

**A CRITICAL APPROACH TO GAME STUDIES:
ANALYSIS OF FALLOUT 3[®]
AS AN EXAMPLE OF NON-LINEAR GAMEPLAY**

**A THESIS SUBMITTED TO
THE DEPARTMENT OF GRAPHIC DESIGN AND
THE INSTITUTE OF FINE ARTS
OF BILKENT UNIVERSITY
IN PARTIAL FULLFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF FINE ARTS**

by

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August, 2010

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ABSTRACT

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Contemporary video games are unlike their pioneering counterparts, almost completely changed in all possible ways ranging from, the hardware that the games are run on to their usage of narrative elements and how one experiences games. They are not just another medium for human expression, rather a phenomenon that combines many elements from different forms and create something unique; a cultural artifact. This thesis aims to approach the field of video game studies, and compile and combine the existent research and establish an improved understanding of the video game as a cultural artifact. It will introduce the world of video games, by explaining the aspects that constitute the phenomenon and compare and contrast the previous attempts to consolidate a framework approaching from different fields of media. Furthermore, by the use of the computer role playing game (cRPG) titled *Fallout 3*, the study will utilize an analysis of it through the implementation of the methodology and toolsets suggested by researchers such as Espen J. Aarseth and Jesper Juul, and study the subject of nonlinearity and its effects to the gameplay experience, thereby utilizing both a playing analysis and non-playing research. In the course of the study, a general area of game and gameplay will be researched prior to the detailed exemplification of those subjects by using the aforementioned game title.

Keywords: Video Game, Fallout 3, Role-Playing Game, Gameplay, Non-linearity, Ludology.

ÖZET

OYUN ÇALIŞMALARINA ELEŞTİREL YAKLAŞIM: DOĞRUSAL OLMAYAN OYNANIŞA ÖRNEK OLARAK FALLOUT 3® OYUNUNUN ANALİZİ

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Ağustos, 2010.

Günümüzde bilgisayar oyunları kendi tarihinin ilk zamanlarındaki örneklerinden çok farklı bir hale gelmiş, kullanılan ekipman, anlatım biçimi ve oyunları oynama şekillerimiz tamamen değişmiştir. Bu oyunlar insanların düşünce ve duygularını ifade etmesi için yeni bir ortam değil, aynı zamanda birçok formun özelliklerini birleştiren ve bunlarla yeni bir şey oluşturan bir fenomendir; eşsiz bir yapıt. Bu tez hali hazırda varolan bilgisayar oyunları alanında yapılmış çalışmalarını inceleyip, bunları toparlayıp birleştirerek bu alana ve kültürel bir yapı olarak video oyunlarına yeni bir bakış açısı getirmeyi amaçlamaktadır. İlk olarak bu fenomeni oluşturan özellikleri açıklayarak bilgisayar oyunları dünyasını tanıttak ve bu alandaki çalışmalarını karşılaştırarak daha önceki çalışmalarla oluşturulmaya başlanmış altyapıyı sağlamlaştırmaya çalışacaktır. Bununla birlikte, *Fallout 3* isimli bilgisayar oyununu, Espen J. Aarseth ve Jesper Juul gibi araştırmacıların önerdiği metodolojileri birleştirerek uygulamaya ve oyunu analiz etmeye çalışılacaktır. Araştırma içerisinde bahsedilen oyunu oynayarak ve başka oyuncuların yorumlarını ve geri dönüşlerini kullanarak, oyun özelliklerini ve bu özellikleri arasında önemli yere sahip olan doğrusal olma ve olmama durumunun oynanışa etkisi incelenecektir. Bahsedilen oyunla ilgili yapılacak çalışmadan önce, örnekler ve karşılaştırmalarla, bilgisayar oyunları ve oyun oynama konularına genel bir bakış sergilenecektir.

Anahtar Kelimeler: Bilgisayar Oyunu, Fallout 3, Rol-Yapma Oyunu, Oynanış, Çizgisellik, Ludoloji.

ACKNOWLEDGEMENTS

I would like to thank my thesis advisor Asst. Prof. Andreas Treske for his support and guidance from the earlier formation of this thesis. I wouldn't think of studying without his provided database of knowledge. I would also like to thank to Asst. Prof. Dr. Dilek Kaya Mutlu for her guidance, feedback and effort to push me out of my distractions, and Dr. Aren Emre Kurtgözü for his participation and encouragement.

I would also like to thank my family for their constant support and trust; my brother for this newly reinstated computer, my dog for keeping my mood up and my friends for relieving my mind of work. I'd like to thank Funda Şenova Tunalı for her suggestions and tolerance for my endless questions and Elif Boyacıođlu for her overzealous feedback.

I'd like to thank Interplay for creating such an interesting game series and Bethesda for improving and producing them.

Last but not least I would like to thank Pelin Aytemiz for her care, confidence and trust. She participated substantially for this past two years to become a pleasant experience for me.

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“...video games are *real* in that they are made of real rules that players actually interact with; that winning or losing a game is a real event. However, when winning a game by slaying a dragon, the dragon is not a real dragon, but a fictional one...”

-Jesper Juul, *Half-Real* introduction.

CHAPTER 1. INTRODUCTION

Video games are developing rapidly, based on the changes and innovations in the computer technologies as well as the progression in other science disciplines. The games' themes, mostly based on fiction are also adapting to those changes and developments in respective fields thereof, such as literature and movies and most likely the culture itself. Hence, one could say that the developments in scientific areas, for example, an innovative leap in space exploration or a breakthrough in genetic studies, that alters the perception and knowledge of people about those subject matters, also changes the way that the authors create the relative fiction that are used in the games and other forms of media.

These developments also changed how we play a game, both with differences in peripherals used and the gameplay itself. Advancements in the computer technologies improved the techniques to create the visuals of the games have also changed and thus literally rendered the graphic elements much more realistic. They came a long way from overlay drawings on convex cathode ray tube displays and analog computers to motion sensing controllers and high definition LCD monitors. Every improvement to the visual, aural or tactile aspect of the game, contributes to the perception and participation of the gamer to the game. The level that the player comprehends the game, greatly improves the player's interaction with the game,

enhancing and evolving the gameplay by pseudo-collaboration between the game designers and the gamers.

Video games are now an integrated part of our society and they will continue to infiltrate the lives of many more people as the technology improves and the gaming interfaces and peripherals become user-friendlier. More games are becoming available to diverse age groups, merging them by combining elements from different cultures, and borrowing and adapting elements from various games, reaching out to several distinct strata of players which were previously exclusive to their own respective game genres. Nintendo Wii, for example, has been utilized by players of a diverse age group, because of its easy controllers that uses motion tracking and simple video games that occasionally resemble real-life games, such as tennis and boxing. Such gaming consoles, and advanced personal computers replace the other “black boxes” such as DVD players, recorders, music systems and become the dominant choice for “home-entertainment” which incorporates many different media that is required for media convergence by the users (Jenkins, 2006, p. 15).

Alongside these improvements in computer games, tabletop board games were also improving simultaneously with the computer games. The set of rules that are used in the Role-Playing Games (RPGs), or the form of gameplay are improved and became more detailed, changing the limitations and restrictions that bound the players to the rulebooks and imagination of the GM (game master) correspondingly. The computer adaptations or digitized versions, Computer Role-Playing Games (CRPGs), have also followed their pen & paper counterparts in this evolution. Video games that are directly adapted from the tabletop role-playing games, benefit from the improvement

of the corebooks¹, while games that are specifically designed for computers or consoles borrow their rule system from these corebooks. The game-worlds became more diverse and the game-structure is more detailed, thus, providing the players a more sophisticated gameplay. In 1981, with the emergence of the CRPG called *Ultima*, the world of computer role-playing games have changed completely. Many of the CRPGs that have been created afterwards are based upon the groundwork that has been laid by *Ultima* (Loguidice & Barton, 2009, p. 335-352).

This thesis intends to compile the existing and ongoing research on game studies in order to combine and study them regarding the contemporary developments in the field, further improving the current understanding of the concept of video games and methods of approaching the subject as a research material. A complete analysis of the computer role-playing game, *Fallout 3*, will be conducted by using the methodologies that have been suggested by scholars such as Espen Aarseth (2003) and Jesper Juul (2005). Aside from the generic non-play analysis of the video games, a specific play analysis will be conducted based primarily on Aarseth's 2003 paper, *Research: Methodological Approaches To Game Analysis*, dividing the game into three parts of Gameplay, Game-world and Game-Structure; this analysis will form the point of departure. Furthermore, the concept of non-linearity would be explained in its comparative use in several fields of media as well as in video games and will be discussed particularly in *Fallout 3* in order to understand the effect of non-linearity to the gameplay, and the reasons to gain pleasure from playing games.

¹ The guidebook that contains sections such as the setting, game elements and the ruleset of a particular RPG is often called a corebook.

1.1. Research Question

This thesis uses *Fallout 3* itself as the main subject while studying several disciplines and theoretical frameworks collaboratively, instead of choosing and examining a theoretical subject, and using this game as a case study for that particular topic. The aim is to understand the current state of video games, which became a medium that has a great potential for scholarly studies (Aarseth, 2004, p.45), and to comprehend its perception by players and the relationship between the player and the game. The elements that constitute a video game would be discussed in depth, while giving examples from alternative video game titles, and a comparison between different types of attributes. This would be followed by a dissection of the game *Fallout 3* into parts through a toolset suggested by Espen J. Aarseth (2003) and further developed by Jesper Juul (2005), for detailed analysis. The game will be thoroughly played and re-played regarding those items of research and their sub-divisions, and will be compared to other similar games, as well as its predecessors.

Fallout, a series of computer Role-Playing Games the first of which came out in 1997, is a highly successful and critically acclaimed game series, that has developed a remarkable fan base all around the world over its course of three main games and several spin-offs. The first game, *Fallout: A Post-Nuclear Role Playing Game*, was released in 1997, when the personal computer technologies had just passed the initial stage of transforming the personal computers from simple bulk of processors into a gaming system by developing graphic and sound cards. Although 3D technologies were already been utilized in several game titles by that time and was an appealing aspect for the game titles, *Fallout* used isometric 2D graphics, which could be

considered a design choice that helped establishing the game's gloomy atmosphere, by constraining the field of view (FOV) to a minimum and excluding the appearance of a skyline.

The second game in the series, *Fallout 2*, was released in 1998, just after the success of the first game, reinforcing the fan base, which had already been established through the first game. *Fallout 2* was a true sequel to the original, taking place in some 80 years after the events of the first game, with recurring characters from the first game, which had cameo appearances in several parts of the game. The designers improved the gameplay slightly, taking feedback from the players into account, and thus, refining the game. The visual and aural themes were similar –almost identical – to the original since they had made only small changes to the game engine, graphics and the gameplay. The introduction sequence also had a similar style and had been narrated by the same voice actor with the exact same opening phrase, that would be further used in the following games in the series: “*War, war never changes*”.

The third main game in the *Fallout* series, and the last one to be published by date, *Fallout 3*, is the subject of this thesis. It is the long-awaited sequel to the previous titles, which successfully continues the themes from the last two games presenting them in a highly-debated style of gameplay with 3D environment and an alternating First Person/Third Person perspective, which differs from isometric top-down views of *Fallout* and *Fallout 2*. Nevertheless, it was considered an overall success among many of the fans, and in addition also integrated a huge percentage of console gamers to the fan base of the original series.

The major theme of the game series, that the setting, the story and the visual elements are based upon, is a post-apocalyptic dystopia; a theme that has been derived from the literary works that had emerged after the World War II, particularly during the time of the Cuban Missile Crisis in 1962, which then adapted into movies such as *A Boy and His Dog* (1974), *Mad Max* (1979) or *Radioactive Dreams* (1985). During this period of time (c.1950-1960), the people developed a vision for the future, a paranoia that led the authors of 1950s to envision a distant future that is shaped by the fears of war and destruction, which would become the basis for the story elements of the *Fallout* series.

While the examples of post-apocalyptic fiction have been seen as early as the 19th century², *Fallout 3* borrows majority of its thematic content from a more recent historical period, from the works that have emerged during the time after the World War II. The game follows an alternative timeline, which had a break from reality, as we know it. Space race between Russia and USA is obsolete in this alternative timeline; thus, the scientific developments are different from ours. In this “world of tomorrow” the scientists focused their work on different fields, hence evolving the technological aspects of the mankind rather distinctly; particularly contributing to advancements based on the power of the atom.

Fallout 3 is an open-ended game that could be studied for many of its aspects, including, but not limited to: game-design, gameplay, aural and visual elements, themes, etc. The game includes several cultural references – some of which are hidden for the player to discover – where each could be the subject of a study by

² Mary Shelley's 1826 novel *The Last Man* and Richard Jefferies' novel *After London* (1885) could be given as early examples of "post-apocalyptic fiction".

itself. There have been many reviews of the game, however, none stands out as something different or more than the basic criticism of the graphics, story and the gameplay, as it is expected of a game review.

One of the major aspects of the game –and the series– is the game’s non-linearity and diversity in character development; as one is required to succeed in all the missions of the main quest in order to successfully complete the game. However, the game does not enforce the player to focus on the main quest, but rather suggests the player to explore the game-world and interact with the NPCs (Non-Player Characters) in order to discover side-quests and equipment as well as the hidden content that is unavailable otherwise. Hence, the player is to follow the main quest in order to trigger certain events in the game-world, yet the execution of these missions are not obligatory to achieve a certain state of gameplay. In addition to this, choices made and course of actions that are taken by the player result in a form of gameplay called the emergent gameplay, which are unscripted consequences that result from various simple interactions within the game-world.

1.2. Toolset and Methodology

Espen Aarseth (2003) explains that one could study any game that takes part in a virtual environment, within three sections; Gameplay, Game-structure and Game-world. Research of these categories would necessitate both play and non-play feedback from the researcher such as reviews and comments written about *Fallout 3* and feedbacks from different types of players (socializers, killers, achievers, etc.) as

defined by Richard Bartle (1996), in order to understand all of the elements that are present in those three categories. For example *achievers*, play to complete tasks and take pleasure from the accomplishment through the completion of the game itself, whereas an *explorer* would try to discover the game-world and exploit the bugs in the system in order to uncover more hidden information about the game, hence different kinds of players approach a game with different priorities and this variety in prioritizing game aspects hints at diverse reasons of playing and how one enjoys a video game.

Aarseth (2003) suggests that in order to differentiate an academic game study from a personal feedback by a gamer, one needs to resort to a more analytical approach. He further indicates that a game analysis differs from the analysis of any other form of art; where one needs a certain level of analytical skill for the interpretation of such literary or filmic works, the games requires practice to get a direct feed-back from the system (p.5). The first step that has to be taken is to personally play the game, using various techniques and strategies, which are classified in Aarseth's research, to be utilized during the learning stages of the game. Hence, the research will include several instances of gameplay with various styles of gameplay using different approaches to the game dynamics and consolidating the results in order to achieve a more solid base for the research.

Furthermore, Aarseth (2003) summarizes items of the non-playing research (p.6) in several topics: previous knowledge of the genre, previous knowledge of the game-system, other players' reports, reviews, walkthroughs, discussions, observing others play, interviewing players, game documentation, playtesting reports, interviews with

game developers. Alongside the analysis by playing the game, this thesis will make use of such non-play research, collecting and analyzing various data provided by multiple types of gamers as well as scanning and assembling already present data that has been submitted to different internet resources by players.

As it is indicated in Juul's (2007) *Half-Real*, there has been much space that's devoted to the study of people (other than the researcher) playing games, but very little has been said through the first-person experience of the researcher himself. In this thesis, the aim is to analyze the game *Fallout 3* by through the usage of the methodologies suggested both in the fields of narratology and ludology, not contrasting each other but rather complementing one another, in order to achieve a more detailed analysis of the game. Hence, combining the previous studies and playing the game implicitly would allow the manifestation of every possible aspect of *Fallout 3* and would lead to understanding of the reasons of play and enjoyment.

Juul (2005) also suggests that ludology often described as a distant approach which dismisses the qualities of the story and narrative that are present in narratology. However it is also indicated that there could be a middle ground to be found between these two approaches, where it is possible to take advantage of both. Consequently, as a gamer and researcher I aim to conduct a thorough research, based on my preliminary studies on the subject of *Fallout 3* which will then be consolidated through collective usage of narratology and ludology and purposive gameplay.

The uniqueness of *Fallout 3* could only be described by differentiating it from several forms of media as well as other video games that are similar to it in any of

their aspects, from visuals to structure to utilization and participation of the player. In order to do that, this thesis will make use of other video games while comparing and contrasting several elements in order to understand their effects on the game and gameplay. The reasons for the selection of this particular game title will be studied while analyzing *Fallout 3*.

1.3. Overview of the Chapters

The thesis will begin with a brief introduction to the field of video games and its respective discipline, ludology, by using relative literature from authors such as Aarseth (1997, 2003), Juul (2005, 2008, 2009), Wolf (2003, 2008, 2009), Atkins (2008) and Zimmerman (2005). It will then continue on to explain the aims of this study and detailing the toolset that is going to be used, which has been suggested by the works of Espen J. Aarseth (2003) and a definition model by Jesper Juul (2005). The first chapter will also include a brief summary of the game *Fallout 3* and its predecessors in the series as an introduction to the subject of study.

Then, the following chapter, “Games and Playing” will concentrate on the world of video games and gamers, comparing and contrasting several elements that make up a video game and investigate the reasons of playing games. The beginning of the first section of this chapter will start with a definition of video games and the notion of non-linearity as it is used in the field of video games, explaining the concept with examples and differentiating it from the usage of the term within other fields of study. The remaining part of the chapter would explain certain aspects of video

games and their effects on the gameplay while giving examples from *Fallout 3* and its predecessors and spin-off's, thus, introducing the subject of this thesis by focusing on the usual components of a game and gameplay.

The third chapter titled "*Fallout 3* A Post-Nuclear Game" will introduce the computer role-playing game of the same title, and analyze it based on the research conducted by scholars such as Espen J. Aarseth (2003), Jesper Juul (2005), Mia Consalvo (2009) and so forth. The first part of this chapter will incorporate the detailed explanations of the methodologies and definitions that are presented, and their implementation to the game of *Fallout 3*. This chapter will divide the game into the three parts of gameplay, game-structure, game-world, and will try to analyze the game based on those topics. Several subdivisions that are present in those three topics will be thoroughly studied by playing and non-playing studies of the game, in this part of the chapter. The last part of the third chapter will reiterate the subject of nonlinearity and study its sub-categories in depth within *Fallout 3*'s gameplay.

At the end of the thesis, there is a basic 'key' for the terms that are used in this study, for the non-players to understand the concepts. Although the terms are briefly explained throughout the thesis, the definitions are available within the appendix, if needed.

CHAPTER 2. GAMES AND PLAYING

The first step in researching video games, or any other subject for that matter, should be defining the subject of interest. In fact, when one looks at the previous works that have been conducted, it can be seen that researchers such as Atkins, Juul or Jenkins always start by defining the concepts in question in their own words; either for the sake of the readers who would try to conceive the research based on these definitions, or for the researcher's own sake, who would explain his ideas more clearly and firmly through the use of those definitions. A final definition has not yet been established on video games, since they are still in their transitional period; being a medium in development. Furthermore, the existing definitions of the video games and where this field of study stands within the established academic fields are still debated.

Hence, the question rises: "does defining a concept always mean categorizing it?" This question becomes a problem when applied to the study of video games. Categorizing in this sense means to place a concept in a pre-defined structure of subjects and attribute the features of the new concept to those subjects. Studies which side with the narratology approach acknowledge that the computers and video games are products of a technology which is rapidly developing and that the games are a new medium to be used, yet they refuse to acknowledge that the categorization of video games within the previously existent mediums such as cinema and literature

obstructs the study of the video games as a new medium and the study of its users, the gamers (Murray 1997; Ryan 2001). Aarseth (1997) explicitly claims that placing the newly emerging video games into a pre-existing narrative medium would render unique qualities of it useless:

To claim that there is no difference between games and narratives is to ignore essential qualities of both categories. And yet, as this study tries to show, the difference is not clear-cut, and there is significant overlap between the two (p. 5).

Furthermore, Eskelinen (2004) as a prominent ludologist, carry the notion of separating the establishment of computer game studies outside of those pre-existing fields such as cinema or literature.

So if there already is or soon will be a legitimate field for computer game studies, this field is also very open to intrusions and colonizations from the already organized scholarly tribes. Resisting and beating them is the goal of our first survival game in this paper, as what these emerging studies need is independence, or at least relative independence (p.36).

Juul (2005) defines the games as a combination of *rules* and *fiction*; two aspects that compete and complement each other (p.163). The statement about games being *half-real*, corresponds to Juul's idea of the fictional character is used by the player as an entity to bear and uphold the hidden rules of the game. The video games, at their current broad state, could be simply defined as rule based interactive simulations,

which often incorporate fictional elements, and create a virtual spatiality that extends to reality through certain apparatus and the agency of the player. As Wolf (2008) states, a video game is a cultural product of many researchers inventors and entrepreneurs, and the combination of influences from other fields of media and technology (p.17).

Manovich (2001) quotes Bolter & Grusin stating the medium is something “which remediates”:

In contrast to a modernist view aims to define the essential properties of every medium, Bolter and Grusin propose that all media work by “remediating,” i.e. translating, refashioning, and reforming other media, both on the levels of content and form. If we are to think of human-computer interface as another media, its history and present development definitely fits this thesis. The history of human-computer interface is that of borrowing and reformulating, or, to use new media lingo, reformatting other media, both past and present: the printed page, film, television (p.89).

Manovich then points out that interactive media formats, for example video games, combine several elements from different forms of media eclectically, yet they also incorporate aspects that are not present in other media such as “conventions” of human-made physical environment; the metaphor of “desktop” in MacOS or Windows (p. 89). This argument supports the view that the video games succeed the pre-existing media, yet it also suggests that by reforming, and translating other media it evolves into something different and unique.

The contemporary ludologist approach does not completely exclude the necessity of a collaboration of fields that would help to understand the video games better, such as social sciences, humanities or industry and engineering. Rather they plead for the fact that video games have become a very different cultural artifact than they were considered a decade ago, and that the new research approaches should be developed accordingly (Bryce & Rutter, 2006, p.7). In spite of the narratologist approach to condemn video games to a field that they do not really belong to, authors such as Aarseth, Eskelinen and Frasca suggest that one should consider the field of video games as a unique category and as Bryce & Rutter cites Mark J.P. Wolf (2001, p.2) “video games are already widespread and unique enough [sic] to deserve their own branch of theory”.

To use elements and methodologies from other fields that are incorporated in video games is a common practice, yet, rather than oversimplifying video games and force them into a category of dichotomies, it would be relatively more effective to think of the video game as a new type of cultural artifact, and treat the “borrowed” methodologies from other fields within the frame of game studies itself. For instance, one can study the narrative features of a game comparing it to relatively convenient fields of cinema and interactive literature, yet the disavowal of the game as a new artifact would result in pretty bland studies. Nick Montfort (2004) summarizes the approach of ludologists as opposed to this ongoing categorization of scholars from other fields of media as a reaction that not entirely refuses other approaches but rather utilizes them within the field of ludology:

Advocates of game studies and ludology have rallied against the simplistic consideration of computer games as stories, resisting what they refer as “colonization” of the new field by literary studies as they build up their rebel fleet on the ice planet. Of course their project is not to banish discussion of story from computer game studies but to ensure that discussion is framed in terms of a new discipline, native to the computer game (p. 310).

Unlike printed media that is rather slowly going into decline for technological advancement and cinema that is practically in maturity, where both have mostly developments in style and technique, computers and video games are subject to extreme and non-stop changes in their format. Hence, many contemporary video game studies, including this thesis, would lose its validity when they are projected in that future time of re-reading, based on the fact that the video game will have changed its structure, in terms of technology and style and the perception of its viewers. Once again, this notion might express the ineffectiveness of incorporating the newly developing works of video games into pre-existent categories of already developed media. Nevertheless, any attempt to consolidate a better understanding of video games and the state that they are in, would become useful in the future studies in the field, as well as the development of the video games themselves.

The definition of video games have also evolved and diversified over the course of their developments within the past two decades. In *Cybertext* (1997) Espen Aarseth attempts to define the concept of video games based on his study of interactive fiction and adventure games (*Zork*), and describe digital games as “ergodic literature”; a special type of text where the reader (user) would have to work and put

nontrivial effort in order to run through and understand it. As he corresponds the video games with ergodic literature, he also states that the difference of this new concept could be identified in contrast with pre-existing nonergodic literature, which require no “extranoematic³” activities, other than basic traversing of the text by eye movement (p. 2).

Following the primary emergence of the video games as a new medium, the video games were considered in the academic world as an expansion of traditional narrative or drama or an alternative, improved medium for conveying similar textual information (Murray 1997; Laurel 1991). It is considered a new cultural form that has developed from literature, television and cinema. Hence, they agreed that video games and cybertexts represent elements that are present in other forms of narrative that could be studied by utilizing the principles of narratology.

However, it should be noted that narratology alone might not be sufficient for a thorough analysis of a certain game title nor a whole genre. Since the games are unique artifacts that incorporate many more interesting aspects that might be missed by the formalization in narratology; modern developments in game design would allow more innovative types of narration, thus, the complete analysis of a game would require more than traditional narratology studies that are based on Vladimir Propp’s (1968) formalist approach to narrative structure of literary works, since they do not necessarily follow the traditional narrative sequence that has been suggested.

³ A process that occurs outside of the confines of human thought. [*extra-*] outside of, [*-noēma*] thought, idea. (Oxford English Directory through en.wiktionary.org)

Video games are certainly different than traditional narratives. Aarseth (1997) calls cybertext a medium that requires a certain effort in order to be read –ergodic literature. It could be considered as form of media which incorporates some sort of narrative, yes, however it differs from traditional narratives or even the more contemporary cybertexts: there is a simulated world that is living and proceeding even without the participation of the player. Hence it could be said that the narrative is not fixed in games such as *Fallout 3*; the player and the game mechanics alter the narrative structure continuously throughout the game.

It is possible to focus on the exclusive analysis of a certain game title, however, as with any form of narrative – provided that we are considering the narrative aspects of the game – the research of games should not exclude the analysis of the participation by the receiver – the *gamer* in this case – since some aspects of the game would not present themselves without relative study of the game and the gamer. However, although this thesis makes use of player comments and informal interviews about games, it is not an audience study, yet the researcher is put in the position of the gamer for the study of this particular game.

Fallout 3, a computer Role Playing game that is released on October 2008, was the long-awaited sequel for the *Fallout* and *Fallout 2* titles that are released in 1997 and 1998 respectively. It is inherently superior to the first two titles, by the means of audiovisual aspects and a much more powerful game engine that is capable of generating a bigger game-world and a variable state of gameplay, yet it is somehow criticized by some of the gamers and the fans of the previous games. The understanding of miscellaneous reasons for this criticism – as well as other criticized

game elements – is one of the objectives of this thesis, which is examined within the study of game elements and their effects on gameplay.

Eric Zimmerman (2005, p.455) explains the narrative interactivity through four subdivisions; cognitive (user response and cognition), functional (design and utilization), explicit (literal meaning of interaction; choices, procedures and results) and cultural (experience outside of the particular text). He also suggests that these categories are not distinct but overlap one another and the distinction between a regular book and an interactive fiction comes from the third item –explicit interactivity, since games are truly interactive in the sense that the user participation alters the integrity of the narrative of a video game (Zimmerman, 2005, p. 459). Zimmerman creates this classification not exclusively for computer games, but for other forms of media texts and games that conform to J. Hillis Miller's (1995) definition of narrative as well:

- 1) A narrative has an initial state, a change in that state, and insight brought about by that change. You might call this process the 'events' of a narrative.
- 2) A narrative is not merely a series of events, but a personification of events through a medium such as language. This component of the definition references the representational aspect of narrative.
- 3) And lastly, this representation is constituted by patterning and repetition. This is true for every level of a narrative, whether it is the material form of the narrative itself or its conceptual thematic. (p. 455)

Zimmerman gives this definition in order to understand the possible relations between traditional narrative and video games. While it can be said that the first point is valid for video games as well; the game has an obvious initial state (background story, setting, character creation, etc.) changes to that state (basically the gameplay) and the insight (the outcome of the game, or the reactions of the player's actions throughout the game). The 'events' of the game might be considered as a different aspect that of the books or movies, where they are occasionally formed and sequenced by the gamer. Although the games mostly include series of events, they are not total representations of something else, other than what they simulate. And lastly, one could consider the video games as having patterns rather than repetition within the game-structure.

Juul (2005) allocates the game titles under two basic game structures, *emergence* and *progression*. Emergence games⁴ are traditionally the dominant form of the games whereas the progression games are historically a much more recent development. In emergence games a small number of "rules" combine to provide variation in the gameplay, thus, resulting in great replayability for certain games. It gives basic rules and limits the player in some aspects, while providing him the grounds to create and execute his own strategies that are not predefined by the game designer. Traditional board and card games are tactile examples of this game structure, whereas strategy games and most action games as well as some of the RPGs are examples from the digital medium.

⁴ The *emergent gameplay* should not be confused by the term *emergence game* here. The emergent gameplay, where the strategies or exploits that are conducted by the player results in a situation where the game is played that is not intended by the producers of the game, could actually be considered as a side effect of the emergence game structure.

Progression games, on the other hand, are where the game designer is controlling the sequence of instances in the game; there is a series of challenges that follow each other which are presented within strict special-case rules, and the player has to follow the sequence in order to complete the game. Since the designer is mostly responsible for the development of narrative in the game, it allows him to emphasize the cinematic aspects of the title. Adventure games, for example, are pure progression games, where the player has to complete each task in a strict order, or the game would not proceed.

Juul (2005) also suggests that there are games which combine elements from both of these previously defined game structures (p. 82). Some RPGs, and in this case *Fallout 3*, is an emergence game with progression components, where the basic/core game structure is emergent but there is also a main quest which can be described as sequenced, and progresses whenever the player wishes to exert oneself.

2.1. Non-Linearity Concept in Video Games

One of the arguments that rise when using an interdisciplinary term such as “non-linearity” would be the presumption of directly borrowing it from other fields, where it is actually used in the field of video games in a revised form. Other than its original usage in the field of mathematics, the closest fields that this term is attributed to would be literature and cinema. Although several alterations to the traditional linear narrative of the fields of literature and cinema were experimented through the course of their development, their achievements are quite different in

terms of viewer participation. Carolyn Miller (2004) gives the pioneering examples for those corresponding fields as they break the traditional approach:

Traditional entertainment, especially material that is story based, is almost always linear. In other words, one event follows another in a logical, fixed, and progressive sequence. The structural path is a single straight line. Interactive works, on the other hand, are always nonlinear. Even when interactive works include a central storyline, players or users can weave a varied path through the material, interacting with it in a highly fluid manner (p.11).

While some writers and directors, such as Christopher Nolan, have tried to break the linear narrative of traditional media, the progression in those non-linear stories has always been situated in the choices of the author, not the receiver. In non-linear computer games, even though the game developers create the core design and plan a part of the plot, the player always establishes the progress. Miller (2004) gives the examples of authors such as William Burroughs and his “cut up⁵” literary works, and the theatre plays of Luigi Pirandello that break the invisible boundary between the audience and actors called “the fourth wall” (p. 12-13).

Roughly, the difference of the non-linearity aspect of a video game, from the other usages of the term, is derived from the participation of the user in the medium, thus altering the medium and its non-linearity. It is correct that all media require a form of user to become meaningful; a book or a movie is non-existent to a person if that

⁵ Burroughs cut up the text in his books and re-arranged them, believing this new arrangement would cause new meanings to emerge in his works.

person does not use the respective means to traverse the medium. In a book, its content, such as the story in it and its characters, is constant; it is created by the writer and has a fixed linearity. Even in the books that experimented with breaking the classical linear narrative the plot becomes definite from the point of the author. Video games could be considered as one of the most interaction-oriented mediums to-date; without any interaction from the user, the player, it does not function as a narrative text. Manovich (2001) elaborates the difference of video games from traditional media from their characteristic feature of being “spatial journeys” which allow movement within the virtual world and the exploration of it:

Instead of narration and description, we may be better off thinking about games in terms of narrative actions and exploration. Rather than being narrated to, the player herself has to perform actions to move narrative forward: talking to other characters she encounters in the game world, picking up objects, fighting the enemies, and so on. If the player does not do anything, the narrative stops (p. 247).

In the first chapter of *Six Walks in the Fictional Woods* (1994), Umberto Eco, giving examples from previous literary works, discusses this subject where the author creates an ideal model of reader through the use of several clues and the style chosen and he establishes that the process of reading is intended by the author and imposed on the reader. The author could choose to convey the story with unconventional methods and an unorthodox narrative that could be called as non-linear, yet in the end the formed story and plot are determined by the author. Yet, every individual reader has his/her own ways of reading, which could be linear and non-linear in

technique, which would not fulfill the model reader position assumed by the author (p. 1-25).

The computer games often include stories, yet the ones that are labeled as non-linear or open-ended lack a definite plot. The plot is formed through the gameplay, the gameplay is executed differently by each individual player, and through the game's and the player character's agencies. As the video games improve and become more complex in design, then the constitution of the gameplay becomes more independent than simply a selection of choices; the game integrates artificial intelligence, and instead of scripting the dialogues or any kind of reaction towards an action, the game "thinks" and decides upon the necessary reaction and produces an almost unique outcome in different gameplays. The participation of the gamer and the interaction level between the user and the medium is even greater than what is defined as second-level reader by Eco or the struggling reader who traverses the ergodic literature that is described by Aarseth.

Part of the medium is changed alongside with the approach or the interaction. While reading a book or watching a movie the user is allowed to perceive the provided information as arbitrary, thus even though the information is fixed, the reception procedure is prone to change and could result in a non-linear narrative that was not intended by the author. The video game player could also have the same approach of perception, yet as his/her perception changes the provided information could also change, in ways that might not be foreseen by the game designers.

Hence, the non-linear property of certain video games works in a more advanced level than of pre-existing media forms. Besides the narrative non-linearity that may be present in certain examples in different fields such as cinema and literature, video games integrate another specialty that is called “non-linear gameplay”, which differentiates it from other non-linear works. The narrative elements work similarly to the non-linear books or movies, yet the player is free to change the progression of the non-linear storyline in the course of his/her gameplay.

2.1.1. Multiplayer Non-Linearity

Multiplayer games, especially MMORPGs⁶ have integrated the concept of non-linearity differently than the single player RPGs. The first example of multiplayer games date back as far as 1978 when the first example called MUD⁷, Multi-user Dungeon, became the synonym for the genre. MUD was a text based role-playing game, where the user is informed about the events and current environment via textual information and the preferred actions of the player are executed by typed-in commands through the command line interface.

Multiplayer games have evolved continuously since then and become the Massively Multiplayer Online Games, where thousands of players could connect to a single game server, and compete against each other (PvP) besides playing against the computer (PvE)⁸. Contemporary examples such as *World of Warcraft*, *EVE Online* or

⁶ Massively multiplayer online role-playing games.

⁷ The first game is often referred as MUD1 to distinguish it from the general genre of MUD.

⁸ Abbreviations for “Player versus Player” and “Player versus Environment”, respectively.

Guild Wars are played by millions of players worldwide⁹ and could be studied through many different aspects, yet they are seldom used as research subjects for their narrative aspect, nor could they be studied with the exclusion of their participation and interaction dynamics.

Nevertheless, these types of games are intentionally left outside the scope of this research; the non-linearity aspect of the MMORPG games do not particularly belong to the game itself, rather, it is derived from the participation of other players and their influence in each others interaction with the game. Thus, without participation, the non-linearity concept is almost exclusively non-existent, and on a single player level the game is fairly linear. This thesis mainly focuses on single player video games, without any platform restrictions, in order to understand the game itself, alongside its players.

Besides multiplayer games, this thesis partially excludes the subject of *casual games* and *gamers* – based on these terms defined by Jesper Juul (2009, p.8-12). Casual gamers are players who stereotypically does not exert as much effort during the time that they spend playing a game as a regular or hardcore gamer; they occasionally play quick, simple and flexible games, such as browser games or abstract games of any kind (Guitar Hero, Rock Band, Wii Sports, etc). Although such casual games bare similarities with regular video games, in certain aspects (peripherals, rules and occasionally fiction), their components laid out different than standard video games (Juul, 2009, p.50)

⁹ source [http://www.gamesindustry.com/about-newzoo/todaysgamers_graphs_MMO]

2.2. Enjoyment Through Non-Linearity

Despite its melancholic and distressing post-apocalyptic setting, the appeal of *Fallout 3* and its depicted universe is undeniable. The game takes place in a devastated Washington D.C and its surroundings, called “Capital Wasteland”. The player takes the role of a young man who spent his/her entire life living in a vault, Vault 101, which has been designed as a shelter from the nuclear war and its fallout. The introduction and tutorial part of the game takes place within this vault, after which the player is forced to leave for the wasteland. Afterwards the player would follow his/her father to unfold the main storyline, who has been introduced during the tutorial chapter, or wander around the game world, to find new quests and side-quests, while stalling the completion of the main quest-line.

Without numerous discussions, it could be simply put that playing video games induce pleasure in one way or another, which could be defined as enjoyment. However, the reasons of the enjoyment or how can take pleasure from a game are the subjects of much debate. Juul (2005, 92) describes that the enjoyment mainly comes from quality gameplay, and then asks the question “what is quality gameplay?” This thesis is essentially formed upon the idea of conceiving the reasons of the quality gameplay offered to the players by the game *Fallout 3*, thereby differentiating this particular game from others, which is the reason why this game has been selected as the case study.

As quoted by Juul (2005, 92) from Rollings and Morris's book *Game Architecture and Design*, Sid Meier, clarifies the main aspect for a quality gameplay is the "choices" in the game; as he blatantly states that "a game is a series of interesting choices." Looking into some other source Juul describes three criteria for those "interesting choices" that has been given by Meier:

1. No single option should be the best.
2. The options should not be equally good.
3. The player must be able to make an informed choice.

(as cited in Rouse, 2001, 27-28)

So based on these arguments, it can be said that one of the major reasons leading to a quality gameplay that results in enjoyment, is the variety of choices in a particular game. Since the game is an interactive medium that requires the participation of the player, it could be said that this variety of choices and the player's selection are the most important elements of a non-linear gameplay.

No single option should be the best, so the player would not be forced by the game to choose a "correct" solution for the problem presented, which would hinder the gameplay experience and the re-playability. This kind of gameplay is native to the progression games, where the player has to follow directions and select the "best" option provided by the game, thus, progressing the game in the means of developing the story that has been scripted by the developers. Yet, the emergence games –with or without progression elements – would have rare occasions of scripted storytelling, thus usually would comply with this first criterion.

The options should not be equally good; hence every choice should end in an outcome that has a different value than the other. If they are all of equal value then the difference is only superficial and would not actually add much to the development of the plot or the gamers' experience.

The player must be able to make an informed choice. The "choice" is not important or eloquent if the player does not understand it or its consequences. The game should have hinted the possible choices or at least have channeled the player to identify the alternatives.

To further develop these criteria we could look into the game *Fallout 3* and discuss the relevant points in detail. In *Fallout 3* – and also its predecessors *Fallout* and *Fallout 2* – there is no single way to solve a presented problem. The solutions are as numerous as the skills and stats of the PC (Player Character) that the player possesses, which could be applied to a given specific situation. One could play the game as a stealthy character, who avoids most of the fights, and injuries, or would go trigger happy and kill everything on sight, or would play somewhere between these two extremes and balance the game dynamics in his favor. This would not result in any loss from the quality of the gameplay, instead it presents the opportunity to play the game again with various characters and different choices.

According to Juul (2008), "While goals provide a sense of direction and a challenge in games, they can also limit the player: a goal means that the player *should* work towards the goal, rather than follow his or her personal inclinations" (p. 191).

Zimmerman (2005) also emphasizes the importance of non-linearity and the freedom in play conveyed by this non-linearity in these words: "...the real trick is that the designed structure can guide and engender play, but never completely script it in advance. If the interaction is completely pre-determined, there's no room for play in the system" (p. 462). Unlike some of the earlier cRPGs, contemporary games would not depend solely on scripted actions of NPCs and pre-defined reactions from the game-world, but rather adapts certain programmed outcomes to the choices and actions of the gamer.

2.3. Agency, Transformation and Immersion

Janet Murray (1998) in her book *Hamlet On Holodeck*, states that the video games offer pleasure through three characteristic levels: agency, transformation and immersion. What she defines as *agency* is the enjoyment of the player who interacts with the game and becomes satisfied by the results of his/her choices and decisions (p.126). If one could state that a video game is a simulation of life-like situations within a controlled and innocuous environment, where every action could be experimented and the result of a moral choice could be observed, then it could be said that *agency* is a primary mode of enjoyment.

The *transformation* occurs when the player uses a peripheral and a video game and immerses himself/herself into a simulated world where he/she could become anyone in this narrative environment full of variety (p.154). The advanced technology of the video games allows the user to easily become some other person, within this virtual

world and the urge of *immersion* is not merely playing a game by following its rules and narrative. Rather the process inquires a purposeful make-believe:

When we enter a fictional world, we do not merely 'suspend' a critical faculty; we also exercise a creative faculty. We do not suspend disbelief as much as we create belief. Because of our desire to experience immersion, we focus our attention on the enveloping world and we use our intelligence to reinforce rather than to question the reality of the experience. (p. 110)

Ken Perlin (2004) elaborates on the subject by differentiating the video games and these three propositions that Janet Murray states by comparing and contrasting this new media with pre-existing forms of entertainment, such as literary works. In computer games, you forfeit your own agency and experiment certain actions through the player character's agency, but what a player experiences is actually not the in-game character's agency but the player's own agency as well; the PC is a virtual avatar for the player to convey his/her actions into the game-world (p. 14).

By contrast, while reading a novel the user is immersed to the fictional world of the book through the point of view of a character in the book. Similarly the user would give up his/her own agency and experience the narrative of the book through a character that is created by the writer of the novel. Hence the narrative is set before the user has interacted with the cultural work and the interaction would not effect the sequential narrative of the story. That is also the case when watching a movie; the protagonist is always pre-defined by the creator of the work, not the user as it is in the video games.

2.4. Consequential Gameplay

Furthermore, every choice that the player makes has consequences that are actively changing the progression of games such as *Fallout 3*, which would keep the game interesting, thus, resulting in the player's ongoing involvement. A much-discussed quest called "The Power of the Atom", one of the earlier side-quests of *Fallout 3*, would be a perfect example to demonstrate this trait. This quest is acquired in the first town the player visits after leaving Vault 101, Megaton, which has a live undetonated nuclear bomb in its midst that is worshipped by some of the inhabitants of the town.

The quest is either received from the sheriff of the town or a villain that is employed by some other NPC. The villain, Mister Burke, would like the player to detonate the bomb thus removing the town from the sight of his employer, Allistair Tenpenny, who considers this makeshift town to be a nuisance in the perfect view of the wasteland. The Sheriff on the other hand would ask the player to disarm the bomb if he has the proper skills.

After acquiring this quest from either of the NPCs, the player has many alternatives in solving it. One major aspect of *Fallout* is that the player can get the quest from both NPCs. Unless the player progresses to the last task of a quest, the quest is not taken as complete, hence one could complete several opposing tasks and gain a fragment of experience from all of them, then complete the quest on the side of the favored party to gain a bulk of experience. One can negotiate with Burke and get the

detonator from him, convincing him that one shall be completing the quest and destroying the town, for example, but on the other hand after acquiring the detonator, the PC could disarm the bomb, approach the Sheriff and inform him about the schemes of Mr. Burke by presenting the detonator. Following that information, the Sheriff would move to arrest Burke in an open confrontation in the Bar that Burke is located. The player could follow the Sheriff if she/he wishes to and witness a seemingly complying Burke shoot the Sheriff in the back as soon as he gets the chance. The PC would then choose between shooting Burke before he gets a chance to kill the Sheriff or let the murder commence to see how the story unfolds. Disarming the bomb alone completes this quest but the PC could continue to pursue this side quest further as it is indicated above.

The importance of this quest is that it awards the player with a housing unit that will serve as a safe haven – either an apartment on Tenpenny’s Tower or a house in Megaton. Based on the choice that is required to complete the quest, the player blocks the progression or emergence of some other side quests. As explained before, consequences of certain actions are visible during the game: If the player chooses to detonate the bomb, then he would destroy one of the two possible havens in the game, and besides killing a whole town full of NPCs and gaining a huge amount of negative *karma*, he would also have killed several NPCs which would have offered a few of the overall side quests.

The *karma* plays an important role in *Fallout*; if it is on the good side of the scale then you are recognized as a good person by the NPCs, which would open up conversation options and quests depending on them. If the player chooses to play as

an evil character, despite its moral outcomes and effects on the development of the plot, many of the good characters would refuse to speak with him or the vendors might turn down bartering items. Furthermore, a band of bounty hunters, called *Regulators*, would hunt down the player and attack her/him and her/his companions on sight if the player has a negative karma. Opposite aspects are present for the player who chooses to play as a good character; Talon Mercenaries that hunt the player, which are a group of hitman that are hired particularly by Mr. Burke if one chooses to expose but not to kill him, etc. It is rumored¹⁰ that upcoming *Fallout: New Vegas* will implement a more advanced karma system for a realistic gameplay experience.

Besides this quest, there are numerous examples in *Fallout 3*, which demonstrate the non-linear aspect of the gameplay. The whole system of *Fallout* depends on the alternative solutions to the problems presented by the game. That ensures a unique gameplay for every player, and makes the re-playing of the game possible. The developers of the game themselves advertise this aspect as a distinctive promotional attribute. This is one of the aspects that differentiate *Fallout 3* from similar CRPGs.

2.5. Anxiety, Boredom And Flow

There has to be a balance in the gameplay, which would limit this variety of choices in the favor of the gamer. If a game were a fully open-ended, sandbox game, with no

¹⁰ <http://www.digitaltrends.com/gaming/e3-2010-fallout-new-vegas-hands-on-impressions/>
<http://scrawlfx.com/2010/04/fallout-new-vegas-features-hardcore-mode-weapon-mods-and-faction-notoriety>
<http://www.giantbomb.com/fallout-new-vegas/61-25933/>

expressed aims and visible outcomes, then the player would become bored of the game after a while. In this case the game has to provide challenges to the player to keep her/him interested. However, if the game proves to be too challenging than the player would become agitated or frustrated, which would also put her/him off the game. Hence, the game has to have a balance in itself, and should accomplish this balance without the active knowledge of the player.

In his MFA thesis, Jenova Chen discusses the theory of Flow in games, which is a positive psychology term that has been coined by Mihaly Csikszentmihalyi. Chen created his own game, respectively titled FLOW, implementing Flow theory in the form of Dynamic Difficulty Adjustment (DDA) to optimize the gameplay experience. Swink (2009) describes the establishment of the Flow as: “When your skill is matching up well to the challenge you’ve undertaken, you get into the flow state, which is universally described as being a wonderful, life-enriching experience” (p.308). If the game is too easy, the achievements will not be as significant, and if the game becomes too hard, the frustration of failure will overcome the feeling of enjoyment.

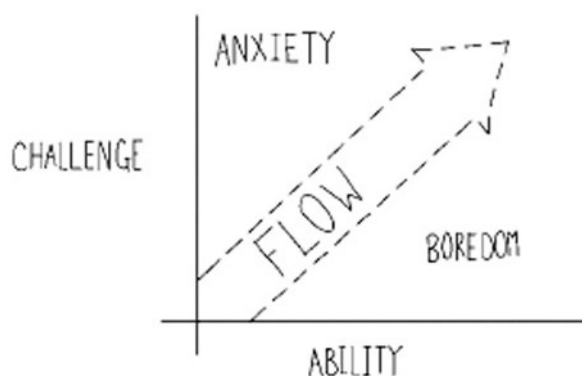


Figure 2.1. Flow Zone Factors (Chen, 2007, p.32)

Chen (2007) uses Mihaly Csikszentmihalyi's Flow theory and adapts it to the video games, and explains that this aims to provide players with subconscious choices to help them actively customize their optimal gameplay experiences instead of offering the player a passive DDA experience (p. 2). Following that Chen explains the Dynamic Difficulty Adjustment (DDA) and states that the difficulty of the game should change and adapt according to the skills and experience of the gamer (p. 8).

Fallout 3, similar to *Elder Scrolls IV: Oblivion* which uses the same game engine, has an active level adjustment setting that controls the level and strength of summoned enemy NPCs and Critters, based on the level of the PC and the difficulty setting, thus keeping the attention of the gamer and maintaining the difficulty of the game. Although it is possible for the player to change the difficulty setting at any time during the game, thus negating or diminishing the effectiveness of the auto-adjustment setting for the favor of his own choice of challenge, when it is kept on it is a powerful feature that helps the game to keep its appeal for the gamer by stabilizing the challenges offered by the game design.

2.6. Controllers And Interfaces

When *Fallout 3* was first showcased in 2008 E3¹¹, the game was criticized by some the series' fans both for its visuals and its style of gameplay¹². The original game and the sequel had an isometric top-down view with a turn based combat system and a

¹¹ Electronic Entertainment Expo, a yearly expo for games that includes presentations of new games, as well as conferences about video games

¹² <http://www.neoseeker.com/news/9147-commentary-11-ways-fallout-2-was-better-than-fallout-3/>

very detailed and varied informative user interface. As the games were developed for PCs (personal computers¹³) with Intel or AMD based processors –and later for Macintosh computers– they were designed for playing by using peripherals such as a mouse and keyboard. Todd Howard, executive producer of the game –and many other open-ended games– conducted the first live gameplay demo on an Xbox 360, which uses a certain wireless gamepad for input. The main reason for criticism of the gameplay came from this dissimilarity of control devices and interface problems based on this conflict.



Figure 2.2. Keyboard and Mouse combination

Some gaming systems, particularly consoles (Playstation, Xbox360, Wii) have much more compact controllers than that of the peripherals of the computers. The basic peripherals of a personal computer is almost always a keyboard and a mouse; for some games the trackpad of a notebook computer might be enough, while additional types of controllers such as gamepads or joysticks might also be used. Nevertheless, it is easier for the developers to design a more effective and robust control system for

¹³ This section of the second chapter uses the acronym PC as means for abbreviating the term Personal Computer, instead of Player Character as it is used throughout the rest of the thesis.

a personal computer that has a keyboard and a mouse, than for a console, where the controllers are system-specific to each particular one (Rouse, 2001, p.65).



Figure 2.3. Standard new generation console controllers

Although the console controllers are used with both hands, similar to the usage of mouse and keyboard, they require less complex actions and have a smaller area for user interaction; since the controllers are usually no larger than 15-20 centimeters in size they mostly require the movement of fingers, not the usual limb movements with the mouse and keyboards. Also, not including the recent developments such as implemented motion sensors in the latest generation of consoles, the conventional controllers have approximately 15 buttons to be included in the gameplay; and many of those buttons are not used within the more popular console games (Rouse, 2001, p.138). All in all, 15 buttons is a small enough number to be compared to the ≈ 105 keys on a standard keyboard, which could be programmed based on the needs of the player for any particular game title. Despite this ability to program the keys, many of the gamers would not change the setting of the key assignments for sake of playing

the game immediately, hence the playability of the default setting is crucial (Rouse, 2001, p. 140).

First, many examples could be given to clarify the utilization of the different types controllers with various game genres. Some action games or its sub-genres, such as fighting games or platform games, require the player to subsequently complete certain actions, thus, requiring repetitive and simultaneous pressing and tapping of keys in order to fulfill the goals of the respective game. For this reason, a console controller such as *Sixaxis*[™] (PS3 Gamepad) would be much more convenient, since its buttons or keys are aligned symmetrically to each other, and they are in close proximity, thus, letting the player to jump from one key to another within a very short distance and time. So it can be said that, despite the gaming platform, a gamepad would be much more suitable for those kinds of games, whereas the mouse and keyboard combinations have a multitude of keys that are spread throughout the area that either one displace. Furthermore, since the PC literally means “personal” computer, it lacks the usual two-player collaboration of the console and the aforementioned input and interface differences render some games such as fighting games as uncommon in Personal Computer platform (Lamothe, 1999, p. 13).

A First Person Shooter (FPS) or a Role Playing Game (RPG), on the other hand, would require precision or versatility respectively. In FPS’s accuracy is rewarding for the player; precision is important in terms of advancement, and for accomplishing the “shooter” objectives. Although these kinds of games could be played both with a gamepad or a keyboard and mouse combination, the gameplay would lack certain amount of precision since the gamepads allow the aiming function with the analog

sticks. In the case of the Nintendo Wii remote, the controller itself is used for aiming, with the use of motion sensors, yet it is considered bulky and coarse in relation to the aiming with a mouse, thus Wii fails to incorporate most of the popular FPS's which appeal to the "core" gamer (Arsenault, 2009, p. 167). For most RPG's, the mouse is enough to perform the necessary actions required by the game. However the shortcuts, the shortcuts assigned to certain keys by default or changed by the player, are used to improve the game experience by shortening the time required to do certain actions, such as using an item in the inventory, hence the use of a keyboard is useful, although not obligatory for RPG's.

For some game genres such as Real Time Strategies (RTS) or Real Time Tactics (RTT) there is a requirement for quick, reflexive and precise movements depending on the developments in the game world; for in a strategy game, the necessary visuals such as mini-map, status bar and the actual game arena are divided and distributed along the screen so that the gamer has to be able to scroll vertically and horizontally, and should have quick access to any of these departments hence the use of a mouse in a RTS or a RTT is essential; "a mouse allows the user to go directly to the option he is looking for" (Fox, 2005, p. 24).

The *user interface* (UI) is a tool or a place that a person requires in order to interact with the computer; to give input and receive output. According to Schell (2008) "interface can mean many things – a game controller, a display device, a system of manipulating a virtual character, the way the game communicates information to the player..." (p.223). It may include the peripherals, which has been explained thus far, or the visual and/or auditory complements of the game that is presented to the gamer.

The interface of a computer game that creates such environment of interaction is usually called *graphical user interface* (GUI). The peripherals, hardware, software and the GUI are all working with one another; they are –or at least should be – considered and designed to be complementary. Most usually the process of the GUI and the peripherals are visible, since the input is given to the computer through a peripheral and the resulting output is visible through the graphical user interface.

As it is indicated in the RTS example, the GUI is an important part of the gameplay; figure of the resources, status of the units, and the mini-map are not just graphical ornaments, but an integral part of the relative strategy game, which the gamer has to master simultaneously in order to succeed. The RPG's have also complex UIs that show additional information throughout the game, for instance the inventory screen, which shows the acquired items, or the character screen, which registers the developments of the Player Character. Alongside these genre-specific examples, the in-game menus of all the games in different genres are relatively similar in purpose; simply put, being a buffer between the virtual experience of the game and the partial reality before its execution, by means of a GUI. The in-game menu is a pause from the game; whether an introduction to the game, allowing the user to select from the available options, such as settings or load/save games, without passing any ludic time, or an actual pause that halts the passage of the ludic time for the making of changes in the previously selected options.

A GUI should be accessible with easy control; it should be simple and self-explanatory. But the simplicity of a GUI should not diminish the depth of the gameplay presented by certain computer games, particularly RPGs. Similar to the

effectiveness of certain types of controllers to the gameplay, the effects are relative in the usage of GUIs as well; the simple and compact layout of a gamepad would require an interface with lesser options to select from or categorized and nested for easy and quick use, whereas a mouse and keyboard would be suited for a more dispersed interface or multiple pages with tabs, to complement the diversity of the gameplay of games such as RPGs (*Fallout*, *Deus Ex*, *Baldur's Gate*, etc.). Fox (2005) suggests that, “[...] with a mouse, a player can skip all of the intermediate buttons and go directly to the correct button, but with a controller he can't.”(p. 68). However, as the current technology allows the developers to create a game for multiple platforms simultaneously, the interface for such games, along with certain game elements, is designed primarily for the *lowest common denominator*, in this sense, the console.

Consoles such as Xbox360 or PlayStation 3 are not the lowest common denominators in the common sense, since their processing power and audiovisual output quality exceeds that of many current PC configurations, but a fortiori their primary controllers are specifically designed gamepads. Since the design of the gamepad and the GUI that are used in a game are designed to function correlatively, a game that has been developed for both a computer and a console would inherently inhibit the interaction of a PC gamer which uses a mouse and keyboard configuration with the game interface.

Aforementioned types of controllers are system-specific, thus, convenient with the appropriate system and the game genre. However, a problem occurs when there is a situation of “porting”, and this might be the reason for the longest running debate

between console and PC (Personal Computer) gamers. “Porting” is the process of implementing a certain game that has been produced for either a console system or a computer system to one that is different than it was originally designed for. Fox (2005) criticizes the main problem of porting process as follows:

Most PC (Personal Computer) games have been created so that both the interface and game-play work well with a mouse. When these games are converted to console without all of the necessary adjustments, a great PC (Personal Computer) game can become difficult or impossibly hard to play. (p. 61).

Even though porting is an old term considering the development of new game titles; the new generation of gaming consoles and the PCs have similar architectures and operating systems thus allowing the developers to produce software (game engine) that can output games for both of the systems yet the contemporary process results in similar problems existent with porting.

Many PC gamers complain about this situation, ignorant about the fact that the problems cause from this multi-platform production. One of the main reasons that an up-to-date computer Role Playing Game (cRPG) is bland and not quite satisfactory for its dedicated fan base, traditionally PC gamers, is that it was simultaneously designed for a gaming console and a PC and thus many of its components and elements are stripped down for the sake of the console gamer. From the point of the producers and developers, this is necessary as the PCs have more piracy-ridden software and games than a specific console; the consoles are the expanding sales

bases. This shift in the development priorities, however, is not quite welcomed by the PC gamers. Nevertheless, there is no alternative for the current situation that would benefit both the developer and the gamers.

Precision was not a necessary feat in earlier *Fallout* games, although the usage of the keyboard shortcuts would benefit the gamer by decreasing the time for doing several consequential actions; instead of opening up the skills window and selecting a skill, lockpick, and clicking on the intended point, the player could push the “2” key on the keyboard and click on the target without crowding the game area with additional windows. Not only was the real-time action in *Fallout 3* shortening the time of combat but it was also adding another variable to the already challenging gameplay: precision. This increase in the pace of the game would be a negative element for some gamers; where some would consider the faster gameplay would ruin the experience that the world of *Fallout 3* would offer.

In certain RPGs and particularly in action games, the gamer becomes more involved with what is going on in the game-world; transcending through the wall that separates reality and virtuality, if the controls of the game are successfully designed (Rouse, 2001, p. 140). In this sense, it could be easily said that controllers and interfaces have much effect on the experience of the gameplay and the pleasure that is derived from it; the controllers are what the player makes use of for traversing the game-world, and re-structuring the narrative of the game. Although the controllers are genre-, system- and user-specific, a gamer excels at the controller that he/she is most accustomed to. Nevertheless for some game genres that require a specific type

of controller, even a hardcore gamer would not feel comfortable with a contradicting game controller.

The controllers along with the interfaces are tools that provide the player the ability to traverse the world of video game –to move through the spatial virtuality of the game and explore it. The difference between types of controllers and the respective design of interfaces define the versatility of the gameplay experience, hence their effect on the design of the game thus, subsequently to the gameplay is immense.

CHAPTER 3. FALLOUT 3[®] A POST NUCLEAR GAME

War, war never changes...

-First line of *Fallout* series' intro cinematic.

Dovey & Kennedy (2006) cites from Roger Caillois, and states the two distinct categories of play: *ludus* and *paidia* (p. 25). Ludus is rule based play, which have clear objectives and win or lose situations. Paidia, on the other hand, is open-ended and improvised type of play. Games like *Fallout 3* allow the player to experience both types of play simultaneously.

Espen J. Aarseth (2003, p.2) suggests that one should study the video games under three headlines: gameplay, game-structure and game-world. Although there are numerous attributes of a video game and various characteristics, it is possible to include them in these three general elements. However, this tripartite of aspects does not constitute a game model, rather it ramifies the characteristics of a video game that are already defined by a model. Therefore, this thesis refers to the classic game model, which is suggested by Jesper Juul (2005) in his book titled *Half-Real*, where he redefines the concept of video games, based upon the knowledge of earlier definitions of games and their digital counterparts. To recall, Juul himself summarizes the definition of games given as the classic game model:

A rule-based formal system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels emotionally attached to the outcome, and the consequences of the activity are negotiable. (p. 36)

Juul derives this six-point aspect model from the earlier studies of games from scholars such as Caillois (1961), Crawford (1982) and Salen & Zimmerman (2004), etc. and combines the intersecting points of those studies to create a new and reformed game model. Following this summary, he then argues that this classic model is inadequate for defining and explaining the current era of video games, since aspects such as the rules that the games are based upon are interpretable in some game genres, for instance the role-playing games, and furthermore they are modifiable and prone to become more complex in accordance with the incomparable processing power of computers in contrast to humans (p.53).

Nevertheless, if we are to study games as a cultural artifact we could accept the definitions provided by Juul and analyze the game based on the methodology of Aarseth. First of all, the game *Fallout 3* will be briefly analyzed based on the interpretation of Juul's definition with six features and the argument that Juul himself initiates will be further studied with the help of *Fallout 3*; "the classic game model is no longer all there is to games" (p. 53). Following that, *Fallout 3* will be presented within the suggested framework of Aarseth composed of three parts, game-world, gameplay & game-structure, while comparing it with the first two games in the series and other similar titles, to understand how the different aspects of a video game affect the overall experience of playing a game.

3.1. The Classic Game Model Revisited

The argument that Juul institutes is based on another type of approach to the concept of video games; besides treating the video games as a new medium that evolved from previous forms such as literature and cinema and studying them within the frameworks of scholars in respective fields, one can also consider the video games as another medium that the “transmedial” games are executed within. Since, what we call a “game” was present even before the emergence of mediums such as literature and cinema, this school of thought separates the line of events that formed the existing forms of media into two, and moves the field of video games farther away from the initial approach that suggested its aspects should be researched within the existing forms, for instance through the usage of the methodologies of literative narratology.

The classic game model was created to define the games prior to their digital counterparts; hence it mostly applies to games of several different media, without the inclusion of contemporary video games. Nevertheless, one could explore the six features that are given in the new definition of the classic game model (Juul, 2005, p.36) by using the game *Fallout 3* as an example.

Rules are expected to be present in all games, whether it is a traditional game of chess or a Real Time Strategy played on a computer. *Fallout 3* includes explicit rules about inventory statistics, character creation, dialogue and the karma system. It also

includes implicit rules such as game-world mechanics; gravity or day/night time scale, critter respawn locations and creature hit-points.

The player expects a *variable, quantifiable outcome* as a result of an action. The most constant outcome of the quests that are taken in the world of Fallout 3 could be considered as experience points and units of bottle caps. Since those experience points are used to improve the attributes of the player character or the money is used to buy better equipment, the *valorization of the outcome*, might be considered as the necessary increase in both acquisitions of experience and money in order to advance in the game-world.

Besides progressing through the main quest-line, the *player exerts some effort* by discovering side quests, and completing them in alternative ways that rewards the player with more experience points, and aiming, jumping, shooting and sneaking throughout the game world. The player would become *attached to the outcome*, when she/he subsequently completes a section of the game, in the terms that she/he has charged the player character with; the successful completion of a quest that results in positive karma in accordance with the ongoing “light” alignment of the PC.

Consequences of the actions that have been executed within the world of *Fallout 3*, could be easily seen throughout the gameplay. The karma system works efficiently to place the player character in a scale of right and wrong, where the effective selection would result in a different gameplay; NPCs reactions change, the possible trading characters may not cooperate and the possibility of acquiring a quest might be taken away based on the alignment and the respective actions of the PC.

3.2. Game-World

Fallout is the title of the computer role-playing game series created by Black Isle Studios and later by Bethesda Game Studios, which takes place during 22nd and 23rd¹⁴ centuries on a fictional post-apocalyptic world that has been destroyed by a nuclear world war. Its audiovisual style and narrative elements could be described as retrofuturistic; although the plot takes place in the future, the design of objects, borrows elements from the past. That is particularly due to the fictional timeline in the game breaking off somewhere during the 1950s and witnessing a different technological advancement in the world. The game borrows heavily from works of fiction that were written after the World War II and then peaked during the Cold War—particularly during the paranoia that emerged from the 1962 Cuban missile crisis—which have a certain post-apocalyptic theme that is in accordance with that was imagined by the people of that period. Hence, like those works of fiction, the world of *Fallout* is designed to visualize a “world of tomorrow” as imagined by the people of 1950s.

In this alternative universe, for instance, instead of improving and miniaturizing the computers and thus inventing the microprocessors, the scientists’ research exclusively relied on harnessing the energy of nuclear materials. As a result, they created inventions that are not present in our world, such as microfusion power cells, and correspondingly powered armors and robotic elements. Since that alternative

¹⁴ Fictional World War III takes place in 2077. *Fallout* starts in 2161. *Fallout 2* takes place 80 years after the first game. *Fallout 3*’s story picks up some 30 years after the second game, 2271, almost 200 years after the nuclear war.

universe lacks some of real life objects such as microprocessors or even transistors, yet they have a different kind of advanced technology, it is possible to see similar tools and objects of our time with a different type of design; the nuclear powered cars which look like American automobiles of 1950s and 1960s or computers that are big as a room could be perfect examples for this.



Figure 3.1. A concept art that illustrates the game-world (Capital Wasteland) of *Fallout 3*

In *Fallout 3*, the visual elements are not the only components that are borrowed or based upon a retrofuturistic style. There is a pirate radio in the game called Galaxy News Radio where the player can tune in using the PIPBoy, which has a DJ playing 40s and 50s songs. Besides being a representative of the audiovisual style of the game *Fallout 3*, this DJ, Three Dog is an essential part of the gameplay; he is a Non Playable Character (NPC) that is included in the main quest and furthermore he continuously comments on the players' actions during the radio broadcast and vocally marks the Player Character (PC) with titles as appropriate to his/her actions.

The video games –particularly RPGs and Action games– are usually simulations of physical reality in fictional virtual worlds, with heavily altered realities and fantasy

worlds. Yet some titles, like *Fallout 3* tend to include elements from the real world such as an alternative version of a real life place, which could be interpreted as keeping the virtual experience more “realistic”. Besides these aforementioned visual and audial design choices, it also includes a number of references to other titles in different media throughout the gameworld, such as textual references to George Orwell’s novel *1984*, plot and character elements from Ridley Scott’s movie *Blade Runner* or several brand names that are influenced by real-life products¹⁵.

The characters in the game, both playable and non-playable, are generally descendants of people who survived the devastating war by sheltering themselves in covered places, most likely underground Vaults that were built by VaultTec. Other characters include ghouls, people who were not lucky enough to hide from the bombs yet did not die and suffer from the effects of radiation, and super-mutants, people who are exposed to a fictional virus¹⁶ and forced to mutate. Furthermore, critters such as mutated cockroaches, scorpions and rats are likely to be encountered in the gaming world. All of those characters and creatures live in this virtual post-apocalyptic world; they interact with the environment and each other without the interference of the player. So, although these are designed virtual entities with pre-defined behavior patterns, their actions are not definite thus, the possibility of encounters are virtually infinite¹⁷ for an ambitious player.

¹⁵ One of the major areas and the starting point of the game is called Vault 101, based on the similarly titled Room 101 in the book *1984*; One of the quests is called “Replicated Man”, which includes a character - an android who is unaware of its nature; The infamous Nuka-Cola, the automobile brands Chrysler Motors and Corvega are derived names from Coca-Cola, Chrysler and Chevrolet (Corvette/Corvair) respectively.

¹⁶ The fictional virus is called Forced Evolutionary Virus, FEV, and is present in all *Fallout* games both directly and indirectly affecting the narrative.

¹⁷ It is rather finite, however the number of re-plays is often less than the number of possible encounters and alternative gameplays.

Many RPGs are only non-linear in terms of character creation & development and game-world advance. They mostly give importance to the narrative elements such as story and plot, and attune the other elements of the gameplay within the frame of narrative. This is essential when the designers are trying to create a game where the player would become a central figure in an epic story, and unfold the plot with choices throughout the game. Most of the time the main character (PC) is defined from its gender to skills and appearance, yet they still allow the advancements of attributes to be exclusive to the player, hence creating a notion of freedom in play. Those kinds of games, such as the *Baldur's Gate*¹⁸ series from *Interplay*, have stories that extend beyond the play time of a single title; they usually have books and other types of canonical story elements such as online game encyclopedias or wikis, that are available for players, and useful in expanding the story arc.

The accuracy and static appearance of a story and linear gameplay in a video game is an important element for some game developers. First, if one considers video games as a medium for conveying a narrative, then the main purpose is to put the player in a position where he would execute and develop the narrative sequence of a particular game; the developer could design pre-defined –or scripted– actions that will be triggered by the gamer with the fulfillment of a previous requirement. Second, it makes it easier for the game developers to create a story for a sequel or a prequel –or in some cases, ‘spin-off’s– for the game; since the story is absolute, the difference in character creation and development is not as important for continuity.

¹⁸ *Baldur's Gate* series are Fantasy Role Playing Games (FRPs), which are set on Advanced Dungeons and Dragons' (AD&D) *Forgotten Realms* universe of tabletop RPGs and fantasy/fiction books. *Baldur's Gate* and its expansions and sequel *Shadows of Amn*, follow the story of a Bhaalspawn, named in the books as Abdel Adrian, yet this is neither present nor mandatory for a gameplay experience, since the player is allowed to choose from any gender, race and class.

Contrary to this second reason, the continuity of the story is not completely exclusive to the linear execution of a game plot. For instance in a game which we could label as a title that is close to the non-linear part of the scale, such as the *Mass Effect*¹⁹ series from *Bioware*, the savegames are used by the developers or the developed game to identify the actions taken in the previous game (ME1), and re-shaping the story of the current game (ME2) according to those choices; a certain character that the player has left to die in the first game, is naturally not present in the sequel if the player has imported that particular savegame. Although this character is present in the original (canonical) plot of the ME2 and the presence may include story elements, this is not accessible for a player who wishes to maintain his player character –along with attributes and inventory– from the first game.

The main games in the *Fallout* series approach this subject in a different view. First of all, the player character in the first game is addressed as the ‘Vault Dweller’²⁰ by other NPCs, and is almost never completely defined in terms of appearance and actions, thus, eliminating the canonical necessity of creating a definite main character. Secondly, the games have huge time gaps between them; the first game is set to start in 2161, the second game 2241 and the third game takes place in 2277, and although the game is set in the same universe and has the same storyline, the main characters and starting points differ with each game, thus the in-game

¹⁹ *Mass Effect* is a science fiction, action role-playing game that takes place in the 22nd century, and the main protagonist is called Commander Shepard. The physical appearance, first name, gender and background is selected by the player, but since s/he is always addressed as Shepard, those selections do not directly alter the main story, yet the plot may change during the course of the game based on some chosen attributes.

²⁰ The protagonists of the sequel games subsequently follow the same idea of identification; the main character in the second game is labeled as ‘The Chosen One’ by every character in the game. In the third installment of the game the player character is not given a specific name or title, yet is addressed as ‘the boy from Vault 101’ by the DJ Three Dog and is labeled according to the actions and choices s/he makes, such as ‘Shield of Hope’, ‘Guardian of the Wastes’, ‘Sword of Despair’, etc.

continuity and canonical mistakes are overlooked considering the fact that the information is not stored in the game world because of the lack of storage devices and stories told are changed within that huge distance and the time gaps.

The visual design of the game-world is an essential contribution to the gameplay. Besides providing the player with aesthetic visuals, an experienced player would notice certain nuances that have been placed within the game-world, such as a separately colored tile, or an uncommon item on a shelf. The player would realize these undue details as pathways or routes to follow and explore (Atkins, 2008, p.237). Atkins (2008) quotes Henry Jenkins stating that this “narrative architecture” and its resolution by the player as the most basic pleasure of games that include the architectural design as an aspect of the game-world (p.238).

3.3. Gameplay

We can categorize the gameplay structure of any video game under two types of time-keeping systems: Real-time and Turn-based. Real-time games are continuous in terms of game time and gameplay. The examples of this type of games can be observed within action, simulation and sports game genres, where the nature of the game requires the player to think and act quickly. In turn-based games, whether it is a tactics game or a RPG, the flow of game time is partitioned and the gameplay is sequential. There are many elements, particularly in RPGs, that affect the success of the player; *initiative* –the attribute which stands for the priority of a player’s sequence– and *action points* (AP) –the number of points that define the quantity of

actions that a player can carry out, and direct the player to establish effective tactics—could be given as examples. Nevertheless, as with the most aspects and concepts of video games, those two game types are not definite and could overlap each other.

Fallout and *Fallout 2* could be placed under turn-based systems, but only if one considers the fighting sequences and hostile areas as a major part of the game, since the exploration and interaction part of the game is in real-time within the neutral and friendly zones. The first spin-off from the main series, *Fallout Tactics: Brotherhood of Steel* integrated a new system called continuous turn-based (CTB), where the action of player character(s) are continuous, and the terms of initiative and action points (AP) are still in use; the player executes actions without any interruptions to the game time and during play the computer calculates the APs required for any action based on the stats of the player character and compares initiative scores (natively called *sequence* in the *Fallout* series), etc. Although this style of gameplay is not obligatory —the original turn-based gameplay is still optional- it definitely improves the pace of the gameplay compared to the first two games.

A slightly different version of gameplay, one which could be defined as a combination of previous styles, is present in *Fallout 3*. Despite the fact that it is possible to play the whole game in real-time —including the fighting sequences- and from 1st and 3rd person perspectives, the player has the option of using a system called V.A.T.S. This semi-fictional²¹ system, if selected, pauses the fight and allows

²¹ I choose to call this system, Vault-Tec Assisted Targeting System, as semi-fictional since, the name and the integrated system is explained as a fictional system that is functioning as courtesy of the new PIP-Boy 3000 (Personal Information Processor-Boy), a kind of wrist-computer that the player characters in the *Fallout* series are in possession of, yet the application that it presents is visible to the player as a real aspect and it is an important part of the gameplay system. This labeling is similar to what Jesper Juul (2001) calls the video games as “half-real”:

the player to choose a series of actions, such as specifically targeted shots by zooming to the enemy, and executes these selected actions after the pause in a stylistic bullet-time²² animation. The APs and initiative (*sequence*) is still calculated during this pause and indicated within the V.A.T.S. screen, hinting the presence of the original turn-based system of the first two games.

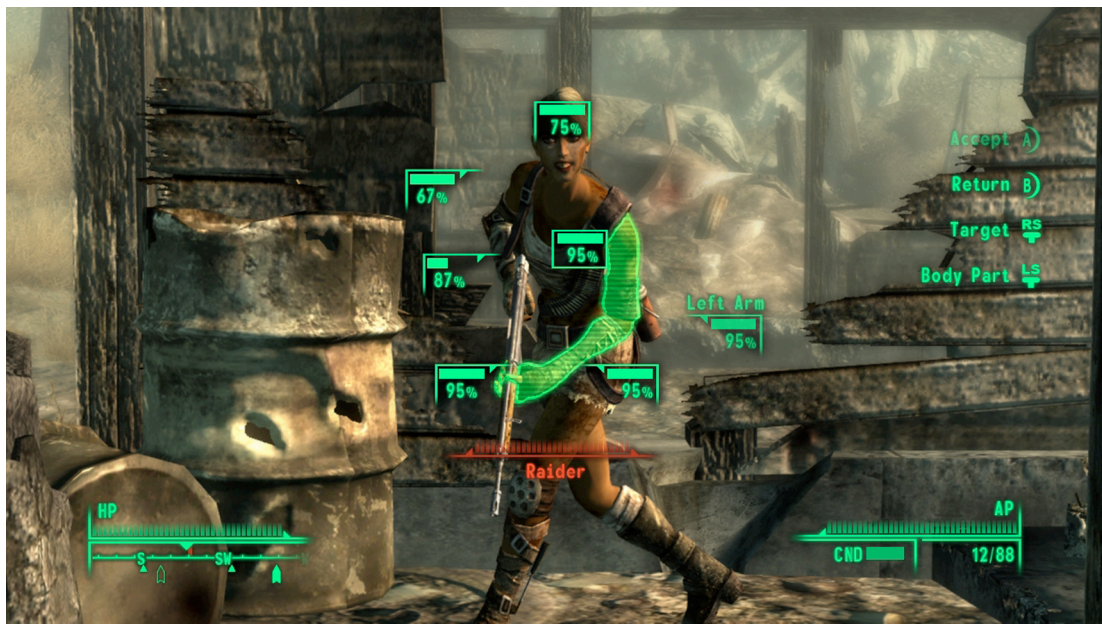


Figure 3.2. *Fallout 3* V.A.T.S. screen

Because of the limitations in computer technologies present during the time of the development and release of the first two titles (1997 & 1998), those games rely on the textual information as much as they use visual representations. The graphics are top-down isometric view, which allows the PC, and NPCs to be visualized as similar 2D sprites. Hence the dialogues with most of the characters are provided as texts,

“...video games are real in that they are made of real rules that players actually interact with; that winning or losing a game is a real event. However, when winning a game by slaying a dragon, the dragon is not a real dragon, but a fictional one“.

(Half-Real, introduction)

²² It is a visual effect that is primarily used in motion pictures, and first introduced in the movie *The Matrix* (1999). Bullet-time is a digitally enhanced simulation of the combination of slow-motion with changing camera angles. The first incorporation of this effect to the video games was *Max Payne* (2001)

without changing the game view rather merely framing it. Nevertheless, some selected NPCs such as the Master (FO1), the end-game boss in the first game or Harold a recurring character in the series, has pre-rendered portraits in those mentioned frames with voice acting to the provided textual dialogues. In contrast, *Fallout 3* has every line of dialogue voiced, while still using a similar point of view during the dialogues as the first two games. Instead of framing the main gaming view, *Fallout 3* zooms in to the character that the PC interacts with, places the player camera directly facing him no matter the distance between them.



Figure 3.3. Comparison of the dialogue screens of *Fallout 1* and *Fallout 3*

Although the voicing of all the dialogues is generally considered an improvement to the gameplay experience, the technical and economic restrictions of the current video game industry resulted in diminished dialogue options, thus a limited choice of options and a shorter, monotonous story compared to the first two games. Besides the change in the visual style, this simplification was the other cause of major criticism by the players²³.

²³ <http://pyriteprincess.xanga.com/689510255/fallout-3-the-worst-game-ever/>
<http://www.nma-fallout.com/forum/viewtopic.php?t=47736&sid=1ddeae9aae63650b6ec1d0062100e235>

3.4. Game-Structure

The *Fallout* series uses a specifically designed rule system, both for its tabletop games and digital games, called *S.P.E.C.I.A.L.*, that separates it from many other RPGs that were released during the same era. It is an acronym for main character attributes; Strength, Perception, Endurance, Charisma, Intelligence, Agility and Luck. It is based on GURPS²⁴, which was designed to create a universal gaming system that would be compatible with every role-playing game that is. Several popular CRPG titles that came out in the late 1990s or early 2000s such as the *Baldur's Gate Series*, *Planescape Torment* and *Neverwinter Nights* have been using the rule system of *Advanced Dungeons & Dragons*, which was another attempt to create a generic gaming system, yet has a different approach to the concept of character creation. In games that are based on the AD&D rule system, in order to develop a character, the player needs to select a class, and improve the respective skills that are required for this particular class by generic points earned from experience points.

A different, skill-oriented rule system was used in *The Elder Scrolls* series starting with *Daggerfall* (1996). Instead of gaining experience points from killing enemies and completing quests, *Daggerfall* requires the player to use the respective skill in order to upgrade it, such as running and jumping to improve Athletics skill or using a sword to improve the Blade skill, etc. However, the game still integrates a certain class system, hence, in order to level-up, the player has to improve a certain set of

²⁴ Generic Universal Role Playing System.

skills that is associated with the selected class. Although the player has to do more role-playing than in an AD&D game, realistically improve attributes, which are exercised, and has a larger variety of class selection, s/he is still bound by this limit of choices.

S.P.E.C.I.A.L. system allows the player create a character with every detail from attributes to skills and perks²⁵, yet does not require the selection of a particular class, nor does it include any system of classes for that matter. Without a pre-defined class and the compulsory specialization, the player is free to choose any type of gameplay without the need to conform to the requirements of a class-oriented gameplay. The skill points are defined in percentages yet it is possible to pass beyond a 100%, hence there is a large interval of possibilities; this, combined with several perks and attributes would give the *Fallout* series a superior re-playable quality in comparison to other similar CRPGs, based on the variety of possible player characters and gameplay styles.

²⁵ Perks are special bonuses for the player character that are given as a promotion based on the experience level. It is a concept mostly associated with the *Fallout* series.



Figure 3.4. Screen showing the main attributes (SPECIAL) on a PIPBoy 3000

3.4.1. Bugs, Exploits and Cheating

Although the games are play-tested numerous times before publishing, almost every video game that has ever been created is subject to bugs. Bugs are defects in computer software that results from human errors in designing or coding a program, which gives unexpected and false outputs when encountered. These bugs could range from basic graphic glitches such as wrong application of skin textures, to serious system bugs that prevent the advancement of the game. Most of the simple bugs are solved or worked-around by the players, with the application of a few techniques. One of them is, reloading the game, so if the error is about the current unexpected situation and not the game engine, then it would resolve after a reset of the same gameplay by loading a previous savegame. Errors such as an advancement during the play crashing the game, is usually related to a more serious problem regarding the game engine and would be resolved only by a complete restart of a gameplay or a

section in a game. Yet if that does not work the player should wait for a patch; after distribution and feedback from players, the game designers usually update the games with patches that correct several bugs in a game.

As the games become more complex and detailed in design, the increase in the number of active components also increases the risk of an error and the creation of a bug (Bartle, 2003, p.319). In other words, contemporary video games include more bugs than video games of a decade ago. Hence, *Fallout 3* has more bugs than the previous titles in the series combined. The patches and expansion packs corrected some of these bugs, yet even those expansion packs came with bugs of their own. Although the bugs mostly interrupt a flowing gameplay and spoil the overall experience, the gamers sometimes utilize them in order to achieve some results that were not intended by the game designers.

Those utilized bugs are called exploits, and they are sometimes considered to be a form of cheating, yet do not completely stand within the concept of cheating in video games. Cheating is a controversial and relative subject in video games, which ranges from reading a solution (or walkthrough) and applying it to the game, to using cheat codes. Mia Consalvo (2009) separates the players into groups based on their approach to the subject of cheating and she labels some of the players as *purists* who state that cheating is “anything other than getting through the game all on your own” (p.88). Purists consider any form of external source to help finish a single-player game as cheating; walkthroughs, strategy guides, cheat codes, etc. Still, although cheating is considered unethical in multiplayer games, it is mostly thought as acceptable in single-player games, especially in a second-run play. Benjamin Wai-

ming Ng (2006) mentions the term “bug tactics” in his article, which is a term coined by the players to explain the systematic utilization of exploits in arcade games. It is considered a form of cheating behavior in countries such as China and Japan.

Another method is achieved by using unconventional methods to alter the standard game structure. There are several ways to cheat and they vary from system to system, yet they are mostly used to ease the gameplay. The most popular way to cheat is to use cheat codes in computer games or button combinations in console games; these combinations and codes are created by designers for game testing and hidden inside the game. One can also cheat by modifying the game data either by directly changing game files or by using a “trainer²⁶”, which alters the files during a gameplay, and may occasionally crash the game.

Exploits on the other hand, do not alter the game data in those aforementioned unconventional methods. Players simply react to the bugs they encounter and occasionally utilize some of them to achieve otherwise impossible results and outcomes unexpected by the game designers. In *Fallout 3*, for example, some of those bugs are reported and explained in game forums and discussed by the players as to how to exploit them. Due to a physics engine glitch, the player and other characters may sometimes take damage from the movement of surrounding objects, Thus if the player picks up and holds an object in front of him/her and quickly moves towards an NPC, he/she damages the targeted NPC, eventually killing it without the usual Karma loss or changes in social status that is attributed for killing a neutral or

²⁶ Trainers are simple and specially designed programs, which alter the run time memory data during the time of the gameplay, and allow the player to achieve some unusual results, such as infinite health, money and ammunition.

allied NPCs. One other frequently used exploit in the game is about the recruitment of multiple companions.

The game naturally allows the player to be followed by a limited number of companions that are selected based on the PC's Karma level. Besides a single slot for a humanoid companion, the game grants the player with a "reserved slot" just for a specific NPC, Dogmeat. By firing and rehiring that particular NPC while already having another NPC companion would allow the player to hire two or more humanoid followers besides Dogmeat. Both of these aforementioned exploits –and many more exploits in the game– are not actually bugs but rules designed by game developers for some purpose on their own. The players however exploit these rules for their own purpose and alter the gameplay, the narrative and the story altogether.

3.5. Non-Linearity in *Fallout*

As indicated before, the *Fallout* series does not force the player to follow a single course of action to advance, nor does it rush him/her to complete the main quest. The player is free to explore the game-world and interact with every possible NPC or critter, yet eventually he/she would need to complete the main quest if he/she wants to complete the game itself. The introduction part of *Fallout 3*'s user manual titled "Vault Dweller's Survival Guide" promotes this non-linear type of gameplay:

"When the giant vault door slides open and you're thrust into the harsh sunlight of the Capital Wasteland, you're completely free to make your own

destiny. [...] That's really the most important thing to remember about Fallout 3 – it's your game, so play it the way you want. There is no 'right' way to play". (p. 3)

By wandering the Wasteland, the player could find side-quests that are otherwise hidden, and by even attempting them changes the narrative of that particular gameplay. Any simple side-quest may alter the state of affairs either directly or indirectly by providing the player with recruitable NPCs or unique items. So, if there is the story and a partly determined plot that is defined by the game designers, this type of gameplay could alter the designers' suggested pseudo-reality and create a narrative specific to the gameplay of the player.

Non-linearity aspect of Fallout 3 is not limited to the selection and combination of alternative gameplays. Some of the players report to the forums²⁷ and comment to one another in an endeavor of additional "role-playing" besides the Fallout 3's own role-playing narrative. What they imply is the pseudo role-playing within an RPG, besides the quests and side-quests of the original story. They accept the background and the setting, yet they alter the story of the PC in order to improve the gameplay for themselves; without creating a new character and story, the player re-contextualize the existing elements of the game such as the characteristics of the PC. For example, one of the players on the BethSoft Forums, Carey7090, comments on how he approaches the gameworld:

²⁷ Most popular and active forums include the Bethesda Softworks' official forum, and the fan based Fallout 3 Zone and Fallout 3 Nexus. Respectively:
<http://forums.bethsoft.com/>
<http://www.fallout3zone.com/forum/>
<http://www.thenexusforums.com/>

“I tend to go around collecting bits of pre-war technology and other miscellaneous stuff. Things like Fusion Batteries, Conductors, Pre-war money, anything I think I could use to restore humanity or at least preserve it. I find my character takes on that role, the role of restoration and preservation.”

The game allows the player to alter the pseudo-reality of the game, by providing the necessary elements to practice an alternative or extended role-playing experience within the ongoing gameplay. The game-world includes locations, creatures and items, which have a specific purpose for the narrative of the game itself, yet they are suitable for alternative usage. A player would approach a certain item differently; such as the “Guns and Bullets” magazine, which gives the player bonuses for Small Guns skills, could be utilized by the player as a collection item and could be placed in the bookshelf that is inside the housing unit that the player character possesses along with other copies of the magazine, thus altering its basic usage that is intended by the game developers. If the player requires more elements than the game offers or he/she would like to modify the existing elements, then he/she could use mods.

Mods are software modifications applied to the computer games; either created by gamers or the developers of the particular game itself. There are several kinds of mods; minor “add-on”s that extend certain aspects of the game, such as the number of items and variety in character skins²⁸, or major modifications that stand alone as entire new games themselves. Popular mods are sometimes included in the patches or downloadable contents (DLC) by the developers. *Fallout 3*'s game engine is versatile

²⁸ “Skin” is the term used for the texture mapping of character models.

enough to execute several mods simultaneously and has a self-development kit (SDK) for the gamers to develop modifications as they see fit.

Therefore, it is possible to state that games such as *Fallout 3* implement the concept of non-linearity on several levels. First, the gameplay itself is non-linear considering the alternative solutions during a gameplay and their combinations are virtually unlimited. Secondly, the game-structure allows the player to execute his/her style of gameplay; the player could add or subtract elements of gameplay without modifying the game itself. Finally, the game is open to modifications, by third-party software that changes the physicality of the game-world, alter the gameplay and even modify the game-structure.

3.5.1. Between Linearity and Non-Linearity

At some point during the main quest of a game –provided that the player has decided to advance on, and complete the game- it would be impossible to break off from the quest you have undertaken, as the player will not be able to leave the current area (map) to revisit the earlier game locations, or he/she will not be able to interact with other NPCs that are irrelevant to the current part of the main quest, until the main quest (along with the game itself) is completed. This is called “point of no return²⁹” (PNR) quest and it is actually present in most of the RPGs. Many of those RPGs – particularly if they have a linear gameplay– inform the player before the beginning of

²⁹ The point in a journey or enterprise at which it becomes essential or more practical to continue to the end rather than turn back. [Oxford Dictionaries Online]

this PNR quest, so that the player could check the needs of the PC or the group and make the proper adjustments and trades to prepare for the final quest.

Fallout and *Fallout 2*, although they have included PNRs, allow the gamers to continue to play the game even after the main quest is completed. After the game is concluded the cinematic in the form of a slideshow are presented to the player, commenting on the changes wrought in the game-world after the choices and paths taken. Following the ending credits, the player is free to explore the previous locations in the game-world, as well as finding new locations and run across new random encounters, without the aforementioned changes in the ending sequence. Hence the PNRs present in those games are only effective for a brief period of time, unlike most games where it indicates the end of the story.

Fallout 3 however ends after the main quest is completed. If the player enters the Rotunda of Jefferson Memorial, he/she would not be able to leave the place, since the doors lock after entrance. Hence he/she is forced to complete the main quest by activating the Project Purity, either personally by sacrificing the PC or by proxy – sacrificing an NPC. After that the game ends leaving the player with a similar cinematic slideshow-like sequence that was present in the first two games, yet without the ability to play post-narrative. However, the fans of the series, who had played the prior games of the series, developed a mod for the game, neglecting the ending of the game after the final quest, and allowing the player to continue to explore the game-world, in a similar fashion to *Fallout 1 & 2*. The developers, took this attempt as feedback from gamers and integrated this mod in the expansion pack

called *Broken Steel*, which natively allowed the player to complete the final quest “Take It Back!” without fear of ending the game.

3.5.2. The Concept of Time in Video Games

As the games are defined “half-real” by Juul (2005), not only spatially but also temporally, one should also look at the time concept within video games, and how they are related to the real time that passes while playing the game. Besides the abstract games³⁰ and despite the differences between other game genres and types of games, all the actions that a player executes have a simulated representation in the fictional world of a video game. This simulated action does not necessarily have to be equivalent to the time scale of a real-time action, and certain situations alter the course of this representational time.

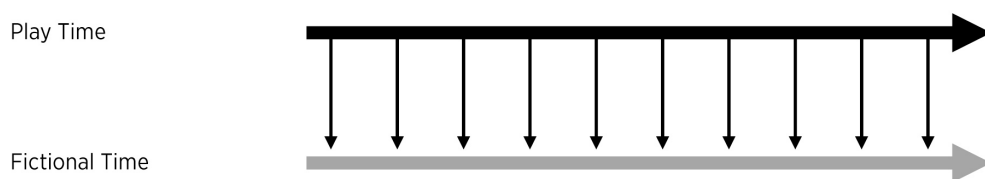


Figure 3.5. Real time games: The play time has a 1:1 projection to the game-world's fictional time (Juul, 2005, p.143)

³⁰ Games which are not usually based on a fictional world, usually adaptations from non-electronic board games such as backgammon, unlike representational games which elaborate the story of a title or a gameplay within a fictional game-world.

Juul proposes a few diagrams in *Half-Real* to briefly explain the comparison between the two separate time scales and prefers to call the time that passes within the game world *fictional time* (2005, p.142). In real-time games such as action games or FPSs, the game time flows simultaneous to the real play time; the action and the on-screen reaction is rapid and continuous.

As the games begin to simulate a world closer to realism, time becomes an internal factor of gameplay, and handled accordingly by the game designers; besides the audiovisual design of the fictional game-world, time is also simulated. Some non-linear action games such as *Grand Theft Auto IV* provide the in-game time to the player as a courtesy and occasionally for quest related reasons. Some real-time strategy games like *Stronghold* or *Rise of Nations* include the concept of time as a part of the game-structure; as the time passes, some scripted events or advancements take place relative to it. In a similar matter, games like the *Age of Empires* series, allows the player to advance time, based on his/her preferred changes in the game-world; when the player chooses to upgrade the main structure of game, then the game time is advanced almost a whole period of fictional time.

The default time scaling in *Fallout 3* is 1/30; 2 minutes of gameplay results in sixty minutes of fictional game time. Time is an important aspect of *Fallout 3*, since the opening and closing times of the stores and some areas are fixed and the player is informed about them. Also, certain attributes of the player character change with the alternating day and night-time, especially if the player character has certain perks such as “Night Person” which gives the character bonuses in attributes during the night.

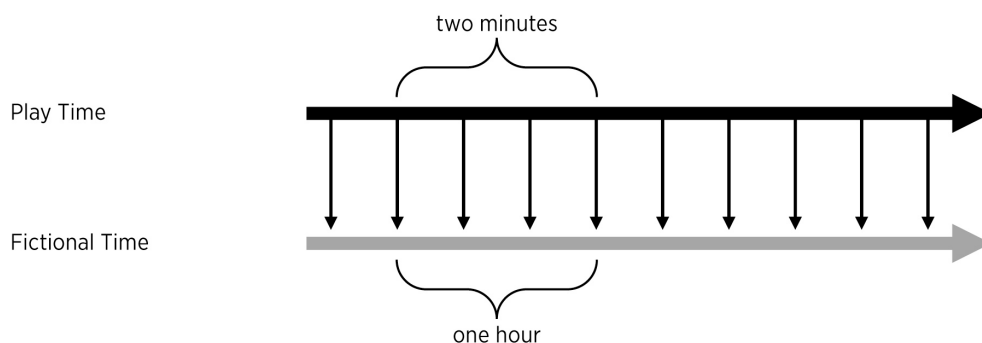


Figure 3.6. A fictional time of an hour takes two minutes of play time (Juil, 2005, p.145)

Some changes in the state of the game result in incoherence in the projection of the real-time to the fictional time of the game-world. One of these subjects, cut-scenes, are a much unsettled area, and still argued about its property as a sequence that breaks up the gameplay. Cut-scenes vary from live action cinematics, like that of the *Command & Conquer: Red Alert* series and certain *Wing Commander* games, to the interactive cut-scenes of newly developed games such as *Resident Evil 4* and *Mass Effect 2*, where during the cinematics the player is prompted to press certain button combinations and by doing so altering the course of the cinematic. Some games like the *Half-Life* series and *Fallout 3* choose not to include any type of cut-scenes, rather they transfer similar necessary information through in-game dialogues with no change in the viewport of the player. Furthermore, a more recent example, *Assassin's Creed* allows the player to retain control of the player character to some extent such as moving and occasionally changing the point of view.

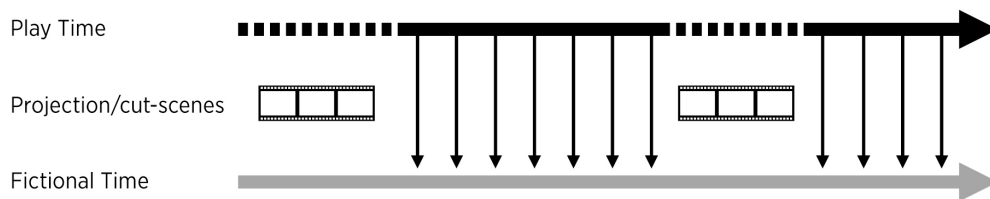


Figure3.7. Alternation between play time being a prop for fictional time and fictional time being narrated by cut-scenes (Juul, 2005, p.147)

An example is given from Rune Klevjer’s 2002 paper “In Defense of Cutscenes” where she criticizes the “radical” ludological approach that dismisses the involvement of cut-scenes (in game cinematics) in which she argues that cut-scenes serve different positive functions in games, such as unifying the games’ logic and story (Juul, 2005, p.16). Although this might be true for many of the game titles, for the past few years there has been a shift of trend in game design, where developers exclude the cinematics –other than introduction and epilogue– and reassemble the elements of a cut-scene within the game engine itself, and provide the player with a more familiar view (First/Third Person, based on the native game view) rather than a stylized cinematic.

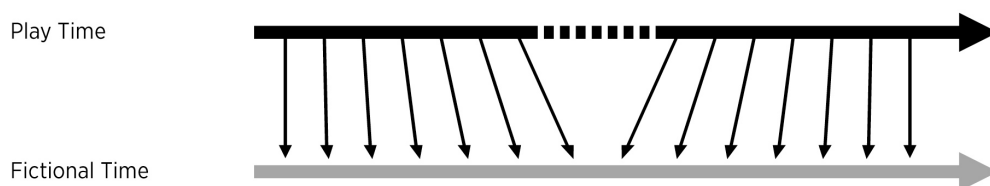


Figure3.8. Moving through game, play time is paused while loading (Juul, 2005, p.149)

One other sequence that interrupts the gameplay is the loading of a new area in the game-world. The time period in the game usually does not change with the loading of a new area, yet time in the real-world changes while waiting for the load. The duration of the loading time is usually directly related with the processing power of the hardware that is used to execute the game or the design of the game system; the loaded files could be compiled in a single file or the number of the files loaded could be large and numerous, thus extending the duration of the loading period. Unlike cut-scenes, the loading does not offer the player any kind of information related to the narrative of a game; hence the gamers praise the shorter periods as a positive attribute.

The game-world of *Fallout 3* consists of a large world map that could be traversed without interruption and the game requires loading only when the player chooses to enter a specific area such as a building or enclosed town. Furthermore, the minimum system requirements of *Fallout 3* was above mediocre at the time of its release, hence the computer systems that allow to run this particular game are powerful enough to load the necessary game files in a brief period of time. These, combined with the absence of cinematic or non-controllable cut-scenes, allows the players to experience a uninterrupted gameplay, thus relatively a much more quality gameplay.

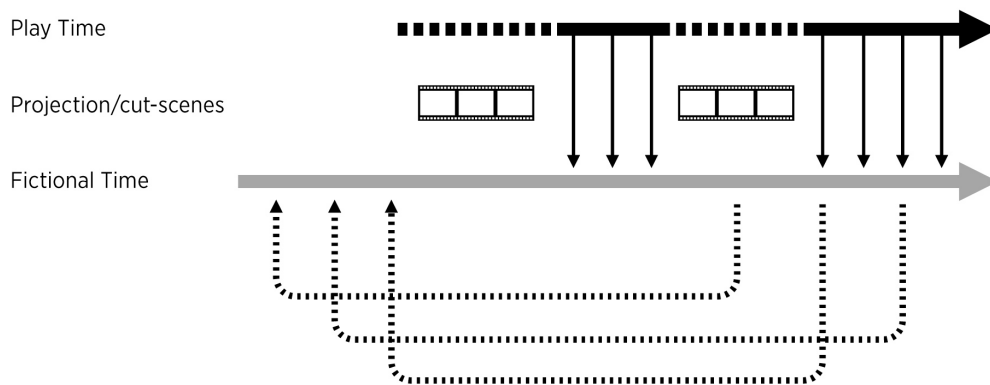


Figure 3.9. Game objects may bring information about earlier events (Juul, 2005, p.148)

As another aspect that alters the time in games, Juul (2005) mentions the game objects that could be found throughout the game-world which provide information about the game-world or events to the player, despite their chronological order. Games such as *System Shock 2* or *BioShock* include logs of previous events in the forms of voice recordings and e-mails, and as the player finds them this information builds up to constitute the background story of the game, up until the current situation. *Neverwinter Nights* and *Baldur's Gate*, have books in the game that the player could find or purchase, which narrate the history of the game-world, that the series are based upon; narrating a history that is temporally older than the current fictional time during the gameplay, does not directly add anything to the gameplay yet it expands the already established game-world, and allows a much deeper character and environment identification.

Fallout 3 both includes logs that give background information about the game-world in the computers that the player character interacts with throughout the game, as well as recordings in the format of holodisk and holotapes, that affect the course of

gameplay. Those recordings would enlighten the unaware player the about reasons for the events that are happening during the current period. In one instance during the main quest-line, besides reading textual information on a computer screen, the player is required to participate in a virtual reality simulation within the simulated reality of the game itself. The quest titled “Tranquility Lane” is stumbled upon after following the trail that is left by the father of the player character and takes place after entering Vault 112.

A leading VaultTec scientist, the one who created the G.E.C.K.³¹ Stanislaus Braun created a virtual reality program in cryogenic storage systems for the residents of Vault 112 before the beginning of the war. At first the idea was to preserve the life before the war as a virtual utopia for the residents who are in a cryogenic sleep, yet after a period of time, Dr. Braun gets bored with his subjects and creates and executes new simulations without the participants knowledge. There is the tripartite concept of “agency, transformation and immersion” in the course of a simulation, the Tranquility Lane, within a simulation, *Fallout 3*. Although small games such as board or card games within the actual video game are almost a common aspect of RPGs, this double simulation in *Fallout 3* is somewhat unique in the sense that it alters the game-world and the game-structure.

The player is confined to a limited environment within the simulation unlike the actual game; an alternative 1950s American neighborhood that has identical households and no visible exits. The color scheme is changed to a sepia tone, which emphasizes the historical reference of the simulation. The player character’s

³¹ The infamous Garden of Eden Creation Kit; an item that is essential for the main quests of all three Fallout games.

inventory is lost apart from the transformation of the PIPBoy into a wristwatch, and thus negating the ability to access the map or the quest log. The adult PC is transformed into his/her adolescent body type and the entire companion NPCs are excluded from the simulation. The overall state of the game is slightly altered, yet the game is still recognizable with its obvious design features.

Besides the “Tranquility Lane” quest, the expansion pack titled *Operation: Anchorage* also takes place in a simulated military campaign. This particular package, allows the player to traverse the game-world of *Fallout* during the events of the Great War -even before the first game. In addition to the new quests and items, certain game rules change such as the replenishment of health and ammunition. The package again demonstrates the simulation within a simulation, and instead of being a part of the main quest, the acquisition, installation and running of the expansion pack is completely optional.

CHAPTER 4. CONCLUSION

The emergence of the video games seeds from developments in other fields of media, yet the resulting product achieves something more than the traditional media. As Wolf (2008) puts it, elements like participation and interactivity work unlike its counterparts in the contemporary examples of traditional media:

As audiovisual entertainment that often involve some kind of narrative structure, video games share a number of similarities with film and television, especially the later ones that are designed to resemble films, with opening sequences, end credits, continuity editing, cinematic camera moves, and other visual conventions borrowed from the cinema. At the same time, the study of video games adds new elements that do not exist in traditional media, like interactivity, spatial navigation of an on-screen world, and the algorithmic structures governing the behavior of the characters and events of a game's world (p. 27).

Although video games are a comparatively new form of media, they have quickly infiltrated the daily life of people from every strata. It is different from pre-existing media forms in many aspects, based on its versatility; both the medium and the apparatus are prone to transformation based on the preferences of the receiver. *Fallout 3* is a fine example of the current era of video games, and could be

considered as a game that includes almost all the possible varieties of a single player video game, which makes it a perfect subject for an analysis within the field of ludology. The game is suitable for alternative types of play, such as ludic or paidiatic play, or adequate for supporting different approaches from different types of gamers, such as killer, achievers or explorers.

Besides the analysis of *Fallout 3*, this thesis approached the subject of video games and the respective field of ludology in three diverse points:

First, the computer and video games should not be considered as just an improvement of pre-existing forms such as literature and cinema or even interactive text. Rather it should be treated as a cultural artifact, which incorporates several different elements from alternating media, and creates a new unique form, which cannot be explained solely by the existing frameworks that are based on those aforementioned forms. The video games should be studied on their own with their definition and methodologies, as well as their players –who are quite different from the viewers and readers of other forms of interactive media. Yet, this does not mean that one should not borrow methodologies from relevant fields, such as cinema, literature and interactive media.

Second, unlike the pre-existing forms of media, video games are still a developing medium both in their context and their technological aspects. Where one might still debate about the developments in literature and cinema, their improvements are comparatively superficial when the constant and rapid developments in computer technologies are considered. Those developments in turn lead to changes in elements

of gameplay both from the view of the game designers and the players, and would result in collaborative improvements which would alter the definition and concept of video games. Henceforth, based on those rapid developments, it might be best to say that any study that has been done and is still in process including this particular thesis, would lose its credibility at some point in the future world of video games if it is considered to be outdated.

Finally, the main reason that one plays games could be summarized and agreed upon as the notion of enjoyment. Although the causes of enjoyment is various, such as beating the game, becoming superior to an opponent or completing an achievement, and they depend on the gamers' choices, the main cause of enjoying a game obviously comes from the design of the game. Many aspects of a video game, such as audiovisual design or style of gameplay add to the quality of experience that one gains by playing and re-playing a game. This thesis emphasizes the design aspect of non-linearity as a major component and an essential attribute for a game's appeal. Where every aspect that has been mentioned affects the gameplay directly, non-linear gameplay results from the overall non-linear aspect of the game; non-linear narrative of the story, flexible character creation & development, choices & actions, etc. The elements that change the narrative sequence of the story of a game affect the gameplay, and the non-linear gameplay alters the narrative sequence in turn as it is evidenced in the gameplay and narrative elements of *Fallout 3*.

REFERENCES

- Aarseth, E. J. (1997). *Cybertext: Perspectives On Ergodic Literature*. Baltimore, MD: The John Hopkins University Press.
- Aarseth, E. J. (2003). *Playing Research: Methodological Approaches To Game Analysis*.
- Aarseth, E. J. (2004). Genre Trouble: Narrativism and the Art of Simulation. In Harrigan, P. & Wardrip-Fruin, N. (Eds.), *First Person: New Media as Story, Performance, and Game* (pp. 45-55). Cambridge, MA: The MIT Press.
- Arsenault, D. (2009). Video Game Genre, Evolution and Innovation. *eludamos: journal for computer game culture*, 3(2), 149-176.
- Atkins, B. (2008). Killing Time: time past, time present and time future in *Prince of Persia: The Sands of Time*. In Atkins, B., & Krzywinska, T. (Eds.), *Videogame, Player, Text* (pp. 237-253). Manchester: Manchester University Press.
- Bartle, R. (1996). *Hearts, Clubs, Diamonds, Spades: Players Who Suit Muds*. Retrieved from <http://www.mud.co.uk/richard/hcdfs.htm>
- Bartle, R. (2003). *Designing Virtual Worlds*. Berkeley: New Riders Publishing.

- Bethesda Game Studios. (2008). *Fallout 3*: Bethesda Softworks. (Computer software).
- Black Isle Studios. (1997). *Fallout*: Interplay Entertainment. (Computer Software).
- Black Isle Studios. (1998). *Fallout 2*: Interplay Entertainment. (Computer Software).
- Chen, J. (2007). Flow in games. *Communications of the ACM*, 50(4), p31-34.
- Consalvo, M. (2009). *Cheating: Gaining Advantage in Videogames*. Cambridge, MA: The MIT Press.
- Dovey, J., & Kennedy, H., W. (2006). *Game cultures : computer games as new media*. Berkshire: Open University Press.
- Eco, U (1994). *Six Walks In The Fictional Woods*. Massachusetts: Harvard University Press.
- Eskelinen, M. (2004). Towards Computer Game Studies. In Harrigan, P. & Wardrip-Fruin, N. (Eds.), *First Person: New Media as Story, Performance, and Game* (pp. 36-44). Cambridge, MA: The MIT Press.
- Fox, B. (2005). *Game Interface Design*. Massachusetts: Thomson Course Technology.
- Hodgson, D. (2009). *Fallout 3 Game of the Year Edition: Prima Official Game Guide*. Roseville, CA: Prima Games.
- Juul, J. (2005). *Half-Real: Video Games between Real Rules and Fictional Worlds*. Cambridge, MA: The MIT Press.

- Juul, J. (2008). Without a goal: on open and expressive games. In Atkins, B., & Krzywinska, T. (Eds.), *Videogame, Player, Text* (pp. 191-203). Manchester: Manchester University
- Juul, J. (2009). *A Casual Revolution: Reinventing Video Games and Their Players*. Cambridge, MA: The MIT Press.
- Lamothe, A. (1999). *Tricks of the Windows Game Programming Gurus: Fundamentals of 2D and 3D Game Programming*. Indianapolis: SAMS.
- Loguidice, B., & Barton, M. (2009). *Vintage Games: An Insider Look at the History of Grand Theft Auto, Super Mario, and the Most Influential Games of All Time*. Boston, MA: Focal Press.
- Manovich, L. (2001). *The Language of New Media*. Cambridge, MA: The MIT Press.
- Miller, C. H. (2004). *Digital Storytelling: A Creator's Guide to Interactive Entertainment*. London: Elsevier.
- Montfort, N. (2004). Interactive Fiction as "Story," "Game," "Storygame," "Novel," "World," "Literature," "Puzzle," "Problem," "Riddle," and "Machine". In Harrigan, P. & Wardrip-Fruin, N. (Eds.), *First Person: New Media as Story, Performance, and Game* (pp. 310-316). Cambridge, MA: The MIT Press.
- Murray, J. (1998). *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*. Cambridge, MA: The MIT Press.
- Ng Wai-Ming, B. (2006). Street Fighter and The King of Fighters in Hong Kong: A Study of Cultural Consumption and Localization of Japanese Games in an

- Asian Context. *Game Studies: The International Journal of Computer Game Research*, 6(1). Retrieved from <http://gamestudies.org/06010601/articles/ng>
- Perlin, K. (2004). Can There Be a Form between a Game and a Story? In Harrigan, P. & Wardrip-Fruin, N. (Eds.), *First Person: New Media as Story, Performance, and Game* (pp. 12-18). Cambridge, MA: The MIT Press.
- Rouse, R. (2001). *Game Design: Theory & Practice*. Texas: Wordware Publishing.
- Rutter, J. & Bryce, J. (2006). *Understanding Digital Games*. London: SAGE.
- Salen, K., & Zimmerman, E. (Eds.). (2005). *The Game Design Reader: A Rules of Play Anthology*. Cambridge, MA: The MIT Press.
- Schell, J. (2008). *The Art of Game Design: A Book of Lenses*. Massachusetts: Morgan Kaufmann.
- Swink, S. (2009). *Game Feel: A Game Designer's Guide to Virtual Sensation*. Massachusetts: Morgan Kaufmann.
- Wolf, M. (2008). *The Video Game Explosion: A History from PONG to PlayStation and Beyond*. Santa Barbara, CA: Greenwood.
- Wolf, M. J. P., & Perron, B. (2003). *The Video Game Theory Reader*. London: Routledge.
- Wolf, M. J. P., & Perron, B. (2009). *The Video Game Theory Reader 2*. London: Routledge.
- Zimmerman, E. (2005). Narratives, Interactivity, Play, and Games: Four Naughty Concepts in Need of Discipline. In B. Bushoff (Ed.), *sagas_sagasnet_reader* (pp. 452-469). Munich: HighText-Verlag

SECONDARY SOURCES (ADDITIONAL GAMES)

ArenaNet (2005). *Guild Wars*. NCSoft

Bethesda Game Studios (2006). *Elder Scrolls IV: Oblivion*. 2K Games/Bethesda Softworks.

BioWare (1998). *Baldur's Gate*. Black Isle Studios.

BioWare (2002). *Neverwinter Nights*. Infogrames/Atari.

BioWare/Demiurge Studios (2007). *Mass Effect*. Electronic Arts

BioWare (2010). *Mass Effect 2*. Electronic Arts.

Blizzard Entertainment (2004). *World of Warcraft*. Blizzard Entertainment.

Capcom (2005). *Resident Evil 4*. Ubisoft.

CCP Games (2003). *EVE Online*. CCP Games.

Garriott, R. (1981). *Ultima*. California Pacific Computer Company.

Ion Storm Inc (2000). *DeusEx*. Eidos Interactive.

Irrational Games (2007). *BioShock*. 2K Games.

Looking Glass Studios (1999). *System Shock 2*. Electronic Arts.

Origin Systems (1994). *Wing Commander III: Heart of the Tiger*. Origin Systems.

Valve Corporation (1998). *Half-Life*. Sierra Studios.

Westwood Studios (1996). *Command & Conquer: Red Alert*. Virgin Interactive.

APPENDIX

KEY

FPS: First Person Shooter.

TPS: Third Person Shooter, a type of action subgenre of 3D shooter.

NPC: Non-Player Character, or sometimes called as non-playable and non-playing character.

PC: Player Character, sometimes mentioned as playable character.

PC (1): Personal Computer. In this work, it is mostly used as solely “computer” to define Intel or AMD based computer configurations that use Microsoft Windows; which is the common type of computer for playing games.

RPG: Role Playing Game, traditional pen and paper tabletop role-playing games with established rules and appointed Game Master.

cRPG: computer Role Playing Game.

MMORPG: Massively Multiplayer Online Game.

RTS: Real Time Strategy.

RTT: Real Time Tactics, which differs from RTS in terms that there is no structure or resource micromanagement in this subgenre.

MUD: Multi-User Dungeon, considered as the predecessor of all multiplayer online games, and subsequently the name of the general genre of MUDs.