be interrupted by a commercial for lipsticks followed by one asking you if you are happy with your house mortgage? It seems to be the way McDonalds and Ubisoft has tried with their latest endeavors. The free games also include a 30 second video and audio commercial every time there is a loading of a new area (or you die and have to reload an area). The response from the gamers? Not overly positive. While some say the ads are tolerable since the games are free, others have questioned the idea of having ads interrupt the action in games like FarCry¹⁵⁹. Their point is logical and valid; will it be beneficial for McDonalds to have the gamer watch a 30 second advertisement each time he or she dies in the game?

“Like with any medium, the audience appreciates good advertising, and doesn't appreciate bad advertising. In certain types of games, such as sports, racing and urban games, advertising is a natural part of the game world, and as long as the creative is appropriate and fitting, ads are a plus as they enhance reality for the player – fake ads just don't look right.

Properly advertising in other game environments (e.g., a world set in the near future) requires significant attention to creative fit and appropriateness. Adapting creative

¹⁵⁵ Fahey, Mike (2007), Kotaku: "Ubisoft Titles Go Free On Fileplanet".

¹⁵⁶ FarCry (2004), a first person shooter developed by Crytek Studios, and published by Ubisoft.

¹⁵⁷ Prince of Persia: The Sands of Time (2003), 3D action-adventure platform game by Ubisoft Montreal.

¹⁵⁸ Video of FarCry with McDonalds ads is available in the bibliography.

¹⁵⁹ See comments made to the video of a McDonalds sponsored FarCry (available in the bibliography).

approaches to fit into these game worlds can help advertisers increase their bond with their customer [...]"

- *Double Fuzion in-game advertising agency*

This is why I have decided to see if one can use similar elements from Cloaked Edutainment in cloaking commercial interests into games, so that they are integrated with the media and thus not interfere with the game-play. This is in agreement with what Vedrashko suggests:

"Game environments require constant attention so that the player can react to the changing circumstances in a timely fashion, and other media channels remain outside of player's focus even if turned on. An eventual solution to this problem could be remediation -- the organic inclusion of real-world media into gameplay so that the protagonist in Max Payne could stop by a TV set in his police office and watch an episode of Sopranos."

- *Ilya Vedrashko, Advertising in Computer Games, 2006*

5.2.3 Immersion, a two edged sword

This brings us to the question of immersion. For the player, immersion is a key factor for being able to take on the role as the main character in the game. In example, if you are to play as a soldier during World War II, the part that makes you feel like participating in a World War II setting is the fact that you're equipped with weapons from that era, you are part of the armies fighting during that era, and all the buildings and objects are made to look like they are from that time. This gives the player an immersive feeling of being part of World War II, because at the core, the player is just playing a first person shooter, and the mechanics are the same as for any FPS. The only difference between a World War II FPS and a Sci-Fi FPS is made by the immersion factor. At the core, the player can jump, run, crouch and shoot in the same way in both games, but the setting is different. The setting is imposed on the player by immersing him or her through the use of his or her expectations on what should be present in such a world. The elements used to fulfill these expectations could be robots, elves or, more interestingly, real life commercial or academic communication. But it is a two-edged sword, because it could also mean that the presence of such communication is something the player would not expect.

In other words, if you want to include commercial or academic communication in video games, it has to be done with care and thought to immersion, else it cause the game to fail to deliver the setting the story is supposed to take place in.

“Immersion in general is a double-edged sword for the advertiser. On the one hand, it imposes rigid boundaries on the type and amount of branded content that can be injected into a game, and these constraints can be too tight for a brand strategy. On the other hand, immersive environments can take player-brand interaction to an entirely new level unparalleled by other media.”

- Ilya Vedrashko

However, immersion is not only an obstacle for the advertiser. As

Vedrashko mentions, immersion means that you can actually use real products to further immerse the player into a setting. In example, in the previously mentioned World War II setting, you could advertise for products by using, or faking, advertisements that existed for that product during that time. In example, one could use old posters from that time. For Sci-fi scenarios, you can create futuristic versions of modern advertisements and so forth. For academic purposes, the game “America’s Army¹⁶⁰” show how immersion can be used to make entertainment out of a non-entertaining situation. In example, obligatory academic training in fields like First Aid, and recognition of enemy vehicles, is in the game “America’s Army” done through a virtual boot-camp where the player has to perform a series of



(Picture 5 – An old Coca-Cola ad)

¹⁶⁰ America’s Army (2002), tactical multiplayer first person shooter owned by the United States Government and developed by the MOVES Institute at the Naval Postgraduate School. It was released as a public relations initiative to help with U.S. Army recruitment.

exercises and learning procedures, but it arguably still feels like a natural part of the game, and thus remains as entertainment.

“Through America's Army, players have learned about rules of engagement (ROE), lifesaving, laws of war and Army Values, the set of noble values that are the foundation of the world's premier land force.”

- Alexis Dunham, IGN

Not only does America's Army teach the army basics to its players, but it also doubles as a very effective recruiting tool, with more than 40 million total downloads of the game¹⁶¹.

“America's Army has surpassed even the Pentagon's expectations. It's now the number one online action game in the country. The Army hasn't seen a recruiting tool this effective since "Be all that you can be.”

- Jim Acosta, CBS News

In other words, America's Army is the perfect example of how immersion can be used as an element to get the message across. It puts the gamer in the role of a soldier, and then simulates everything related to the army, thus immersing the player in such a way that the teaching done by the game does not feel like you are being taught, and the commercial message is noticed, but not noted, since it is a part of the game. Just as you would expect to sit through a mission briefing in a combat flight simulator, you are immersed by the surroundings in America's Army so that learning about the army, and its equipment seems like a natural part before you are sent off into combat.

¹⁶¹ Dunham, Alexis (2007), IGN, “America's Army PC Game Turns Five”.

5.3 Rules and regulations – is this the new wild west?

Unlike television commercials, there is yet to be set any rules and regulations for in-game advertisements¹⁶². However, some actors within the business are already pushing for rules and regulations to be decided upon. The goal is to establish rules and regulations for the types of advertisements that can be added into games, as well as guidelines for what is acceptable for the different ESRB¹⁶³ ratings. A scenario where alcohol, cigarettes, pornography or other typical adult products are advertised in games designed for younger ages, is not a scenario that I, and surely many others, would like to see.

5.4 Commercial communication in games

There are a variety of ways to convey commercial information through games. In the following pages I will explore how static advertising, dynamic advertising, product placement and recruiting can be done through games. I will also explore the growing sales of virtual products as well as sales of real products through virtual worlds.

5.4.1 Static advertising

Static advertising has existed for quite a while. By static advertising, I refer to advertisements that do not change throughout the game. The first example was seen in 1978, when Scott Adams advertised his upcoming game “Pirate Adventure” in his released game “Adventureland¹⁶⁴”. Static advertising is one of the most common ways (although that is rapidly changing) to advertise in a game. Usually the advertisement comes in the form of a simple logo or real-life campaign advert that has not been modified much, if at all, for the game. Static advertising has existed for years, with typical arenas like sports and racing games being the easiest games to implement them in. This is due to their natural expected presence in such arenas, and thus it does not break the immersion, but enforce it. The FIFA International Soccer¹⁶⁵ series have for instance a long track record for having ads as banners

¹⁶² Vitka, William (2005), CBS News: “In-Game Advertising – IGA Leads The Pack And They Might Be Getting It Just Right”.

¹⁶³ ESRB, abbreviation for “Entertainment Software Rating Board”.

¹⁶⁴ EDGE, issue 162, (May 2006), page 104-107, “The Making of Adventureland”.

¹⁶⁵ Fifa International Soccer (1993), highly popular football (soccer) game developed by EA Sports.

alongside the field. This made Fifa International Soccer one of the first examples of a game successfully integrating advertisements in a way which did not seem out of place.

Unfortunately, a lot of advertisements in games are not made to fit the genre in which they are added. Their design is usually similar to the one you would expect to find on an online webpage, and come in the form of banners and posters.



(Picture 6 - Static ads in Fifa International Soccer)

There are also examples of static advertising in the form of large eye-catching billboards. These are commonly found in sports games or racing games, with varying success, but other implementations has also been seen. An example would be Ubisoft's "Tom Clancy's Ghost Recon: Advanced Warfighter¹⁶⁶", where the player finds himself on a military mission in a Mexican suburb. Within this suburb, there are a few buildings with very large static Nokia adverts. While the adverts themselves do not necessarily break with the city's design, the problem becomes more apparent when you notice there are no other advertisements around. This complete lack of any other advertisements means that the Nokia adverts all by a sudden breaks with the immersion rather than enforce it.

This in turn is one of the major dangers with static advertisements. They will look out of place if they are alone. Even a small group of adverts will look out of place if those are the only adverts that you will ever see in the game. If one also considers the point that these static adverts cannot be modified or changed after release, there's a good chance the player will dislike them because they do not add to the game while they often remove some of the immersion. This is one of the problems that I hope to find a solution to with my Renaissance module. I will be conducting an experiment with a static ad, and place it in perhaps the most hostile-to-adverts gaming environment, a role-playing game.

¹⁶⁶ Tom Clancy's Ghost Recon Advanced Warfighter (2006), tactical first person shooter developed by Ubisoft.

5.4.2 Product placement

The second form of static advertising is product placement. Being a popular way of promoting products in movies, it is not surprising that the same is tried within games. An example of a game filled with product placements is another Ubisoft developed game series, the Splinter Cell¹⁶⁷ games, where you take control of an international super spy, Sam Fisher. Being one of the first high-profile cases of in-game advertising on next-generation gaming platforms, Splinter Cell's hero used numerous Sony Ericsson products as an aid on his missions¹⁶⁸. With the theme of the game, a high-tech near future world, giving Sam Fisher a Sony Ericsson phone and palmtop might have been seen as a good idea.

"Making games is getting more expensive, and we hope to offset some of that. But, more importantly, we're just maturing as an entertainment business, and we're finding that we have the same opportunities as, say, the movie industry. If you look at the blockbuster movies, you see that their promotional partners do very well when the movie is hot. If we follow that model, we know we can make a lot of partners happy -- and generate a lot of revenue from it."

- Steve Allison, Midway's Corporate Marketing Officer
interviewed by Paul Hyman (2005)

One of the interesting parts about product placement is that it is on the rise due to the fact that people find intrusive ads between television shows and movies to be highly annoying, boring and irrelevant to the entertainment that they want to enjoy¹⁶⁹. This is also the reaction to a large part of the players of the McDonalds sponsored FarCry¹⁷⁰. People simply do not want to spend their time watching advertisements that they have not asked for. Which when one thinks of it, may be related to the same problems the schools face, students are not instantly interested in learning a subject they do not have any interest in. Advertising through product placement makes the commercial break unnecessary, and thus in turn makes it a more acceptable form of advertising for the consumer. However, concern for the consumer is not the main reason for why product placement is on the rise.

¹⁶⁷ Tom Clancy's Splinter Cell (2002), stealth-based tactical 3rd person shooter developed by Ubisoft.

¹⁶⁸ Rocha, Roberto (2006), The Montreal Gazette: "Product placement enters virtual world".

¹⁶⁹ Cohen, Nancy (2006): "Virtual Product Placement Infiltrates TV, Film, Games".

¹⁷⁰ Video of FarCry with McDonalds ads is available in the bibliography.

So what is causing product placement to increase in popularity? For the television, Nancy Cohen points to the introduction of TiVo¹⁷¹ as a factor. The availability of TiVo means that mass-media consumers can simply configure their entertainment systems so that they will not be interrupted by reminders on what to eat, what to shampoo their hair with, or how to throw their money the most efficient way out of the window. So now that technology is available that makes it possible to avoid the interruptions, the consumer is utilizing the means to avoid them. The same happened to FarCry, with people finding ways to avoid the McDonalds ads within hours of the release. So the introduction of product placement as a way to promote products in games is a natural progression. However, many games do not have a suitable setting for product placements. In example, adding cell-phones to a middle-age role-playing game would simply not make any sense. Thus the most frequent use of product placement, and most likely the most efficient way is to use product placements as ways to enhance the game itself with a feeling of reality. This is already being done in games like Need for Speed Underground¹⁷² which features real life brands used for car styling, and in the Tiger Woods PGA Tour¹⁷³ games, you can dress your character in clothes with real life brands.

So if we are to look at the development of product placement in movies (and subsequently games), versus the development of “we will be back after the break” advertisements, the logical conclusion is that people have a higher degree of tolerance to the product placements because they are not entertainment stoppers. Interestingly, lead game designer Robert Trifts at Roxidy Games (previously DLA) said that when they did bug-testing of The Wyvern Crown of Cormyr¹⁷⁴, the bugs that were most important to fix, were those that are action-stoppers¹⁷⁵. So if the most important bugs to fix are the ones that stop the game from proceeding, then why include intentional action-stopping advertisements? In that case, you are likely to be better off with well integrated product placements and dynamic advertisements, as they run parallel with the game, and thus do not force breaks upon the player. This is agreement with Chris Schembri, an executive for Discovery Channel, who stated;

¹⁷¹ TiVo, popular digital video recorder that allows the user to record television programmes to an internal harddrive and then view them later on or simultaneously through a feature called time-shifting.

¹⁷² Need for Speed Underground (2003) is a racing game developed by EA Black Box.

¹⁷³ Tiger Woods PGA Tour 07 (2006) is a golf simulation game developed by EA Sports.

¹⁷⁴ The Wyvern Crown of Cormyr (2006) is a premium expansion pack module made by DLA for Neverwinter Nights (Bioware, 2002).

¹⁷⁵ Stated during DLA (now Roxidy) development team meeting discussing the handling of bugs.

"Gamers don't want to be marketed to in a traditional way; they want to play the game. If you can enhance that experience, it's the smartest thing you can do."

- *Chris Schembri, Discovery Channel executive
in an interview by Frank Rose, Wired Magazine*

Schembri was in turn the person who negotiated a deal to use Gears of War¹⁷⁶, a futuristic shooter set on a planet overrun by mutants and thus not an ideal place for conventional ads, as a means to advertise for Discovery's FutureWeapons TV series. Thus Discovery paid to develop two new multiplayer maps, offered freely at Xbox Live. The result being downloads exceeding expectations, ratings were great, and fans of the game sang Discovery's praise¹⁷⁷.

5.4.3 Dynamic advertising

One of the problems with static advertising methods like product placements or traditional static advertisements is that they have to be decided on a long time in advance in order for the game developers to be able to implement them in the game. However, dynamic advertising seek to change this.

"Two- and three-year game development cycles are not in tune with brand campaign cycles, and it is difficult to integrate in-game placement with a larger brand campaign when ship dates slip habitually in this industry."

- *Karim Sanjabi, VP of Creative and Technology, Carat Interactive
to Electronic Gaming Business (2004)*

Dynamic in-game advertising is based on the use of the internet to determine suitable advertisements depending on the time and location at which the game is played. In example, if I am registered as playing from Norway, the advertisement might show ads for television shows for a local television channel. The difference from static advertising is that the ad itself can be changed remotely by advertising agencies. This means that unlike static advertisements, dynamic ads do not need to be formulated and agreed on ahead of release, but can be suitable for short-term campaigns or change with the time of day. Thus making it

¹⁷⁶ Gears of War (2006), tactical third person shooter developed by Epic Games.

¹⁷⁷ Rose, Frank (2007), Wired Magazine: "Embedding Ads Into Games Seemed Like a Good Idea".

possible to reach different target groups depending on when you air the ad in-game. This does however pose a problem with game ratings, as potentially, ads for products not suited for youngsters might be included. This potential problem aside, being able to track how much time is spent in front of an ad also has unexpected advantages.

“Because ad units can be tracked immediately, we can determine how many times a character walks past or interacts with an ad. So if the character is stuck in front of a brick wall with an ad poster on it, we know that the level might be too hard. We now see the ad-tracking system as a way to find ways to improve on a game's design.”

- Dave Miller, THQ, to Reena Jana (2006), *Business Week*

Dynamic advertising is making its way into multiple games. FunCom, in cooperation with Massive Incorporated, showed the potential of dynamic advertisement when they released a free version of the MMO game *Anarchy Online*¹⁷⁸. This meant that those who did not subscribe, and thus did not pay the monthly fee, could still play the game, but would be subjected to various in-game dynamic advertisements. Those who did pay the monthly fee, were not affected. This shows one possibility of the use of in-game advertisement, and it is a business model which others are sure to follow in the future.

This in turn means that dynamic advertisement sponsored games can replace the previous Shareware system, and thus help limit pirating of software, as people get a chance to play the game before they buy it (or just keep playing for free for that matter).

Dynamic advertising also means that people can interact with the advert in game. This means that if a player spots a particularly interesting advertisement, he or she may interact with it in order to get further information. This is a big difference from printed, television, and radio broadcasted advertisements, which do not allow any form of interactivity. One can easily imagine a future where a gamer sees an interesting advertisement in a game, clicks it, gets further information, purchases the item with a credit card, and then continue playing, without ever leaving the game. Thus merging entertainment and shopping in a whole new way.

¹⁷⁸ *Anarchy Online* (2001), sci-fi MMORPG, developed by FunCom.

In other words, the potential for dynamic advertising is huge. With the increase of bandwidth, the possibility of streaming media like video, sound and music becomes possible as well. This means that your MMO game character might be able to listen to radio-style broadcasted music in his apartment in the virtual world, or even the possibility of showing real television commercials on the TV-sets in the virtual world. In the end, dynamic advertising is without a doubt going to make a big impact on games as we know them. And all the big actors, like Microsoft, Intel, and several others, are already lining up to make sure they are getting a slice of the cake^{179 180}.

5.4.4 Games as a recruitment tool

Companies trying to reach computer-savvy young recruits are beginning to notice video games as means to recruit new personnel. Most noteworthy among these is America's Army¹⁸¹, a free online game that allows the gamers to virtually experience life in America's Army. Not only a highly successful game, it is also a great



(Picture 7 - An in-game recruitment ad)

recruitment tool. Recruiters are present at all game-convention booths and cyber-athlete league tournaments, and information on how to join the army is readily available. Playing catch up is British intelligence branch GCHQ (Government Communication Headquarters) who are now advertising job openings in video games like "Tom Clancy's Splinter Cell: Double Agent¹⁸²". This shows a method of recruiting through the use of dynamic ads in a commercially developed game, as opposed to recruiting through releasing your own game as was the case with America's Army.

¹⁷⁹ Anderson, Nate (2006): "Microsoft buys Massive".

¹⁸⁰ Vitka, William, CBS News (2005): "In-Game Advertising - IGA Worldgroup Leads The Pack And They Might Be Getting It Just Right"

¹⁸¹ America's Army (2002), tactical multiplayer first person shooter owned by the United States Government and developed by the MOVES Institute at the Naval Postgraduate School. It was released as a public relations initiative to help with U.S. Army recruitment.

¹⁸² Tom Clancy's Splinter Cell: Double Agent (2006), stealth based tactical 3rd person shooter developed by Ubisoft.

The question is though whether or not games can be used to actually screen the possible candidates before they apply. In example, could you place the recruitment ad in an area only accessible in the game after a special quest, where the player utilize the skills needed for the advertised job, has been completed? Thus the game would work as a simulation of the job and recruitment efforts can be narrowed and directed towards a more fitting audience. On this front, gaming communities are ahead of the commercial interests. Guilds are already known for utilizing similarities to this recruitment approach, demanding that applicants must have completed certain in-game tasks before they are allowed to join. As one of the officers, Chris “Zarr” Johnson in the online guild MoX¹⁸³ says;

“When recruiting for MoX, we use a two-week trial system during which the recruit must socialize and get to know other MoX players, who in turn will vouch for them in their recruitment post. In some cases we also have minimum level and equipment requirements. The result is that our recruits have proven capability in cooperating with others, is dedicated to the task, and is willing to contribute, as the trial period and requirements prevent those who only seek to take advantage of the guild to get access. This in turn leads to a happy contributing community with far less internal conflicts and unwanted incidents “.

- Chris “Zarr” Johnson, Officer in the guild MoX

If set to a commercial aspect, this means that games and simulations could in turn be used as means to determine the abilities of a recruitment prospect. Unsure about a potential new section-leader in the company? Test his or her leadership abilities by having them lead a few co-workers around in a MMO. Perhaps IBM is not that mistaken when they look to guild leaders for potential new corporate leaders¹⁸⁴, they may after all be the leaders of tomorrow.

¹⁸³ MoX, or “Malevolents of Xibalba”, is a large international gaming guild with excess of 300 members which I have had the privilege to do research on, both from a player and officer perspective.

¹⁸⁴ IBM Institute for Business Value (2007): ”Virtual Worlds, Real Leaders”.

5.4.5 Utilizing player creativity

“Players often create and incorporate items that closely resemble real-world brands (you can drive a fan-made truck around the cities of Grand Theft Auto), but marketers have only recently begun to make a conscious effort and provide necessary tools to cash in on player creativity.”

- Ilya Vedrashko, *Advertising in Computer Games, 2006*

One of the early attempts on utilizing a MMO guild to create promotional material for a MMO game was done by Sony Online Entertainment (SOE), who recruited the guild “Devil Dogs” to create videos¹⁸⁵ that shows how the game “PlanetSide¹⁸⁶” could be played. This way of using a guild for such a purpose, gave them the ability to show aspects of the game that cannot be simulated through the use of NPCs. The videos show typical behavior in a large guild that would be hard to create in an in-house environment using only game developers. In this way, SOE could have 80 coordinated players showcasing the best parts of the game at a minimal cost.

As for other games, sponsoring cyber-athlete teams is a practice that has been around for a while now. Companies like Creative even brand their products with known cyber-athlete names, with “Sound Blaster® X-Fi Xtreme Gamer - Fatal1ty Professional Series” being an example. They simply added the online nickname of Jonathan “Fatal1ty” Wendel, a 26 year old gamer who have won multiple competitions, and thus created a whole product-line targeting gamers. Simple and effective! The brand Fatal1ty is now instantly recognized as products designed for the gamer.

This shows that with the knowledge of game culture, player types, and perhaps most importantly, the difference between the Zerg-guilds, Elite-guilds and mafia-style guilds (as discussed previously), one has access to a big resource which can be utilized to promote a brand or product.

¹⁸⁵ Devil Dogs promotional video links are available in the bibliography.

¹⁸⁶ PlanetSide (2003) is a MMOFPS developed by Sony Online Entertainment.

5.4.6 Make a living off a game: Virtual goods and currency

While some games, like *Second Life*¹⁸⁷, allow players to exchange virtual money for real currency, other games often have strict rules prohibiting such exchanges. Most MMO games these days are having trouble with their in-game economy being inflated by gold-sellers, and thus try to stop these “gold sellers”. While the common online term, “Chinese farmer¹⁸⁸”, may not be the most politically correct, it is the term used for people who kill monsters or collect objects for the sole sake of making in-game money, and then sell this in-game money to other players for real money. The dollars made from selling virtual gold and items are in turn enough to make a living in countries like China.

“It was an hour before midnight, three hours into the night shift with nine more to go. At his workstation in a small, fluorescent-lighted office space in Nanjing, China, Li Qiwen sat shirtless and chain-smoking, gazing purposefully at the online computer game in front of him. The screen showed a lightly wooded mountain terrain, studded with castle ruins and grazing deer, in which warrior monks milled about. Li, or rather his staff-wielding wizard character, had been slaying the enemy monks since 8 p.m., mouse-clicking on one corpse after another, each time gathering a few dozen virtual coins — and maybe a magic weapon or two — into an increasingly laden backpack. Twelve hours a night, seven nights a week, with only two or three nights off per month, this is what Li does — for a living.”

- *The Life of the Chinese Gold Farmer, Julian Dibbel (2007), New York Times*

While most games still do not allow trading of virtual goods for real money, some games like “*EverQuest 2*¹⁸⁹” support this trade through official sites, like the Station Exchange, where players can buy virtual items directly from Sony Online Entertainment. With real world sales of virtual goods surpassing \$100 million worldwide in 2004 according to MMO game economy specialist Edward Castronova¹⁹⁰, this is a vastly growing market. Even websites like Facebook¹⁹¹ allow you to buy virtual items that you can send to your friends (virtually of course!).

¹⁸⁷ *Second Life* (2003), internet-based virtual world developed by Linden Research, Inc.

¹⁸⁸ The term “farming” is used in MMOGs for looting (harvesting) specific monsters or resources over and over. It does not mean a person interested in agriculture!

¹⁸⁹ *EverQuest 2* (2004), abbreviated “EQ2”, MMORPG developed by Sony Online Entertainment.

¹⁹⁰ Bieber, Celeste (2004), *NewsScientist*: “Sales in virtual goods top \$100 million”.

¹⁹¹ Facebook (2004) is a social networking website founded by Mark Zuckerberg.

“The question is why they [virtual items] have value, and Robert Scoble began the moderating of one Virtual Goods panel by noting a real Swiss watch that sells for \$20,000—roughly \$19,500 more than meaningful functionality and quality would ever require.”

- *James Au Wagner, Making Real Money from Virtual Goods, reporting from the Virtual Goods Summit*

If we are to look to the eastern markets, where everything digital is a greater part of their social culture, one sees the effects more clearly. Issued by Tencent, China’s largest instant-messaging service provider with more than 220 million users, the “QQ” virtual coin has become so popular that the country’s central bank is worried that it could affect the value of the yuan¹⁹². The “QQ” coin can be bought at 1 yuan per coin, and was designed to allow users to pay for electronic greeting cards, online games and so forth. However, reports indicate that they are now being used for black market less savory services, such as online gambling and private chats with “QQ girls”¹⁹³.

As for other examples, the Playstation 3, Nintendo Wii, and Xbox 360 all support a virtual currency (i.e. Wii Points) that are used to pay for downloadable content. Where this trade in virtual currency will end is yet to be seen, but I do know that the trend of using virtual currencies, and the trade of these, is on the rise. And companies, who want to sell their products online, should take heed.

5.4.7 Selling real goods in virtual worlds

While there is a growing market for virtual goods, is there also a growing market for real goods to be sold in virtual worlds? After all, gamers too have to eat, drink, sleep, and even go outside from time to time (or so it is rumored!). But with most things now being possible to buy over the internet, why are they not directly available inside your favorite MMOG?

This must have been what the developers of “Everquest 2¹⁹⁴” were thinking when they added the /pizza command to the game. With the slogan, “Hunger pains interrupting your game?”

¹⁹² Tchong, Michael (2007), China Trends: “Beijing Regulators Rein in Virtual Money”.

¹⁹³ Ewing, Kent (2006), Asia Times: “China’s virtual currency threatens the yuan”.

¹⁹⁴ EverQuest 2 (2004), abbreviated “EQ2”, MMORPG developed by Sony Online Entertainment.

Order pizza while playing!”, Everquest 2 allows players to order pizza from Pizza Hut while playing¹⁹⁵. It has proven to be a success, and SOE extended its deal with Pizza Hut¹⁹⁶.

However, John Smedley, President at Sony Online Entertainment, say that they do not want to add other similar ideas if it does not provide an incentive for the player.

"Let's say we do '/cd'. "You type that in and with one click pay for [the compact disc] and it gets sent to you. The important thing to me is that the users get a deep discount. We don't want to spam the users. I want this to be something they see as a benefit."

*- John Smedley, President at Sony Online Entertainment
in an interview by Chris Morris to Game Over, CNN Money*

This is in agreement with my previous arguments that the game must get priority, and all added commercial and academic elements must be integrated into the game in a way that makes them feel like a bonus, not an annoyance.

One of the questions is, when does virtual goods become real goods? It might seem like an odd question, but in Second Life¹⁹⁷, players are allowed to create their own parts of the world and then sell them for virtual currency that is exchangeable to real world currency. This means that successful designers of virtual items can make an actual living of selling their creations in the game. In example, the Norwegian newspaper “Dagens Næringsliv” reported that Anshe Chung, a real-estate businesswoman in the virtual world of Second Life has earned millions of real-life currency on her real-estate, or virtual-estate, business¹⁹⁸. With her business she also shows that there is a possibility and market for doing real work creating virtual goods, then sell it for virtual currency exchangeable to real currency. A concept which is closing on that out of a sci-fi book, where the differences between what is virtual and what is real get diffuse, because people do business in both. Will you be going to virtual work to create virtual goods (or real life goods) in the future?

¹⁹⁵ Svensson, Peter (2005), USA TODAY / Associated Press: ”Sony builds pizza-order function into Everquest II”.

¹⁹⁶ Morris, Chris (2005), Game Over, CNN Money: ”Moving Beyond EverQuest – Sony looks to expand its online gaming division beyond the world of swords and sorcery”.

¹⁹⁷ Second Life (2003), internet-based virtual world developed by Linden Research, Inc.

¹⁹⁸ Møst, Morten (2006), Dagens Næringsliv: “Et annet liv”.

5.5 Cloaking commercial interests

As you are likely to have understood by now, I am of the opinion that integration and cloaking academic and commercial communication is the way to go. For these purposes, there is however two interesting concepts that already exist, that are worth looking at. The first one is the existence of fake advertisements in games, and the second is the concept of subliminal messages.

5.5.1 Fake ads vs. Real ads

An interesting and fairly common implementation in games is the addition of fake products and adverts. You will find soda-machines with fake soda labels, billboards for fake products, cars which look like real cars, but with fake names, and so forth. It seems that in order to create a believable environment, the lack of any commercials or advertisements will create a void that we expect to be filled from our real life experiences. It is sort of a paradox that developers have to create fake advertisements to take the place where one would expect to find advertisements in real life. Does this in turn mean that adding real advertisements to games, if done properly, would add to the enjoyment of the game, rather than to subtract from it? After all, it would enhance the realism if those soda machines had real soda ads on them, would it not? However, a mix of the two might be the best, because then you can create ads that fit the genre to mask the ones that are taken from real life. Whether or not this cloaking of real ads by using fake ads works, is a theory that I will test with my prototype.

In my opinion, it is even necessary to use fake ads to successfully integrate real ads into certain game genres. An example would be a typical Dungeons and Dragons role-playing game, which does not typically have any advertisements in it. Thus, in order to avoid the previously mentioned problem of the ad being the only advertisement visible, you create fake advertisements for fake products in the game. “Elminster’s miracle healing potion”, “See in the dark with Nighthawk’s Dark Vision” or just simply notices like “The countryside is under ceaseless attack, help defend our land, join the Royal Guard today!”. Of course, the danger with mixing real advertisements with fake ones is that the real ads will go unnoticed. However, that brings us to the next chapter, concerning subliminal messages.

5.5.2 Using subliminal advertisements

After giving the problem of real advertisements becoming unnoticeable, if mixed with fake advertisements, quite a bit of thought, I believe the answer might lie within the realm of subliminal messages. Subliminal advertisements are often referred to as messages that are just blinks on the TV screen that are picked up by the brain but ignored by the people watching. The idea behind it is that you can influence the person watching without them knowing of it, and thus, this way of advertising is banned in most countries. However, for use in games, they are more interesting, because unlike a TV show, there is no set time frame. So if you want to send a message, you can simply place it in the background, and it will be picked up over and over, much like when you drive past billboards in real life. On large you will ignore them, but over time the message will get through.

“If you have a difficult task, you are going to apply all of your brain processing resources to it...but if they are idle then they are automatically dedicated to all the stuff that is happening, irrespective of whether they are relevant to your task or not.”

- *Bahador Bahrami, lead researcher at the Institute of Cognitive Neuroscience at University College London, in interview by Praities, Nigel (2007), FirstScience*

Unfortunately, I do not possess knowledge in the field of neuroscience, but if Bahrami's statement is true, then logic should suggest that in a MMOG setting, where you often spend time in the city after completing tasks, crafting items, selling things on the Auction House, or just talking to people, there should be large possibilities for such subliminal messages to exist on a basis which does not make them detract from the game. Does this in turn mean that cloaking advertisements into a game would be possible at the premises of the game, and not of the advertiser? Seeing as the message would get through regardless. I will thus try to cloak a well known brand, Pepsi, into a very hostile ad-world, a typical role-playing game world. The result you will find in the chapter regarding the prototype.

6 Prototype and Future Work, User-view

The following sections relates to the Prototype I have created for use as testing grounds for the theories discovered in the previous chapters, as well as discussion on future work that would be possible. I have divided the information about the Prototype in a User-view and a Technical Aspect section. This was done so people not interested in the technical information may choose to skip it.

I have conducted my tests by designing different academic and commercial communication scenarios within a game module created for Neverwinter Nights 2¹⁹⁹. For a full understanding of why I chose the Neverwinter Nights 2 and the accompanying toolset, please see the Prototype, Technical aspect section.

The aim of the prototype is to test and to determine ways for academic and commercial communication to coexist with the story, setting and entertainment of the game.



(Picture 8 - Use the journal if you get lost)

¹⁹⁹ Neverwinter Nights 2 (2006), RPG based on Dungeons and Dragons rules, developed by Obsidian Entertainment.

6.1 Cloaking academic communication into video games

The following are ideas on how academic communication can be integrated into games on the game's premises.

6.1.1 Communication of academic information: Physics

One of the latest and most interesting developments in the latest games is the use of advanced physics engines. Utilized to great effect in games like Half-Life 2²⁰⁰, where physics puzzles are included, and where the player have to utilize the gaming environment in order to get past obstacles. In example, barrels have to be used to create buoyancy to objects that would otherwise sink. Debris might be used to create a counter-weight for the player avatar when he or she tries to reach certain areas, and so forth. This in turn teaches the gamer something about physics.

In the prototype scenario, which is based on an engine without such an advanced physics engine, the player is confronted with a dwarf by the name of Hrothgar Ironfist, who needs help hoisting some crates off the Dock. His problem is that he does not know the gravitational pull, and the wizard who does know, a shabby fellow by the name Eldrir, is drunk somewhere in the city. The player is then assigned the quest to find Eldrir, and learn what the gravitational pull is. However, Eldrir in turn is drunk, and does not fully remember, so he gives three options. However, the player also gets to know it is the same gravitational pull as in real life, and could thus look it up if he or she wants to be on the safe side. While the Prototype is very forgiving if you give Hrothgar Ironfist the wrong information, this is a scenario where the player could get punished for giving the wrong information, and rewarded for giving the correct information. In the Prototype's case however, the conversation script is made so that you will eventually give the correct answer regardless. This is simply because I want to showcase more than one scenario, and thus killing the player would not make much sense.

²⁰⁰ Half-Life 2 (2004), sci-fi first person shooter developed by Valve Software Corporation.

6.1.2 Linguistics – Learning a language through NPCs and localization

While most games have English dialogue and text, there are also localized versions that provide native languages in the games. This means that if say, you are to teach Norwegian teenagers the German language; you can provide the students with a game localized for Germany. The difference between a game and a book is that games usually have visual markers that give the words and sentences a context, much like a movie would, but unlike movies, you can take your time. Thus you get the best from both worlds.

In an online game, this also means that you can communicate and socialize in a non-threatening environment, which may help students that does not like speaking a foreign language in class. This form of edutainment is perhaps the easiest to implement, as nothing but a localized version of the game is needed. An alternative is of course to make a game modification which utilizes a group of NPCs that only speak a foreign language. This would ease the learning curve and provide the interface in a language the player understands, while interaction would require the player to actively attempt to learn a foreign language. This would be similar to all those who learned English by playing adventure-games like King's Quest, which required text-input in English in order to control the avatar. As an example, I have included a Norwegian-speaking NPC in the prototype, as shown in the picture below. You will find him in the Park in the center of town.



(Picture 9 - Linguistics test in prototype)

6.1.3 Converting academic information to a game story

One of the possibilities I examined was whether or not I could convert a text written about the Renaissance in a way so that the essence of the text would be presented inside the prototype as the story-line. The wanted result would be to seamlessly provide serious information by cloaking it as the story-line of the game, much like the before mentioned Donald Duck stories that feature facts where applicable. The way I set out to do this was to make sure that the NPCs had provided tidbits of information in their dialogue, where the player would select the response they wanted to learn more about. In the prototype, you are greeted by a person dressed up as Leonardo da Vinci (within reason, as I do not possess the full knowledge of 3D modeling new outfits). He in turn tells you a bit about Leonardo da Vinci if the player is interested, as shown in the picture below.



Renaissance Faire? Why the Renaissance? Sounds dull...

What? The Renaissance ain't dull! It was one of the greatest times in human history! I for one, is dressed up as Leonardo da Vinci. One of the greatest human inventors ever!

(Picture 10 - Leonardo da Vinci, prototype)

With the use of dialogue with a NPC to present information, you can add multiple academic subjects to a game. The cloaking of the academic text can in turn be done by multiple methods. The information can be made involuntarily, by cloaking it in the main obligatory dialogue. The second option is to make it voluntarily, by giving the player an option in the dialogue to pursue further information. And finally it can be made as something the player needs to know in order to proceed, in example if the information is needed to complete a quest.

Unfortunately, due to the timeframe in which the prototype had to be finished, as well as the requirements for added artwork, I was only able to create an extract of the text. As you will see in the “Future work: Designing games based on historically correct eras” section which follows, this is a field that can be expanded on.

6.1.4 Future work: Designing games based on historically correct eras

As previously mentioned, one of the parts of my prototype that was simply too large of an undertaking to fully integrate, was the inclusion of a story-line based on a historical era. However, as a joint project between MIT and University of Wisconsin Madison, they created an online history game prototype, called “The Colonial Williamsburg: Revolution” by using the Aurora toolset accompanying Neverwinter Nights (the prequel to Neverwinter Nights 2). The game modification allows students to experience the social, economic and political lives of the town’s inhabitants. If we take this idea and utilize it for cloaking purposes, we get a game which could take place in a historical era, but where the game design techniques are utilized in order to create a commercially interesting game. In turn you erase the differences between edutainment and entertainment. With extended resources, such a prototype may be possible to make for Neverwinter Nights 2, or other engines for that matter. A link for download of “The Colonial Williamsburg: Revolution” is available in the bibliography.

6.1.5 Future work: Communication of mathematics

Some math and knowledge of economics might be needed for trading items for gold in games, but in general, the use of math is limited in video games. So how do you make a subject like math appeal to the player inside a game? In my opinion, the clue would be to give it a setting. An example would be to explain the formula for determining ballistics trajectory for say, a catapult or trebuchet, so that you hit the incoming enemy forces. An example quest could go like this:

NPC: Hey, you're [PLAYERNAME] aren't you? [NPCNAME] said you were a bright fella, perhaps you could help us out? Our long range trebuchet teams are having trouble calculating the trajectory for the ordinance. Our target practices have all been off the mark, and we're expecting an enemy offensive later tonight!

As the player accepts the quest, he or she is given a view of the trebuchet, as well as the information needed to calculate the trajectory (the formula). To make it impossible to just look up the answer, one could simply make the wind speed or stone weight a variable. After a few successful practice runs, the enemy offensive mentioned earlier begins, and the player has to do the calculations correctly in order to defeat the offensive.

The advantage of this method is that it shows a real use for math in a more practical manner than just doing exercises at school. The player (or student if you wish) will also get a reward in form of a quest-reward (gold or items), as well as the satisfaction of knowing that his or her calculations actually vanquished the enemies! In a MMOG setting, this could in turn be expanded on in multiple directions, ranging from international math competitions to war-simulations.

6.1.6 Future Work: Diplomacy

An often overlooked feature in games is the unspoken learning of diplomacy. Often players must solve conflicts between NPC factions. This in turn could be used for educational purposes in a MMOG setting where schools from different parts of the world could engage in scenarios where global issues and diplomacy is simulated. The use of an MMOG for this purpose means that students may get the ability to simulate scenarios where the cultural

differences are present, as opposed to a local simulation, where people are forced to role-play a certain culture or view in order to create opposition. The latter form is already practiced in schools, so why not expand it to encompass a global scale, and thus in turn make it more realistic? In turn, teachers could control the simulation progress by creating unexpected events, just like a Dungeon Master can place obstacles for a party of adventurers in a RPG.

6.2 Cloaking commercial communication into video games

The following are ideas on how commercial communication can be integrated into games on the game's premises.

6.2.1 Cloaking a well known brand into a RPG game world

While certain game genres have natural locations for advertisements to exist, one of the questions I get asked the most by both gamers and non-gamers when I tell them about my thesis is, "How would you add advertisements to, say World of Warcraft²⁰¹? It would not fit at all, and it can't be done!".

Well, I disagree. It can be done, but as discussed previously, the game design elements have to get priority. You cannot successfully integrate ads in a game if you do not make them fit the game they are supposed to be in. If you fail to give the game priority, the gamers that you want to attract to your product, will become angry at the advertisements and identify the logo as the thing that broke their game. This in turn would most likely not be good for the sale of the product!

In the picture below, we see a standard Pepsi logo. The reasoning for choosing Pepsi as a research product is that it is a well known brand, with strong colors, an easy to recognize logo, and many of the elements that would make it an unlikely candidate to fit in a RPG world. If you show this logo to a kid, they will immediately know that it is for a soda drink.

²⁰¹ World of Warcraft (2004), abbreviated "WoW", MMORPG developed by Blizzard Entertainment.



(Picture 11 - Original Pepsi Logo)

So how do we go about including this advertisement for Pepsi in a way which still makes it recognizable, but at the game world's terms? In order to do this, I utilize three techniques identified in the previous chapters.

6.2.1.1 Technique 1, making the theme of the advertisement fit the game world

Now, in this weatherworn harbor city, seeing flashy advertisements would be out of place. Thus the logo had to be modified to suit the theme. The result was a slightly more weatherworn version of the same logo, shown below. This leaves the logo still recognizable, and it should still not be a problem to see that it is a Pepsi logo, which is of the utmost importance, because the clue of an advert is to make it recognizable when you go shopping. Obviously, the reduction of the colors do make it slightly harder to recognize, but integrating adverts into games will require some compromises to be done, else it will ruin the game, and thus the gamers will be angry at the adverts instead of just recognizing them. Having bright shiny red and blue colors in an else fairly worn and dirty world would not work.

The result of the changes is shown below.



(Picture 12 - A RPG themed Pepsi logo)

6.2.1.2 Technique 2, mixing the advert with the game world

Now that we have the basic premises for a logo, one has to integrate it properly into the game world. Logically, having a single logo like that on an else barren wall would seem out of place, as shown in the analysis of static advertisements, with example of the Nokia advert found in “Tom Clancy’s Ghost Recon: Advanced Warfighter²⁰²”. So, in order to integrate the logo with the game world, I decided to put it in a place where it would naturally belong, by an outdoor tavern, named “The Prancing Mule”. This is a place where people would expect posters and where advertisements would not seem out of place (as opposed to say, the depths of a dungeon for a fallen king, where it certainly would be out of place!). So, now it is mixed with the game world while also being able to link the advert with food, drinks and a tavern. Not a bad start, but it would still look out of place unless a third technique is used.

6.2.1.3 Technique 3, making it appear seamless in the game world

In order to complete the cloaking process, I look to what is already very common in games, fake advertisements. While the outdoor tavern area is well suited for a Pepsi ad, and could in turn perhaps be enough for some, I feel that if you want to completely integrate the advert, you have to cloak it further, and I thus use the technique of mixing in fake ads with the real one. If one mix the Pepsi advert with other notes, posters and typical RPG elements, one get a more believable image. The goal is to cloak the advert so that it nearly becomes a subliminal

²⁰² Tom Clancy’s Ghost Recon Advanced Warfighter (2006), tactical first person shooter developed by Ubisoft.

message. The result is an advert that does not interfere with the game, but at the same time manages to deliver the message, because as discussed in the chapter about subliminal messages, the brain will automatically be recognizing the surroundings when idling. Thus, every time the player comes to the outdoor tavern to deliver a quest, or hang out as sometimes happens in MMOs like “The Lord of the Rings Online²⁰³”, where “The Prancing Pony” is a popular place to spend spare time, the brain will notice the advertisement.

The goal here is not to make the player interact with the advertisement. Preferably, it will be in large part ignored, but passively, it will be noticed over and over, thus completing its task of delivering the message.

Now, if the ad itself was made for the game to begin with, the result would of course look even better. The area with the Pepsi ad is located between the Docks and the Castle. Below follows a screenshot which shows the ad and its implementation:

²⁰³ The Lord of the Rings Online (2007), abbreviated “LOTRO”, a MMORPG based on the works of J.R.R. Tolkien and developed by Turbine Inc.



(Picture 13 - Pepsi ad in the prototype)

6.3 Reversed theory: Using design techniques from games to design traditional academic and commercial communication

In this chapter, I will discuss the possibilities of using design techniques learnt from video games to create academic and commercial traditional real world communication. In example, can one use the techniques learnt from game design to create more interesting academic books?

6.3.1 Future work: Cloaking games into academic information

If one is to flip the idea around, the question of whether or not you can use techniques learnt from games can be used to design traditional academic information in a more interesting way arise. Can elements from games be put into school books in order to retain the interests of pupils growing up in an entertainment-rich world? Would it be possible to design an academic book in a way which would keep pupils entertained, or even wanting to read it? I believe that authors of academic books may have something to learn from the way games present information.

“A game is a series of interesting and important decisions, leading to a satisfying conclusion”

- Bruce Shelley, Head Designer, Ensemble Studios (Prensky 2006)

Should not that be true for learning as well? While granted, some will say that learning a particular subject, like French, might be interesting and important, and certainly lead to the satisfying conclusion of being able to speak French, others have no interest in speaking French and thus find the entire process a boring ordeal. The truth is that enthusiasm and energy is hard mustered for a task that does not interest the person performing it.

“When I watch children playing video games at home or in the arcades, I am impressed with the energy and enthusiasm they devote to the task. Why can't we get the same devotion to school lessons as people naturally apply to the things that interest them?”

- Donald Norman, Author and Educator (Prensky 2006)

While I have spent by far the most time as a student, and little being the educator, it never ceases to baffle me how indoctrinated the sentiment that school is supposed to be boring has

become. "Yes, it is boring, but we all have to go through it and if you do good, you'll get a good job!". Who haven't heard that? As Prensky points out, the pupils who do well at school are not necessarily smarter or more intelligent in any way; they are just good at playing school²⁰⁴. They know how to play the system.

So, if one is to attempt to make school more interesting, why not look to one of the greatest interactive entertainment businesses in our world? If one could bring interactivity, incentives, rewards, and all the other things that makes people spend countless hours in virtual worlds, to the schools then one might be on to something.

It will be an interesting time ahead, as the academic and commercial interests are catching on to the possibilities of using video games as medium. Perhaps the kids of the future will come running home to mom and dad, and excitedly tell them that "Today I got an epic sword in English class!".

²⁰⁴ Prensky, Marc (2006) – "Don't bother me mom, I'm learning"

7 Prototype, Technical Aspect:

This is the technical information about the “Renaissance Prototype”. Here you will find information on how the prototype was created, the toolset used and so forth. You will also find installation instructions at the end of the chapter.

7.1 *The Renaissance Prototype*

In order to get a better understanding of how adding academic and commercial communication to a game could be accomplished, I set out to make my own game to serve as a prototype. The prototype is based on the engine and tools available for Neverwinter Nights 2²⁰⁵, as creating a whole new game from scratch would be an impossible one-man undertaking if one is to keep up with today’s standards. The reason for choosing Neverwinter Nights 2 is that it comes with the Aurora toolset. The Aurora toolset was created in C# by Obsidian Entertainment and allows outsiders to create their own modification of the original game. It means that certain elements are unfortunately hard to change (for instance, you can’t change the combat system much), but it suffices to give a way to explore alternative ways to design information within a virtual world. It is also a venue for me to show you alternative ways to traditional informing of academic and commercial subjects, as the prototype is of course fully playable as long as a copy of Neverwinter Nights 2 is at hand. For those unable to run the prototype due to various reasons (not meeting minimum requirements for instance), screenshots are included for all the key points in the prototype.

7.1.1 Why the Aurora toolset?

The Aurora toolset is a powerful tool. It allows you to create a world, and add anything that might be needed in this world, in example, characters, dialogue, items, audio and so forth. This means that I can model a custom world, give our player a starting point, and create a storyline (or multiple) for the player to explore. It also means that I can set out to create a

²⁰⁵ Neverwinter Nights 2 (2006), RPG based on Dungeons and Dragons rules, developed by Obsidian Entertainment.

7.1.2 Storyline for the prototype, “The Renaissance”

The game modification I have created is named “The Renaissance”. The players find themselves set in a small harbor city in a fantasy world. The world is located in a different dimension, or “Plane of existence” as the Dungeons and Dragons lore would call it, which is the underlying rule set for Neverwinter Nights 2. In this plane of existence, the inhabitants have been watching our real-life plane of existence, and have seen the great leaps and benefits that the Renaissance era gave humans. They thus set out to create a Renaissance period of their own. The inhabitants celebrate their efforts with a Renaissance Faire and this is where the player comes into play, as the inhabitants are having problems with certain parts of the celebration, and have thus summoned the player from the human plane in order to assist them.

I have tried to keep the prototype to a typical RPG setting, with the typical landmarks found in a RPG city. Thus there is a castle, a tavern area, a beggar’s alley, a dock, a park, a city guard garrison, and a few normal buildings. This is intentional as I wanted to integrate academic and commercial communication into a game, not design a game which would allow for such communication (as say, a modern-time first person shooter would).

The game modification I have made will not however have a significant storyline. The reasoning for this is simply, time. Since the virtual world of “The Renaissance” is created entirely by me, I would simply not have time within the scope of this thesis to create an elaborate story. I will thus be using extracts from a potential storyline in order to perform tests. These extracts will be based on the typical quests that you will find in games, using the same incentives and design techniques discussed previously.

7.1.3 The goal for the prototype

I wanted the prototype to be useable as a means to not only teach myself the different elements that make up a game, but also to be testing grounds for theories on how various academic and commercial interests might be added to a game. This is because I find it curious that several games which have had commercial advertising in them, have rarely gone to any efforts of actually integrating them into the game. The practice of pestering the user with

intrusive ads on game menus, or including ridiculous product placements has been seen far too often. It would also seem an odd choice to me to force the player to watch a burger advertisement, and then have the player go on a killing rampage, as is the case in Ubisoft's McDonalds sponsored version of FarCry^{206 207}. Even stranger is the fact that the player has to sit through the same advertisement again if he or she dies. Thus, first the player experiences the frustration of dying, then the frustration of having to watch the advertisement. It simply does not sound like a good combination or form of commercial communication.

So for the prototype, I wanted to explore if things can be done differently. Can you design information so that it can integrate with the game, and become part of the game rather than simply being intrusive and destroy the immersion aspect?

7.1.4 Creating “The New Renaissance” world

In order to fully reach my goals, I had to create a believable world, because many of the arguments I present are based on artistic elements (like the importance of immersion). Prototyping integration of academic and commercial communication requires that the prototype world is a possible scenario. This meant that I could not skimp on any detail as you can't for example try to cloak an advertisement into a world if the world itself is completely without detail. Thus I had to go to great lengths to design a game world that would be up to the standards of today's market, and subsequently a long time was spent creating the game world. However, I am satisfied with the end result, and feedback from development teams at Rogue Dao Studios, Roxidy Games as well as the community at MoX, seem to indicate that it lives up to today's standards.

So, in order to give an idea of what is needed to do in order to create a world, I will very briefly go through the different stages of creating “The Renaissance” game modification. There are of course several ways to do this, but I will simply describe the way I did it. First of all one needs an idea for an area. I chose a fairly well sized harbor town because that would give me quite a bit of variety within the town itself, with a harbor district, a beggar quarter, a castle, a tavern, and some general town areas. Once the area is decided on, you have to shape

²⁰⁶ Video of FarCry with McDonalds ads is available in the bibliography.

²⁰⁷ FarCry (2004), a first person shooter developed by Crytek Studios, and published by Ubisoft.

the terrain to your liking. I like to go with a rough outline and then polish it later on, thus I first molded the landscape into something suitable for the idea. Then the next logical step is to decide where the main paths of travel would go. This means “airbrushing” textures onto the terrain and thus creating a road, somewhat comparable to painting a landscape. From there you can start placing houses, color the houses to your liking, and create suitable terrain detail and textures around the houses, in example, gutters, water-drains, rubble, debris, and so forth. From there, some coloring of the textures might be in order. The coloring gives additional depth to the textures, as it breaks up the pattern. The road might for example, have muddy cart-tracks, worn areas and so forth. However, the world would still look very static, so some detailing is in order. Some trees, bushes, pools of water (and coloring of water) and so forth can be added. Neverwinter Nights 2 uses SpeedTree technology which means you can have a variety of different trees without using up all the resources available²⁰⁸. You would also want the area to appear inhabited (at least if it’s a city), so placing items (known as “placeables”) is vital. Chairs, fallen branches, gutter-trash, lampposts, books, ovens, boats, tables, forks, watch-towers, you name it. Anything that is needed to make the area seem believable should be in there. Much like a movie set, this also means that one has to be careful so one does not put something which does not belong in the setting.

From there I would add lighting. In order to create a believable environment, you will want lampposts etc. to light areas up, as well as make objects within range cast shadows. The mood is often dependant on the use of lights, so this is not something which should be taken lightly. Coloring the lights could also give a dramatic effect, in example; a red ominous glow could suggest that danger is up ahead.

With the lights in place, it is time for the special effects. What would a campfire be without a burning flame? Or a chimney without any smoke drifting off in the wind? The Aurora toolset allows you also to design your own effects with the visual effect editor, so one can pretty much make what one needs if it isn’t already available.

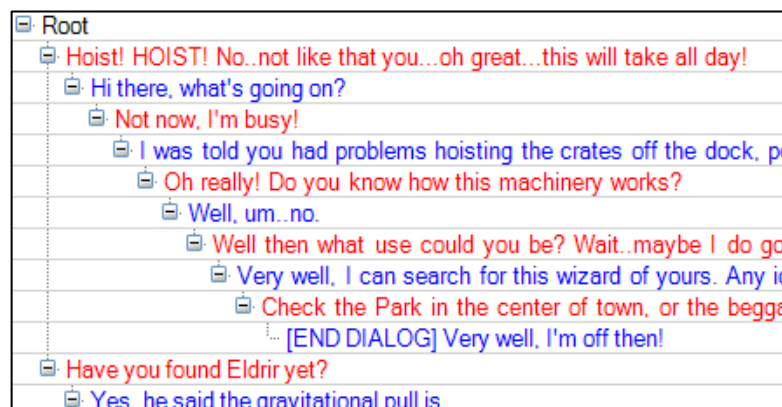
Next up would be designing the inhabitants themselves. This would mean choosing the appearances of your dwarves, elves, men, half-lings or monsters, as well as their outfits and skills. Once happy with the looks, you will want them to move about, and react to the player.

²⁰⁸ SpeedTree (2007), is a programming package that generates virtual foilage in real time, developed by Interactive Data Visualization, Inc.

This would in many cases require triggers. An example would be a “walk-over” trigger which could cause the NPC to initiate dialogue with the player. For the prototype however, most of the city is uninhabited by NPCs. This is to ensure that the NPCs that are used for showcasing elements in the prototype are easily found. For an idea on how NPCs usually are implemented in RPGs, see the Castle area.

Next up you would have to write up the conversation options for the NPC as well as the player. This is done in a tree-branch system which allows linking between different parts of

the conversation. Creating a conversation is difficult because you would not want the player being unable to answer what he or she wants to answer, but at the same time you have to limit the options to a few possibilities in order to avoid overwhelming the player.



(Picture 15 - Conversation editor)

Within the conversation, you can also choose to add a sound-file so that the NPC is given a voice (including lip-sync). For some of the NPCs, I have simply added a blank sound file in order to make their lips move while the dialogue is happening. Giving them all voices is simply beyond my acting abilities!

Now that the NPCs are no longer static, one can add area transitions, which would be places where the player would get transferred to another area, in example, another city district, the wild or somewhere else. I have restricted the prototype to a single area, but it is possible to combine several areas in this way. You would also want to calculate the walk-path (known as walk-mesh), meaning where the player can walk or not. This would include making sure the player can't walk in places where you do not want him or her to be. This can be quite challenging, because one can almost guarantee that it will not go smoothly right away (which is why it can often be a good idea to do this quite a few times while creating the world). Using special triggers (walk-mesh cutters) to restrict certain areas is also necessary.

Once you are happy with where the player can walk, what he or she can interact with, and so forth. It would be time for the final touches. Sounds are a nice effect. Some “bar noise” coming from the tavern. A hiss from a steam pipe, and so forth. It all adds up to make it believable, which is what we want, since it has to be in order to keep the player engaged. Music and environmental sounds could be up next. Some bird chatter, wind, and some fitting music are in order. Finally, one can tweak the sky and horizon to fit the area, as well as the day to night cycle. Perhaps it gets a bit extra foggy during dusk, or the sky turns reddish during dawn. It is all up to the creator.

As you might understand, there are a lot of elements that needs to be added in order to create a game world, even if it is just one city. This is why I have tried to limit the prototype to presenting extracts of a potential game, and not a full-scale adventure. If you are interesting in game modification, I would suggest looking up NWVault for additional information. There’s a link in the bibliography.

7.2 Prototype installation instructions

First of all, installation of Neverwinter Nights 2 and patching of the game is required. The prototype was designed and tested for patch version 1.10. The prototype is somewhat demanding of the gaming system, so please refer to the Neverwinter Nights 2 Manual for recommended system settings.

I have only included Neverwinter Nights 2 with the thesis that will be graded. For the rest of you, you will have to buy a copy of the game in order to test the prototype. For installation of Neverwinter Nights 2, please refer to the game manual. Do note the installation directory though, as it will be needed later on.

On the accompanying CD-Rom, “The Renaissance Prototype”, you will find two folders. Both folders should be copied to the root game installation folder.

Default is: C:\Program Files\Atari\Neverwinter Nights 2\

8 Final thoughts

While the ideas for cloaking academic and commercial into games are possible in theory, there are some implementation issues that involve how to get the developers interested in doing so, and how to get the funds to do so. In this chapter you find my thoughts on how the implementation issues could be overcome, as well as some final words on the thesis.

8.1 How to make developers cloak academic and commercial communication in their games?

So with all this talk about cloaking academic and commercial communication, how do we get the developers to become interested in doing so? For the commercial information, the answer would simply be money. The inclusion of advertising would mean increased profit for the developers and publishers, although the figure would depend on the amount of titles sold.

“It is still unclear how much money advertising can deliver. Epstein²⁰⁹ said it can provide \$1 to \$2 a game to publishers, which for a popular game could amount to several million dollars.”

- Kim, Ryan (2006) ,*San Francisco Chronicle*

However, for the academic information and communication, there is no real incentive for developers to include it in their games.

My proposed way of including cloaked edutainment would first of all be to raise the level of awareness that both academic and commercial information could be integrated in a game in such a way that would make the gamer actually enjoy their presence (or at a minimum for advertisements and so forth, tolerate it). Secondly, there must be a benefit for the developers. The first benefit could come in form of providing academic expertise in a field, in example, provide information about a certain historical battle, equipment, jet-propulsion, or anything else that might be included in the game. The second possible benefit could come from government funding, or other form of added support for the game, like the use of

²⁰⁹ Epstein, Jon, Chief Executive Officer of Double Fuzion, an in-game advertising firm.

university bandwidth to provide patches for the game. A third benefit might be to use students for quality assurance purposes. We also see that popular science information channels, like the Discovery Channel²¹⁰, have managed to use academic information to create interesting and popular shows. The same can very well be done by the developers of games.

8.1.1 Getting the funds to include games in the curriculum

One of the obstacles of including games in the academic curriculum is simply money. Several schools do not have the means to buy software for academic purposes, and so their ability to use games for academic means is simply not there. So, how could this problem be overcome, and what games are suited for a school curriculum?

While the previously discussed cloaked edutainment games and techniques show how academic training can be given to people who play games at home, time at school might need to be slightly more efficient. My suggestion is that the schools use scenario simulations, and then use the cloaked academic communication channels in commercial games to make more information available to the gamers at home.

As we see from the analysis of simulations for edutainment purposes, there are many subjects and fields that benefit from simulation games being part of the training process. In example, instead of risking billions of dollars on equipment, NASA can use simulators to train astronauts. So in what ways can simulations be used for academic purposes?

Perhaps the most important factor to take into account when creating a simulation for academic purposes is that it has to be real. Giving a car-driving simulator where you can go at 200kp/h into a wall and continue afterwards, is perhaps not the best way of doing it. While the person might get reaction-time training, it would seem better to use a simulator with more realistic consequences to actions.

However, there are only a limited amount of subjects that can't be practiced through simulations, so why simulations are not used in lower level education is most likely a result of

²¹⁰ Discovery Channel, television channel, see bibliography for link.

money and equipment. Creating a simulator is after all, expensive. So how does one get the means to make one?

In later years, students in Norway have seen an increasing use of advertisements in books used for school. The argument being that it lowers the cost for the students by making the advertisers pay for some of the book's costs. So, is this an approach one could use to make simulators for academic purposes? After all, if a kid learns to drive in a Mercedes or a Toyota, it does little difference to the actual learning process. This way one can mix the wants of commercial interests (to add advertising in school) with a benefit for the academic interests (simulations for training purposes).

8.2 Final word

One would think that when you are writing an end for your master thesis it would feel like a completed job. I certainly thought that when I started writing this thesis, I would be able to do research into a subject, make some good conclusions, put a full stop and be done with it. However, this feels more like a beginning than an end. There are countless theories that could be explored further. The internet age is still young, and it is slowly taking over the world. More and more people choose to turn on their computer and check the internet for news, rather than to go to their mailbox, and read the paper version. The Internet has made people used to being able to pursue the information they want to know more about, and thus passive entertainment, like television, is losing viewers to interactive entertainment like video games, chat-rooms, blogs and internet communities. Computers, communication and information is becoming available everywhere, and the introduction of computers and this type of interactive communication is simply evolution. The evolution from passive to interactive entertainment is happening, and people are now given a choice in whether or not they want to participate. Thus new ideas and designs must be made in multiple areas to adapt to the new interactivity, as the old ways of informing the passive audience are not applicable to the interactive audience.

That is why I feel this thesis is but a mere beginning, and I cannot tell you how the story ends. Where will we be in fifty years? World-wide online virtual schools and universities where the

student can choose subjects freely and get titles depending on shown proficiency in the subject? That's pretty much how a crafting profession in a MMO game is. It is possible.

As said, the new interactive technology brings choice. Freedom is based on having the ability to choose. Perhaps there lies an answer to why games, and especially massively multiplayer games are becoming so vastly popular. They provide interactivity, choice, and freedom for players to be who they want and do what they want to do.

This in turn is what commercial communication must keep in mind. How do you add commercial aspects to the virtual worlds while retaining the freedom of the player? It is also what the academic communicators can learn from. Where can they add video game design techniques, like identity, freedom and interactivity, in order to make learning a series of interesting and important decisions, leading to a satisfying conclusion?

The answer to these questions brings us to a whole new way of informing. Thus, perhaps the Renaissance comparison is valid; we could very well be entering a new age of interactive information communication, where monologue is replaced by dialogue.

The truth is that in this early stage, one can simply try to offer guidance on which route to take when trying to implement academic and commercial communication in games. And hopefully you as a reader of this thesis, may have learnt not to make the many mistakes often done, and perhaps have gotten ideas for new ways of communicating. If that is true, then my goal for this thesis has been accomplished.

Thank you for taking the time to read this thesis, and make sure to check out the prototype and the bibliography for a lot of interesting information!

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9.2.2 Pictures

Picture 1: Taken from custom Neverwinter Nights 2 module created by Christian Bull-Hansen.

Picture 2: Taken from custom Neverwinter Nights 2 module created by Christian Bull-Hansen.

Picture 3: The Noob Comic, by Gianna Masetti. Used with permission.

Picture 4: The Tower of Hanoi, URL: <http://www.cs.umbc.edu/courses/undergraduate/201/fall06/lectures/recursion/towersOfHanoi.shtml>

Picture 5: An old Coca-Cola ad, URL: http://www.diggerhistory.info/pages-food/coca_cola.htm

Picture 6: Static ads in Fifa International Soccer, URL: <http://www.mobgames.com/game/fifa-international-soccer>

Picture 7: An in-game recruitment ad, URL:
<http://management.silicon.com/careers/0,39024671,39168890,00.htm>

Picture 8: Use the journal if you get lost. Screenshot from the Renaissance Prototype by Christian Bull-Hansen.

Picture 9: Linguistics test in prototype. Screenshot from the Renaissance Prototype by Christian Bull-Hansen.

Picture 10: Leonardo da Vinci, prototype. Screenshot from the Renaissance Prototype by Christian Bull-Hansen.

Picture 11: Original Pepsi Logo, URL: http://www.berkspeaceinitiative.org/images/pepsi_logo_2.gif

Picture 12: A RPG themed Pepsi Logo, modified by Mick Christensen, used with permission.

Picture 13: Pepsi ad in the prototype. Picture taken from the Renaissance Prototype by Christian Bull-Hansen.

Picture 14: The prototype in the toolset. Screenshot, of the toolset with the Renaissance Prototype by Christian Bull-Hansen opened.

Picture 15: Conversation editor. Picture of the conversation editor in the Aurora Toolset for Neverwinter Nights 2. Conversation part of the Renaissance Prototype by Christian Bull-Hansen.

9.2.3 Videos

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