Assassin's Creed II: Exploring the Boundaries of Freedom in Video-Games

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ABSTRACT

This Master thesis has conducted a research centring around freedom in videogames. Via means of *Ubisoft's* action-adventure videogame *Assassin's Creed II* (2009) this thesis aims to determine the extent in which the player is free and able to experience freedom in both *Assassin's Creed II* individually, as well as compared to three videogames to provide a contextualised framework specifically for *Assassin's Creed II* as is used in the methodological framework of this thesis. The three compared videogames being *Minecraft* (2011), *The Elder Scrolls V: Skyrim* (2011), and *Halo Wars* (2009) have worked towards providing a contextualised answer in discussed modes of freedom as depicted and present in *Assassin's Creed II.* Via both surface layer narrative and underlying structural algorithmic build of videogames, *Assassin's Creed II* has been analysed using a philosophical approach via theories and debates on freedom, as well as via the use of algorithmic models and the potential dangers algorithms pose in regards to the player-experience of freedom in videogames. Ultimately, this thesis uncovered the potential dangers of algorithms within *Assassin's Creed II*, and thereupon via the compared videogames the potential controlling-tendencies of the use of algorithms in the digital environment.

Keywords: Freedom, Determinism, Ludology, Video-Games, *Assassin's Creed II.*

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INTRODUCTION

Over the past few years, videogames have grown not only in popularity but also in terms of usage and possible platforms, ranging from game development studio *Ubisoft* (1986 -) using a modified, less violent, version of their *Assassin's Creed* games—renamed to *Discovery Tour by Assassin's Creed*,—to freely explore ancient Greece or Egypt without, as stated by *Ubisoft*, the 'conflicts' or 'gameplay limitations' present in *Ubisoft* their regular game version of *Assassin's Creed*.[1] This notion of releasing a version of a game without the components that 'create' the player experience of the *Assassin's Creed* games, and videogames in general, that is known to the general public creates room for discussion on what it is that defines a videogame. As stated in the *Oxford English Dictionary,* videogames, i.e., 'computer games' or 'electronic games', are games played via electronically controlling images produced by a program and displayed on a monitor.[2] The program of said videogame can run on various devices, which usually are personal computers, gaming consoles, or mobile devices. Consisting of 'computer', and 'game', and videogame is an activity providing amusement or fun, running on a device that performs or facilitates calculations.[3] [4] From the birth of personal computers, i.e., PCs, during the 1970s, computers became more accessible, and throughout the 1970s and early 1980s, companies like *Apple* (1976 -) and *IBM* (1911 -) advertised and popularised the use of said personal computers. During the 1980s, the development of the graphical user interface, i.e., GUI, aimed to make computers more user-friendly. This resulted in the *Apple* operating system *Macintosh* and *Microsoft* (1975 -) *Windows* making their way into public spaces. The more accessible GUI consisted of the personal computer user now being able to run commands and start programs via the newly added device, better known as the 'mouse'.[5] *Microsoft* introduced their personal computers and operating system *Windows* to office spaces, including the *Microsoft Klondike Solitaire* (1991) application. Whereas this application included more small video games, the main purpose of *Solitaire* was to have the personal computer users become more familiar with the GUI while enjoying the relaxing experience a

[1] *Ubisoft Store*, "Discovery Tour by *Assassin's Creed* Ancient Egypt."

[2] *Oxford English Dictionary Online*, "Computer game, n."

[3] Ibid., "Computer, n."

[4] Ibid., "Game, n."

[5] *Britannica Academic*, s.v. "Personal computer (PC). "

videogame such as *Solitaire* provided them.[6] The introduction of personal computers to public spaces was hence accompanied by videogames, using their educational potential in integrating personal computers into society. There, however, was a turning point, where employers increasingly started to worry about useful office hours now being spent on 'playing games' and 'casually' browsing the internet.[7] This resulted in the debate regarding the easy access of video games on personal computers, once the user is educated on the new GUI, all there is left of *Microsoft's Klondike Solitaire* is the aspect of fun.

The history of videogames is extensive, and the studies relating to videogames developed into a discipline within ludology, –that is the study of games.[8] An important figure in the history of ludology is a philologist and assyriologist Irving Finkel (1951 -), who studied the history of board games during the 1990s. Another notable figure in the history of ludology is game designer Gonzalo Frasca (1972 -) who attempted to define ludology. In Frasca's "Ludology Meets Narratology. Similitude and Differences between (Video) Games and Narrative" (1999) Frasca compares ludology to the notion of 'narratology', which had been originated to unify research on narrative done by scholars throughout multiple disciplines. Frasca argues for the need for a unifying discipline that bridges the studies on games throughout disciplines like psychology, anthropology, economy, and sociology. With, in 1999, a lack of clear definitions and frameworks in the study of games, Frasca proposes 'ludology'.[9] The methodology central to this thesis will hence be the field of ludology, specifically the discipline concerned with videogames. With ludology being a field consisting of various disciplines all contributing to the study that is games, this thesis will combine ludology practices with the philosophical and computer sciences.

In doing so, this thesis aims to explore the concept of freedom in videogames, encompassing a range of different forms of freedom, such as narrative freedom, exploratory freedom, and tactical freedom. Using the categories, several games fitting the description per category will be analysed as to how said videogame achieve said sense of freedom. The focus during these analyses will be on the surface themes and underlying algorithmic structure of

[6] Garreau, "Office Minefield."

[7] O'Donnell, "Game Over for Office Workers".

[8] Derived from the Latin word 'ludus', meaning 'play'.

[9] Frasca, "Ludology Meets Narratology. Similitude and Differences between (Video) Games and Narrative".

said case studies. With algorithms being the 'building blocks' of a videogame, the algorithm decides the rules and possibilities of a videogame. This thesis aims to provide the reader with a general understanding of what 'freedom' entails within a philosophical environment, as well as in an algorithmic environment to thereupon be utilised using themes relating to freedom shown in *Ubisoft* their *Assassin's Creed II* (2009), this thesis its main case study. *Assassin's Creed II* follows the Italian noble Ezio Auditore da Firenze during the peak of the Italian Renaissance (1476 – 1499). As described on the *Ubisoft* store, the game immerses its player in an 'epic' story of family, 'vengeance' and 'conspiracy' during the 'pristine, yet beautiful' Italian Renaissance.[10] While progressing through the game as Auditore, the player is presented with many upheavals needed to be solved to fight the *Order of the Knights Templar*, the in-game 'villains' that are prone to oppressive behaviours. The decision of using *Assassin's Creed II* as the main case study in this thesis originates from the concepts and importance of freedom in the *Assassin's Creed* video games, where the player is subjected to themes of political oppression at the hand of the *Templar Order* and is instructed to liberate affected societies through the videogame its protagonist, Ezio Auditore. Through an analysis of existing literature and case studies, this thesis will explore the various ways in which videogames offer freedom to players, as well as the limitations and constraints that may restrict said freedom.

The first chapter of "*Assassin's Creed* & Modes of Freedom" will consist of four subchapters, the first subchapter serving solely introductory purposes. The following subchapter "The Brotherhood of Assassins" will thereafter touch upon the story of *Assassin's Creed II* and highlight pivotal moments during the game that will be of importance for further research later in this thesis. The third subchapter "Philosophy of Freedom" will centre around the consensus of freedom and its philosophical nature. Philosophers such as Michel Foucault (1926 – 1984), Jean-Paul Charles Aymard Sartre (1905 – 1980), and Georg Wilhelm Friedrich Hegel (1770 – 1831) will be discussed to help create a theoretical framework for freedom. Opposed to the aforementioned philosophers, computer programmer Alexander Galloway (1974 -) will be analysed to further help create said theoretical framework, only analysing the philosophy of freedom through a more current-day lens. This will help in not only getting a better understanding of what 'freedom' defines but will simultaneously illustrate this definition

[10] *Ubisoft Store,* "*Assassin's Creed*® II."

via the use of examples relating to freedom in the digital age. The last subchapter "Freedom in *Assassin's Creed II"* will illustrate notable moments fitting the categories of narrative, exploratory, and tactical freedom throughout *Assassin's Creed II* and place them in perspective using the theoretical framework established earlier in this chapter.

The second chapter of "The Algorithm at Work" will centre around the technological aspect of video games, meaning the algorithmic code that video games consist of and how this technological background relates to freedom in video games. After an introductory subchapter, the second subchapter "Defining the Algorithm & Its Dangers" will provide the reader with a basic understanding of algorithms, what they are, and how they function in their assigned environment. This will be done utilising, again, Alexander Galloway, yet utilising another theory to further build the argument as given in the previous chapter. To further substantiate the algorithm and its potential dangers, professor in media studies Sven Quadflieg (1983 -), architect and professor in media studies Klaus Neuburg (1977 -), and professor for human-computer interaction Simon Nestler (1983 -) their theories will be analysed, too. This basic understanding of both the algorithm as well as the potential dangers that arise with it will be necessary for further discussing the algorithms in the more specific environment of videogames which will be unpacked in the third subchapter "Algorithmic Freedom in *Assassin's Creed II*", in which the potentially dangerous algorithms will be contextualised through use of videogames. Via the use of the 'MDA-framework', as stated by Robin Hunicke, Marc G. Leblanc and Robert Zubek and further elaborated by Daniel Wigdor and Dennis Wixon, the 'building blocks' of videogames and their interaction with the player are discussed to thereupon be illustrated by *Assassin's Creed II*. This connection between free will, freedom, and algorithms will thereafter be illustrated via means of *Assassin's Creed II* to relate some of the core game mechanics to the player their ability in experiencing freedom in *Assassin's Creed II.*

The third chapter "*Assassin's Creed II* Compared" will thereupon place the concept of freedom in *Assassin's Creed II* as analysed through both philosophical and technological frameworks in terms of narrative, exploratory, and tactical freedom next to three videogames. In doing so, the three videogames will be used as additional case studies to help place *Assassin's Creed II* in the context of freedom in videogames. After an introductory subchapter, the chapter will continue with "Narrative Freedom in *Minecraft*", comparing the extent and application of narrative freedom in *Mojang Game Studio's* (2009 -) *Minecraft* (2011) to that established in

Assassin's Creed II. Secondly, the same comparative approach will be used in applying exploratory freedom in *Bethesda Game Studio's* (2001 -) *The Elder Scrolls V: Skyrim* (2011) in "Exploratory Freedom in *The Elder Scrolls V: Skyrim*". The last subchapter "Tactical Freedom in *Halo Wars*" will, again, use the same method of comparison as used in the previous subchapters, but here via the notion of tactical freedom in *Halo Wars* (2009) by *Ensemble Studios* (1994 – 2009). In doing so, *Assassin's Creed II* and its modes of freedom will be illustrated through videogames released around the same time, actively working towards providing the reader with a contextualised view of freedom in *Assassin's Creed II* to thereafter be able to offer insight into the theoretical analysis of *Assassin's Creed II* and where *Assassin's Creed II* stands individually, as well as in the context of videogames.

Afterwards, the last and concluding chapter will briefly summarise conducted research to thereafter offer a tangible perspective on freedom in *Assassin's Creed II* and accompanying comparative case studies. Furthermore, the conclusion will offer potential topics for further research, which is expected to be plenty.

I. *ASSASSIN'S CREED II* & MODES OF FREEDOM

Introduction

The opening chapter of this thesis comprises four subchapters, including the introductory subchapter. Following that, the subchapter "The Brotherhood of Assassins" explores the narrative of *Assassin's Creed II* (2009) (Fig. 1), emphasising key moments within the game that hold significance for further examination in this thesis. Here, "The Brotherhood of Assassins" will solely focus on the *Assassin's Creed* franchise and the content of *Assassin's Creed II,* which is of importance in understanding both further research conducted in this thesis, as well as in understanding 'freedom' as is portrayed in-game. The protagonist Ezio Auditore da Firenze (1459 – 1524) will be introduced, as well as Auditore's societal position and hence the importance of liberating Templar-occupied regions throughout Renaissance Italy. The following subchapter, "Philosophy of Freedom*"*, dives into the concept of freedom and its philosophical origins via the debate on theories of notable philosophers such as Georg Wilhelm Friedrich Hegel (1770 – 1831), Jean-Paul Charles Aymard Sartre (1905 – 1980), and Michel Foucault (1926 – 1984) to establish a theoretical framework for understanding concepts like freedom, free will, and determinism. In contrast to these established philosophers, the analysis incorporates the perspectives of computer programmer Alexander Galloway (1974 -), offering a contemporary lens through which to examine the philosophy of freedom. This approach facilitates a comprehensive understanding of the definition of freedom and free will and enables the illustration of this definition through examples that relate to freedom in the digital age. This general understanding will be necessary when discussing the three chosen modes of freedom to be analysed in *Assassin's Creed II*. The first of these modes will be the notion of 'narrative freedom'. Here, whether and to what extent a player can influence the narrative of *Assassin's Creed II* is analysed. Thereafter the notion of 'exploratory freedom' will be discussed, the focus here will lie on the amount of freedom the player is given in terms of in-game, world boundaries. Lastly, the notion of 'tactical freedom' comes to the fore, discussing tactics, strategies, and the different tactics possible to achieve an in-game goal. The final subchapter, "Freedom in *Assassin's Creed*" illustrates and contextualises the previously highlighted pivotal moments throughout *Assassin's Creed II* and utilises them using the theoretical framework established earlier in this chapter. By aligning *Assassin's Creed II* with the modes of freedom, this subchapter explores the connection between the game and these modes. Additionally, it

draws comparisons between *Assassin's Creed II* and various theories on the philosophy of freedom to highlight the distinctive aspects of freedom within *Assassin's Creed II*. Overall, through providing the reader with a basic understanding of both the *Assassin's Creed's* narrative and the theories and debates on freedom as discussed by mentioned philosophers and authors, this chapter aims to shed light on the philosophy of freedom and the practical representation in various video games, including *Assassin's Creed II.*

The Brotherhood of Assassins

As the title of *Assassin's Creed II* (2009) already suggests, the videogame is the second game to be released as part of the *Assassin's Creed* franchise in existence since 2007. At the head of the franchise is video game publisher *Ubisoft* (1986 -), with *Ubisoft Montreal* (1997 -) as the developers. Thus far, there have been twelve titles released as part of the *Assassin's Creed* videogame series, with a thirteenth title scheduled to be released later this year.[11] As stated on the *Ubisoft* franchise page, the series invites its player to immerse themselves in the memories of the protagonists' ancestors, to thereafter fight to protect 'free will' during some of the most 'pivotal' moments in human history.[12] In doing so, each title within the *Assassin's Creed* franchise follows the same general narrative in which the player gains access to the memories of their,—often historically relevant,—ancestors. The *Assassin's Creed* game series are so-called 'action-adventure games', heavily relying on 'stealth' gameplay. To elaborate, the genre of action-adventure games is characterised by elements of exploration, involving intense action sequences including running, jumping, climbing, and fighting.[13] The basic idea behind the mentioned 'stealth' gameplay is, generally speaking, the avoidance of confrontation with in-game enemies, rather than seeking it out. The earlier video games in the *Assassin's Creed* series, including *Assassin's Creed II*, heavily rely on themes of stealth and the accompanying gameplay elements. This includes character commands allowing the player to, for example, blend in in big crowds (Fig. 2), hide in a haybale, both hiding on the ground, as well as above ground, quickly and silently eliminate enemies (Fig. 3) to thereupon hide their bodies, and sneak and crawl.[14] Furthermore, the 'stealth' mechanic is substantiated by the apparel worn and

[11] *Ubisoft* "*Assassin's Creed* Franchise."

[12] Ibid.

[13] *Britannica Academic*, s.v. "Electronic adventure game."

[14] Al-Kaisy, "The History and Meaning Behind the 'Stealth Genre."

used by all members of the creed, which includes 'hidden blades' (Fig. 4) used to assassinate a target without drawing attention to the weapon and assassination, and the cowls worn to hide an Assassin's facial features (Fig. 5). Ironically, the 'wanted' posters (Fig. 6) hanging throughout the city which can be removed by the player to remove notoriety, display Auditore including cowl. Here, the 'stealthy' cowl thus contributes to the recognition of Auditore. What differentiates the *Assassin's Creed* titles from each other is the historical and geographical setting in each title. The range of the historical eras that have been used within *Assassin's Creed* differs from *Assassin's Creed Odyssey* (2018) spanning over the year 431 B.C. to 422 B.C. to *Assassin's Creed Syndicate* (2015) set in the year 1868.[15] Apart from the diverse range of eras tackled by the *Assassin's Creed* franchise, *Ubisoft's* choice of geographical setting differs within almost every title in the franchise, as well. The aforementioned title *Assassin's Creed Odyssey*, for example, is set in Ancient Greece, with the protagonist being of Spartan heritage.[16] As opposed to *Odyssey*, *Assassin's Creed Syndicate* follows the story of protagonist twins during the Industrial Revolution set in London, in 1868. Even though the protagonists' backgrounds and in-game settings differ greatly per title, the concept of the videogame in which the player enters the memories of their ancestors is the same throughout each *Assassin's Creed* videogame. This thesis, however, focuses on *Assassin's Creed II*. With the game having sold 1.6 million copies worldwide in the first week of retail, *Assassin's Creed II* defined the videogame series known today.[17] *Assassin's Creed II* introduced some of the most recognisable features of the game series, and whereas the first *Assassin's Creed* (2007) also allowed the player to engage in stealth behaviours, *Assassin's Creed II* revolutionised the franchise by bettering what was. In an interview with Jean Guesdon, former Brand Content Manager at *Ubisoft Montreal*, Guesdon states how *Assassin's Creed II* aimed to recreate the success of the first *Assassin's Creed*, while simultaneously solving the problems faced in the first game. In doing so, three pillars of main gameplay were established: the fight, the navigation, and the social stealth. *Assassin's Creed II* has been designed centred around these three pillars, implementing game design loops that actively support players in using these pillars. Apart from that, *Assassin's Creed II* is stated to be the first in the series where the 'multilayered' narrative

[15] Sirani. "*Assassin's Creed* in Chronological Order."

[16] Ubisoft Store, "*Assassin's Creed* Odyssey."

[17] Reilly, "*Assassin's Creed II* First Week Sales Impressive."

began to take shape, focusing more on background stories, –established via cooperation with historians,–and in-game rivalries, such as that with the *Templar Order*.[18] *Assassin's Creed II* thus marked the beginning of a successful franchise, making it a videogame worth analysing in greater detail. *Assassin's Creed II* follows protagonist Ezio Auditore da Firenze (1459 – 1524) (Fig. 7) throughout the first few years of Auditore's life. These events, as portrayed in-game, have been novelised by author Anton Gill (1948 -), who goes by the pen-name of Oliver Bowden. Bowden wrote a series of eight novels following the story of several of the *Assassin's Creed* titles. Bowden's novel *Assassin's Creed*: *Renaissance* (2009) depicts the events of *Assassin's Creed II*. This novel will hence be of great importance in briefly summarising the narrative of *Assassin's Creed II*, granting the reader a solid point of departure for further analysis relating to the concept of freedom in *Assassin's Creed II*.

Son of Giovanni Auditore, head of the *Auditore International Bank*, specialising in loans to the kingdoms of Germania in the Holy Roman Empire, Ezio Auditore was born into a wealthy family, and expected to help Giovanni Auditore as he grew older.[19] However, at the age of seventeen, in 1476, Ezio Auditore was preoccupied with fighting certain members of the Pazzi family, who were employed in the banking business as well. The Pazzi, together with the Medici family are families that have taken on a prominent role in non-fictional Italian history. The Medici family consisted of bankers and merchants and were the active rulers of Florence from 1434 to 1737. The Medici family distinguished themselves from other rulers by acquiring power not via military means, but through political astuteness.[20] The Pazzi family and the Medici family soon developed a rivalry amongst them, resulting in the 'Pazzi conspiracy', where the Pazzi family attempted to overrule the Medici family by attempting to assassinate prominent members of the Medici family.[21] This rivalry amongst families in Renaissance Italy continues and develops during the events of *Assassin's Creed II*, with the Auditore family entering said rivalry, too. The relationship between the Medici and Auditore family, however, was relatively good. The aforementioned 'Pazzi conspiracy', is portrayed in-game as being motivated by *Templar* ideologies, and after the imprisonment of one of the Pazzi sons, a

[18] Guesdon, "Looking Back on 10 Years of *Assassin's Creed*."

[19] Bowden, 24.

[20] Chilvers, "Medici."

[21] Black, "Pazzi."

common friend, Uberto Alberti, of both Pazzi and Auditore is persuaded by the Pazzis to join the *Order of Templar Knights* and help overthrow the powerful Medici family. However, in collaborating with the Pazzi family, Alberti was forced to betray the Auditore family, ultimately sentencing three members of the Auditore family, –Ezio Auditore's father, as well as the younger, and older brother, –to death on grounds of treason and the murder of Giuliano de Medici. This is a pivotal moment in Ezio Auditore's life, for where Auditore wants to now avenge those who murdered his father and brothers. Here, the shared enemy of the *Assassin's Creed* titles grants the protagonist a motive, and after learning the role within the *Brotherhood of Assassins* the Auditore family fulfilled, Auditore starts his training into following in his father's footsteps as an Assassin, the sworn enemy of the *Order of Templar Knights*, who want nothing less than 'world domination.'[22] To achieve world domination, the *Templar Order* aims to get a hold of the so-called 'pieces of Eden' (Fig. 8), a sophisticated type of technology capable of reacting with the network of neurotransmitters 'engineered' into human brains, with the primary purpose of mentally and physically controlling human thoughts, emotions, and behaviour.[23] Through a descendant of Ezio Auditore, Desmond Miles, the in-game protagonist that is held captive by so-called *Abstergo Industries*, the modern-day *Templar Order*, the player gains access to the memories of Auditore and embarks on a quest of unravelling the conspiracy of the *Templar Order* and the secrets of the ancient civilization.

The Philosophy of Freedom

Throughout the field of philosophy, the concepts of 'freedom' and what it is that defines have been an interesting topic of debate. In the philosophy of freedom and free will, the concept of 'determinism' quickly comes to the fore in which it is argued that the concepts of free will are opposite of the concept of determinism. The concept of free will as described in the *Oxford English Dictionary* is 'spontaneous', or 'unconstrained', the inclination to act without suggestion from others.[24] Determinism, on the other hand, is described to be the philosophical principle that human action of not 'free' but 'necessarily determined' by 'motives', which are considered to be 'external forces that act upon the will.'[25] It is not unimportant to note the

[22] Bowden, 83.

[23] *Assassin's Creed Wiki*. "Piece of Eden."

[24] *Oxford English Dictionary Online,* "Free will, n."

[25] Ibid., "Determinism, n."

difference between ‘freedom’, and ‘free will’, whereas freedom is described to be the state of being able to act without hindrance and, instead, act upon free will.[26] The opposing principles of free will and determinism are key concepts in the debate relating to free will, for where their opposing nature allows both concepts to gain agency. With Aristotle (384 BC – 322 BC) often being referred to as the ‘father of determinism’, the philosophy on the existence of free will has been discussed by many philosophers over the years. It is believed that determinism is not compatible with freedom, entailing that from a deterministic point of view, freedom nor free will does not exist where all events are caused by prior events, with each human action being the result of a prior cause.[27] This subchapter, however, decided upon the use of theories by Michel Foucault (1926 – 1984), Jean-Paul Charles Aymard Sartre (1905 – 1980), and Georg Wilhelm Friedrich Hegel (1770 – 1831) relating free will and determinism. All three positioning themselves elsewhere regarding the debate on free will and determinism.

Michel Foucault was a French philosopher active throughout the twentieth century and was mainly concerned with the principles of knowledge and power. At the root of Foucault’s ideas on power was the ‘subject’, that is human beings. In doing so, Foucault argues that the ‘subject’ lacks autonomy, and is always constituted in the power regimes and knowledge networks of the societal environment and culture said subject is situated in. Foucault argues that how subjects, i.e., humans, shape themselves as individuals, are not self-created or freely chosen. Instead, there are identifiable cultural and historical notions and behaviours that said subjects draw from the environment in which they live. Whereas there is no straightforward answer to the question of whether Foucault thinks freedom exists, Foucault is vocal on the modes of self-understanding subjects can constitute themselves through, gaining the ‘illusion’ of being an individual possessing free will, yet not freedom. [28] However, these modes of self-understanding are, too, a product of power regimes and knowledge networks embedded in society. It could be argued that Foucault thus sees free will as a product of determinism, in which the self is thought of to be individually created through pre-determined modes of self-understanding and identification. Besides this, Foucault strongly believes in discipline via institutional surveillance or the idea of being always surveilled. This would then serve as the

[26] *Oxford English Dictionary Online*, “Freedom, n.”

[27] Frede, 45.

[28] Oksala, 4.

‘inducing’ of a ‘permanent state of visibility’ ultimately leading to the ‘automatic functioning of power’, as stated by Foucault.[29]

Jean-Paul Sartre was a French philosopher active around the same period as Foucault, and mainly concerned with the theories on ‘existentialism’, which is the belief that only man exists in this world, with all other things being, but not existing. This belief of Sartre entails that there are, according to Sartre, no ‘transcendent or objective’ values set for man. With Sartre strongly disbelieving the presence of a god, he argues that there is no ultimate meaning or purpose inherent to human life. If there is no meaning or motive for human life, everything can be considered as being permitted.[30] Sartre ultimately believes that mankind is ‘radically’ free, yet with radical freedom comes radical responsibility. The only thing holding mankind responsible for their action then, is the implication that what said mankind is doing does not correlate with their own, individual values.[31] Whereas Sartre thus argues the existence of free will, the implication of individual value regarding the consequences of mankind’s actions could be argued to be pre-determined, societal values, thus not allowing freedom. It is the individual who can decide to what extent these pre-determined values apply to their actions.

Lastly, there is Georg Wilhelm Friedrich Hegel, an early nineteenth-century German philosopher with an interest in religion. Hegel was mainly concerned with the dualism of nature and spirit. Where Hegel argues that all difference presupposes unity and that a definite thought cannot be separated from its opposite.[32] This notion Hegel held on to relating opposing factors being unable to be separated, ties in with Hegel’s perspective of free will, which is rather paradoxical. Hegel argues that to be free, an individual requires the ability to let go of motivations that form the identity of the individual, while simultaneously expressing themselves via specific motivations that said individual identifies with. This is, according to Hegel, the problem of free will, since it is unclear how both letting go of motivations while actively using motivations in identifying as an individual is possible.[33] Hegel, therefore, described free will to be an experience, rather than a socially or politically arranged principle.

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[29] Foucault, 201.

[30] Odesanmi, 85 – 87.

[31] Sartre, 241.

[32] *The Concise Oxford Companion to English Literature*, "Hegel, Georg Wilhelm Friedrich."

[33] Yeomans, 4 – 5.

However, according to Hegel, it is of great importance that an individual's internal motivation must be compatible with external motivation, e.g., the internal subject must adhere to the external object to experience free will and have freedom. It could be argued that, according to Hegel, mankind would thus be free if the external interpretation of free will has freedom itself for its object.[34] From this, it could be argued that Hegel uses deterministic concepts of pre-determined external objects that collectively decide whether the individual subject is either free in their will or held back by the possible differentiating conception of the external object.

As opposed to the previously discussed philosophers, a more modern-day view on freedom in the digital age given by professor and computer writer Alexander Galloway (1974 -) is relevant to help construct a better framework and understanding for the application of the discussed theories on freedom on the case study of *Assassin's Creed II.* In the book *Protocol: How Control Exists after Decentralisation* (2004), Galloway explores the nature of control and power in the context of decentralised networks, –that is the usage of multiple local offices or authorities controlling networks, rather than a singular network, –with the focus being on protocols that control communication and information exchange in the digital realm whose founding principle is in control, rather than freedom.[35] Noteworthy is that only in the introduction of *Protocol*, Galloway draws comparisons between his thesis and Foucault's statements regarding the use of external factors allowing individuals to gain a sense of autonomy and agency over themselves. Galloway does this by stating how Foucault's ideas are 'entirely protocological', meaning that the protocols used in controlling digital communications are a form of providing the user with a false sense of privacy and freedom.[36] Furthermore, *Protocol* dives into the political and social implications of protocols, elaborating how they can either enable and restrict certain online behaviours while touching upon the usage of both centralised and decentralised networks. Ultimately, Galloway suggests that protocol appears to encourage and promote online openness, yet stating how those responsible for said protocols can also be facilitating forms of online surveillance, censorship, and general forms of control. Galloway hence states that, according to him, the last forty years of developments

[34] Yeomans, 27.

[35] Galloway, *Protocol*, xv.

[36] Ibid., 13.

within networked communications have resulted in the 'exact opposite of freedom', namely control.[37]

Whereas all four of the discussed figures provide their reader with a different perspective, each theory on freedom and the debate surrounding the overall existence of free will highlight the theme of concerns regarding power, control, and the overall limitations of individual agency. With Sartre seemingly being the most direct in his conception of there being no existing factors apart from mankind, Sartre does emphasise that when there is no other than mankind to oversee one's actions, everything is permitted. This notion will return in the following subchapter entailing notable moments in *Assassin's Creed II,* combined with Foucault's arguments highlighting the organised sense of freedom society is given to feel as if one possesses over freedom. With both Sartre and Foucault being relatively vocal on their stance relating to free will, Hegel's theories could be interpreted as rather paradoxical in nature. Hegel states how free will is possible for the internal subject once the external object is collectively recognised as freedom. This could be argued to relate to Galloway, via the general idea of network protocols being there solely for societal, online safety, the subject of society could be held back from expressing uncertainty as to their online safety. All these themes now may not seem to relate to videogames, and specifically to *Assassin's Creed II* just yet, however, in the following subchapter, the theories of Foucault, Sartre, and Hegel will be used to illustrate how these theories can be recognised within *Assassin's Creed II*. Galloway's theories, however, will be proven to be of importance in depth during the next chapter in which algorithms and accompanying dangers in videogames will be discussed.

Freedom in *Assassin's Creed II*

After having briefly discussed both general themes of *Assassin's Creed*, the overall questline of *Assassin's Creed II,* and an overview of the philosophy of freedom, free will, and determinism, this subchapter will now highlight several themes and events in *Assassin's Creed II* fitting in the categories of narrative freedom, exploratory freedom, and tactical freedom. As described by sociologist Robert Zussman in the article 'Narrative Freedom' as part of the *Sociological Forum* (2012), narrative freedom defines the ability to tell stories about oneself in the ways one desire. Zussman further elaborates on the ability to select and connect the

[37] Galloway, *Protocol,* 141.

imaginative construction of narrative, drawn from meanings and morals relevant to one's own experiences in life. According to Zussman, this selectivity makes narrative meaningful, since it grants the opportunity to personalise an event and create something more than a 'mere list' of generic events.[38] Exploratory freedom is more complicated to define, whereas its definition can range from a legal perspective with the *United Nations* defining exploratory freedom as each state being free in exploring outer space, and other celestial bodies, to a far more specific use of freedom of exploration in, for example, an interactive museum experience.[39] [40] Exploratory freedom translates to the concept of exploring, that is going to an unknown area with the sole purpose of discovering the said area, and freedom, the state of being able to act upon free will.[41] [42] The concept of tactical freedom is often related to military practices, and closely ties in with the notion of strategy. Tactics here are the individual steps that allow a strategic plan to work. Whereas strategic decisions are made as an overall plan of action, tactics can change depending on the course of action of said strategy. In 'The Heavy Division Engineer Regiment - A Key to Tactical Freedom of Action', Marc R. Hildenbrand defines tactical freedom to be the ability of a 'combat formation' to execute a selected course of action, despite 'enemy actions' to the contrary.[43] When relating these three types of freedom to videogames, the concept of narrative freedom leads back to the defining of the field of ludology, as discussed earlier. Narratology is the study of narrative, with narratologists generally vouching for games to be closely related to narrative, that is telling, in both writing and speaking, of a sequence of events.[44] The aforementioned game designer Gonzalo Frasca argues that play, inherent to ludology, and narrative are not equivalent, whereas Frasca states the possibilities that play offers, as opposed to the chained set of actions that is narrative. Frasca furthermore argues that in observing a videogame as the external object, it could be interpreted as narrative, however, the internal subject that is interacting with said videogame experiences the concept of play.[45]

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[38] Zussman, 808.

[39] *Lewik*, "Article I - Universal Freedom of Exploration (Outer Space Treaty, UN),"

[40] Bönsch, Andrea et al., Introduction.

[41] *Oxford English Dictionary Online*, "Explore, n."

[42] Ibid., "Freedom, n."

[43] Hildenbrand, 5.

[44] McManus, Andrew, 363.

[45] Frasca, "Ludology Meets Narratology. Similitude and Differences between (Video) Games and Narrative".

To reflect on narrative freedom, one could argue that narrative freedom through the lens of the external object does not exist due to the internal subject that is the player who creates a narrative for the external object via interaction with the videogame. In *Assassin's Creed II*, this notion can be recognised at the very beginning of the game, right after the birth of Ezio Auditore (Fig. 9). The player is asked to 'move' Auditore's legs, arms, and head by pressing the assigned button commands. Here, the sequence stops when the player successfully moved all of Auditore's limbs, allowing the player to make further progress in the mission. However, after having moved the legs and arms, the player can again move the legs by using the same assigned button commands as before, that is as long as the player has not used all the button commands of movement, which triggers the mission to progress further. The internal subject that is the player then actively interacts with Auditore's movements in a sequence of their choice. The hypothetical individual watching as the player interacts with Auditore is the external object that is presented with the narrative created via the interactions of play as done by the player. In this specific example in *Assassin's Creed II,* it could be stated that narrative freedom does only exist in the beliefs of the internal subject, but when applying the theories of Hegel, it could be argued that if the external object's belief of observing a videogame as the fixed narrative does not adhere to the internal subject's experience of playing the narrative, there is no such thing as narrative freedom.

In terms of exploratory freedom, *Assassin's Creed II* offers the player a great deal of movement via the use of the so-called 'open world' concept. This entails the player's ability to freely move around within a large virtual environment, contributing to relative autonomy through personalised routes to achieve an objective.[46] Specific to *Assassin's Creed* games is the protagonist's skill in free running, which is the activity of moving rapidly over or around obstacles within an environment, oftentimes through running, jumping or climbing.[47] The use of dynamic movement to explore the environment has been integral to the *Assassin's Creed* videogames since the first game in the series. Here, the player is encouraged to climb high buildings that serve as 'viewpoints', for example, the Notre Dame de Paris in *Assassin's Creed Unity* (2014) (Fig. 10) or the Colosseum in *Assassin's Creed Brotherhood* (2010) (Fig. 11), to thereupon 'synchronise' via a button command. In doing so, the game cuts to a scene in which

[46] Oxford English Dictionary Online, "Open world, adj."

[47] Ibid., "Free running, n."

a panoramic 360 degrees view of the surrounding area is shown (Fig. 12). Afterwards, the in-game map of the area of said viewpoint is updated to show locations of merchants, 'hidden' treasures, and other collectables. Throughout the game, the player is encouraged to 'synchronise' all viewpoints across the area to fully unlock the contents of the map. *Assassin's Creed* plays with the concept of exploration in a rather dynamic way; however, it is directly linked to freedom. A specific example from *Assassin's Creed II* is the restricted areas in which some of the viewpoints are in regions that are coloured red on the map (Fig. 13). Here, the guards in that area are on high alert, meaning that they will attack the player as soon as they are seen in the restricted area. This makes it significantly more difficult for the player to reach the viewpoint, whereas without eliminating all the guards, there is a possibility of being spotted while climbing said viewpoint and being shot, resulting in the player failing to pursue their climb, and ultimately falling from the said viewpoint. If the player is not yet strong or equipped enough to successfully eliminate the guards surveilling the area, it is either a difficult task requiring stealth, or an area that the player must first either free from surveillance before being able to synchronise the viewpoint. Whereas the exploration aspect is tied in with the concept of in-game freedom in terms of liberating said areas, certain viewpoints are not as accessible depending on the player's in-game process. The sequel of *Assassin's Creed II, Assassin's Creed Brotherhood*, took the use of viewpoints in the restricted area a step further. Here, Auditore is on a quest to liberate Rome from *Borgia*, i.e., *Templar*, oppression. Across the map of Rome, there are several '*Borgia Towers'*, guard towers used by the *Borgia* to both display dominance as well serve the purpose of a 'base' for each region's *Borgia* captain.[48] The *Borgia Towers* also serve the purpose of viewpoint, so in the process of liberating the occupied areas of Rome, Auditore is actively countering and decreasing *Templar* oppression, thus encouraging freedom. In doing so, the player is simultaneously being rewarded with a new area on the in-game map, as well as the ability to now enter said area without being attacked by surveilling guards. The option to synchronise the viewpoint is present, however, like in *Assassins Creed II*, it is significantly more difficult to do so without eliminating the *Borgia* captain first. If done after said elimination, the player can climb the tower without hassle, and once arrived at the top, the liberating of the area can be finished via the ignition of the *Borgia Tower*, showing a cutscene of Auditore throwing a torch into the tower to thereupon dive from a great height, showing the

[48] *Assassin's Creed Wiki*, "Borgia Tower".

burning of the tower as a metaphor for the liberation of a new area (Fig. 14), thus increasing freedom in Rome. To relate this to the concept of Foucault, who argues that to assure the automatic functioning of power, the individual needs to be induced with a state in which they are conscious of always being watched. This closely relates to the use of restricted areas in *Assassin's Creed II*, where the player is discouraged from entering the said area until the guards have been eliminated and the player is thus freed from the sense of being watched and punished if seen. The use of the *Borgia Towers* in *Assassin's Creed Brotherhood* functions in a similar way Foucault presented, where citizens of *Templar*-occupied areas are oppressed which is thereupon strengthened via the induced implication of constant surveillance. Ironically, after Auditore ignites said *Borgia Towers* and liberates the area, the *Borgia Tower* is transformed into an 'assassin hideout', a place where members of the *Brotherhood of Assassins* can meet and recruit more members. In doing so, it could be argued that even though the *Assassins* are liberating areas, their use of towers could very well induce citizens of the said area to still be induced with the state of consciousness in which they are always being watched, implying the taking away of their freedom. Overall, exploring and freedom in *Assassin's Creed* is almost inextricably linked to each other, yet it is possible for the player, in *Assassin's Creed II*, to bypass almost all said viewpoints and still play the game. Yet the viewpoint at the start of the game serving a tutorial purpose is mandatory, and throughout *Assassin's Creed II*, viewpoints do prove to be a pleasant addition in gameplay where exploration grants the player a more accessible and engaging experience with the open world of *Assassin's Creed II.*

Lastly, the concept of tactical freedom concerning videogames entails the possibility of using different tactics to achieve, in the case of *Assassin's Creed II*, the strategy outcome as decided by the game developers needed for the game to process further in the story. Whereas there are games with more than a singular storyline, *Assassin's Creed II* does not. How to achieve a said outcome, however, is rather customisable per individual player preference. How this relates to the more mechanical side of videogames will be discussed in the next chapter, whereas here the focus will be on the general rule of conduct the *Brotherhood of Assassins* live by, namely, 'Nothing is true, everything is permitted.' During Auditore's official integration into *The Creed*, i.e., the *Brotherhood of Assassins*, high members of *The Creed* start the dialogue with a statement about how other men 'blindly follow the truth', Auditore is thereupon asked to remember, to which he answers that nothing is true. The member continues saying

that where other men are 'limited' by both morality and law, Auditore is again asked to remember, answering how everything is permitted.[49] This maxim recited in *Assassin's Creed II* (Appendix 1) is strikingly similar to the notion of Sartre, who argues that if nothing exists except for mankind, everything is permitted. The idea here is that mankind is thus radically free, yet radically responsible for their actions. The guiding philosophy of *The Creed* as mentioned above entails the restriction of unnecessary murder of innocents and was ultimately meant to create peace in both the world, as well as the individual following the maxim of *The Creed*.[50] It could be argued that *The Creed* follows certain existentialist ideals, and aligns with Sartre's theories on holding oneself responsible for their actions via their own, individual values, or in this case; that of *The Creed.* Whereas there are many more indications of the disbelief in the existence of anything other than mankind itself (Appendix 2), the main philosophy of *The Creed* is that when nothing is true, everything is permitted. This is implemented in the gameplay of *Assassin's Creed II* as well as through cinematic cutscenes, as actual puzzles, i.e., 'glyphs' that the player can find through the observation technique of 'eagle vision', in which Auditore observes glowing signs to attract the player's attention (Fig. 15). Whereas the glyphs are all puzzles to be solved for the player to unlock additional cinematic content, each glyph is presented with a hint. One notable glyph, however, is presented with the hint stating how nothing is true, and everything is permitted. Here, the player can simply not give a wrong answer in solving the puzzle, whereas quite literally the game permits every solution to be a sequence of button commands. In doing so, part of the tactical freedom that is and will be discussed in this thesis is directly visible in *Assassin's Creed II;* no matter the tactics, the player will always achieve the strategic end goal which is solving the glyph.

[49] Bowden, 390-391.

[50] *Assassin's Creed Wiki*, "The Creed."

II. THE ALGORITHM AT WORK

Introduction

This second chapter of this thesis is concerned with freedom in videogames, specifically in *Assassin's Creed II* (2009), which will centre around the more technological approaches towards videogames. The previous chapter on "*Assassin's Creed II* & Modes of Freedom" took on a philosophical approach to the concepts of freedom, free will and determinism via philosophers Michel Foucault (1926 – 1984), Jean-Paul Charles Aymard Sartre (1905 – 1980), and Georg Wilhelm Friedrich Hegel (1770 – 1831) and game designer Alexander Galloway (1974 -). In doing so, the chapter mainly focussed on the themes of freedom and how this is translated into the narrative of *Assassin's Creed II*. Contrary to the philosophical nature of the previous chapter, this chapter will go into depth relating to the algorithm that makes up a videogame. Whereas videogames largely consist of so-called 'scripts', these algorithms are less complicated than they might seem. The next subchapter "Defining the Algorithm & Its Dangers*"* will therefore do exactly what the title suggests, that is define the algorithm in a manner that is simple but does not detract from the complexity of the algorithm to thereupon shine a light on the danger of algorithms in the modern-day world. Here, Gallloway's theories on the dangers of algorithms via 'open' and 'closed' systems will be discussed, substantiated by a professor in Media Studies Sven Quadflieg (1983 -), architect and professor in Media Studies Klaus Neuburg (1977 -), and professor for Human-Computer Interaction Simon Nestler (1983 -) in *(Dis)Obedience in Digital Societies* (2022), highlighting the dangers of algorithmic surveillance via patriarchal, societal norms. The next subchapter "Algorithmic Freedom in *Assassin's Creed II*" will thereupon apply the previously explained algorithm as to where it stands and how it functions in the building and structure of videogames, as well as their use in playing the videogame. This subchapter will already touch upon certain aspects of freedom in the algorithmic build of a videogame, to thereafter be further explained using *Assassin's Creed II*. The main goal of this chapter is to have the reader become familiar with the assumed complicated nature of algorithms in digital environments, to thereupon create a better understanding of how algorithms work in videogames. Ultimately, this chapter aims to familiarise the reader with algorithms to use in the debate relating to freedom in *Assassin's Creed II*. Here, the relevance of earlier discussed Galloway will come to the fore, introducing *The Exploit: A Theory of Networks* (1974) accompanied by *(Dis)Obedience in Digital Societies*

(2022) concerned with the dangers of oppressive algorithms. Similar to the previous chapter, the three modes of freedom to be discussed will be narrative freedom, exploratory freedom, and tactical freedom, done through the lens of game mechanics.

Defining the Algorithm & Its Dangers

When being subjected to the term 'algorithm' it could very well be a concept unfamiliar to many, one that might feel as being intimidating, even. However, when striping the algorithm to its bare bones, the algorithm is merely a defined set of rules, often mathematical or logical, created for the performance of a specific task.[51] Given by professor of chemistry and physics Donald R. Franceschetti (1947 – 2019) in *Principles of Programming & Coding* (2018) the algorithm is being more contextualised as being a step-by-step procedure of well-defined rules that determine how to solve a specific problem or task. Furthermore, Franceschetti defines an algorithm to be a 'precise and logical sequence of instructions' in providing a solution or achieving a desired outcome.[52] A simple example of algorithm usage is in solving a *Rubik's Cube,* without the knowledge of solving said puzzle, it can be perceived as rather complicated. However, upon further research, the solution to the *Rubik's Cube* is nothing but a step-by-step procedure that will ultimately lead to solving the problem presented by the *Rubik's Cube* using an algorithm.

Whereas the basics of the algorithm are rather simple, the algorithm is at the core of many everyday actions defining everyday life in the digital age, i.e., the Information Age, or information society. This age refers to the period in history that is characterised by computerisation, digital information processing, and overall digital technologies centred around a knowledge-based society. The main technology at the core of this age is the computer, with the key distributor of knowledge being the internet, which grants its user access to the World Wide Web, which thereafter serves as the primary repository for knowledge.[53] The Information Age is often characterised by the speed of exchanging information, and the ability to communicate this information either via ways of social communication or the ability to gain knowledge via a simple search on the World Wide Web at any given time, at high speeds. Here,

[51] *Oxford English Dictionary Online*, "Algorithm, n."

[52] Franceschetti, 4.

[53] Hanson, 206.

everyday usage of algorithms comes to the fore, namely internet searches. When searching via search engines such as *Google*, a so-called 'content filtering algorithm' is set in motion. This is the algorithm that determines which pages to present to its viewer based on the order in which the search query is entered, based on relevancy.[54] This algorithm based on relevancy that is obtained via the external input of the user, changes constantly, depending on changes in external, user input. The social media algorithm in which the user is 'spontaneously' shown content that might interest them, works on this very basis of content filtering algorithms, too. In the Information Age, algorithms are at the core of normalised, everyday external content users either actively search for, of passively gain access to in the form of advertisements, and social media recommendations.

With now having been familiarised with some of the basic encounters with algorithms in both physical, i.e., the *Rubik's Cube*, and digital form, i.e., the search results and social media recommendations, some of the more specific uses of the algorithm can be discussed to better understand where the algorithm, its potential dangers, and where it stands regarding the videogame. With many more examples of algorithms being inextricably intertwined with modern-day societies, researchers are voicing their concerns on this subject matter. Briefly touched upon is the previous chapter was Alexander Galloway (1974 -) and his book *Protocol: How Control Exists after Decentralisation* (2004), this chapter, however, will focus on Galloway's *The Exploit: A Theory of Networks* (2007). Here, Galloway is quick to mention the distinction between the centralised, and decentralised networks, recognisable from *Protocol*. In *The Exploit*, Galloway states the existence of these centralised and decentralised networks within not only computer and information sciences, but also in occurring in the social, political, and economic networks.[55] Galloway continues to elaborate on the differences between open, and closed systems, in which open systems are generally linked to the public, and closed systems are associated with commercialised or state interest. Here, Galloway furthermore quotes media theorist Geert Lovink (1959 -) who described mentioned concepts as freedom, 'hardwired into code'. Hardwired here, means the act of creating a permanent computer feature, which cannot be altered by software. Galloway thereupon poses the question of whether it is freedom if it is hardwired, and unchangeable, suggesting that if anything, this indicates the

[54] Chandler, Daniel, and Munday, "Content Filtering Algorithm."

[55] Galloway, *The Exploit*, 32.

limitations of freedom. Galloway continues to argue the dangers of closed systems used by the state and for commercial purposes, stating how said closed systems use a social model of control, closed systems are then compared to social control, with Galloway arguing that informatic control as done in the example mentioned above, is equally if not more dangerous than social control.[56] To reflect on Galloway's theories in *Protocol*, the two concepts of the algorithm and the protocol might seem to be alike, however, just like strategy differs from tactics, the protocol is a set of rules determining how systems function, whereas the algorithm tells the system what to do. In Protocol, Galloway argues that the protocol offers both the solution to a problem, as well as the reasoning as to why that solution has been selected as being the 'best'. Here, Galloway concludes that protocol is dangerous in the sense that a weapon is, too. Meaning the potential protocol holds as an effective tool in 'rolling over one's political opponents.' Ultimately, Galloway believes protocol to be both good, and bad, all depending on the context, yet emphasises the need for transparency between both 'open' and 'closed' systems. However, Galloway furthermore argues that keeping a close eye on said protocol would be preferred, whereas any 'concerned' individual is more likely to better decide how to take on a critical standpoint regarding 'protocological' technology.[57]

To present a perspective on the potential dangers of algorithms other than Galloway's perspective, *(Dis)Obedience in Digital Societies* (2022) by a professor in Media Studies Sven Quadflieg (1983 -), architect and professor in Media Studies Klaus Neuburg (1977 -), and professor for Human-Computer Interaction Simon Nestler (1983 -) will be discussed, for where *(Dis)Obedience in Digital Societies* argues how algorithms shape human behaviour, in both political and social context, and their power is therefore in need of critical discourse. Over the course of the book, a notable comparison is made between the theories of Foucault on constant surveillance leading to the idea of being watched and thus acting as if one is being watched, self-disciplining in behaving 'accordingly'. Yet the authors here connect self-disciplining to artificial intelligence and technology, ultimately stating the danger of 'unprovoked mass surveillance' due to the use and development of algorithms.[58] With surveillance via technologies in the Information Age practically unavoidable, the extent to which said

[56] Galloway, *The Exploit*, 125.

[57] Ibid., *Protocol*, 245 – 246.

[58] Quadflieg, Neuburg, and Nestler, 49-51.

surveillance influences an individual is strongly dependent on whether they conform to the 'norm', that is by the authors described to be a both culturally and historically implanted 'masculine, white norm'. Deviating from said norm, will lead to said individual experiencing the surveillance differently, generally in a more negative sense. To illustrate this, the authors use the example of 'patriarchal surveillance,' entailing the male heteronormative norm. This surveillance has, historically, shaped the 'ideal' of women's bodies, and continues to shape them via the same patriarchal notions, however through the media of technology, the algorithm complies with the norm. With the dangers the combination of historically defined modes of surveillance and modern-day algorithmic surveillance poses, the authors argue the need for two main things: awareness and knowledge, and will. Awareness and knowledge here refer to the understanding of different consequences technological surveillance has for individuals deviating from the norm, with the will referring to actively 'dissolve' the existing power structure.[59]

To reflect on what this subchapter has discussed, the algorithm as 'innocent' as used in solving a *Rubik's Cube,* is argued to potentially pose a threat to both digital, as well as physical freedom when the algorithm develops further. Where Galloway speaks of the 'hardwired' freedom, indicating that in taking away one's ability to change said freedom, freedom is rather taken away. This is further substantiated by the dangers of the 'protocological', which Galloway argues is similar to Foucault's theories on the use of constant surveillance, or rather the idea of being constantly surveilled in constructing a power-regime, taking away one's freedom. This very same theory is argued by Quadflieg, Neuburg, and Nestler, too. Whereas the authors of *(Dis)Obedience in Digital Societies* state the same dangers the algorithm and its development can impose, contrary to Galloway, the authors highlight the societal consequences in which the patriarchal norm is reinforced by algorithms, that feed on showing its user their predicted likes, in which the authors argue that in the said norm, the freedom of some means the surveillance of others.[60] Galloway, however, poses the threat of algorithms in the more 'logical' sense, debating the lack of transparency in both 'open' and 'closed' systems of algorithmic use and the power they wield via control. Both Galloway and the authors of *(Dis)Obedience in Digital Spaces* ultimately stress the importance of awareness, and critical

[59] Quadflieg, Neuburg, and Nestler, 51.

[60] Ibid.

thinking towards the use of algorithms in the Information Age, whereas one could rather be too careful and critical than fall victim to more surveillance due to unawareness of algorithms potential danger.

Algorithmic Freedom in *Assassin's Creed II*

The usage of algorithms in society and their digital sphere is one of the many uses of algorithms, including videogames. Therefore this subchapter will explain the general 'building blocks' of videogames, accompanied by the usage of algorithms in each building block. Thereafter the extent to which these algorithmic practices can be controlled by the player or are controlling the player will come to the fore to thereupon illustrate through examples in *Assassin's Creed II*. As done in the previous chapter "*Assassin's Creed II* & Modes of Freedom", this subchapter will use the same three modes of freedom, being narrative freedom, exploratory freedom, and tactical freedom. After applying the use of algorithmic practices to specific modes of freedom in *Assassin's Creed II*, the extent to which this usage is either noticeable for the player, and whether it imposes the player will limitations of freedom is discussed.

The usage of algorithms in videogames is implemented mainly in the behavioural patterns of the non-player characters, i.e., NPCs. These non-player characters and their behaviour are algorithm-based and strongly dependent on both the digital environment they reside in, as well as whether the player interacts with them, or not. To better understand the separate components of videogames, the MDA-framework, – that is the mechanics, dynamics, and aesthetics, as described by game designers Robin Hunicke, Marc LeBlanc, and Robert Zubek in their article "MDA: A Formal Approach to Game Design and Game Research" (2004) will be utilised in understanding the 'building blocks' of videogames. The three elements of the MDA framework can generally be linked to the 'rules', 'system', and 'fun' components within videogames. According to the authors, mechanics are the components of the game at the level of data representation and are generally speaking not made 'visible' to the player. The dynamics are the 'run-time behaviour' in which the mechanics act upon player input and thereupon generate mechanical output, – like the non-player characters. Aesthetics then, is what aims to achieve the game designer their desired emotional response to player interaction with

said videogame.[61] Computer scientist Daniel Wigdor (1979 -) and researcher in the field of human-computer interaction Dennis Wixon compare the MDA-framework of Hunicke, LeBlanc, and Zubek in their chapter "Mechanics, Dynamics, and Aesthetics: The Application of MDA" (2011). Here, Wigdor and Wixon compare videogames and their mechanics to a game of chess, whereas each game of chess has the end goal of capturing the opponent their king, the chessboard could be either wood, plastic, or digital. This, however, does not change the core mechanics of chess, which are identical, no matter the implementation of the played game of chess, whether it be on a wooden or plastic board. From this, it can be stated that, in essence, all videogames rely on the identical principles of mechanics, i.e., the set of rules that create a game are all mechanics, yet the execution of form differs. Wigdor and Wixon continue the example of chess in further explaining the framework, with the dynamics being the movement of the chess-pieces as done by the player. Even though the dynamics differ per game of chess, the mechanics are the same, yet a different approach is taken to eventually get to the possible outcomes of the said game of chess.[62] In videogames, this is player interaction with their in-game environment, which could range from the player interacting with a non-player character, whether it is in the form of conversation, or conflict; it does not change the core game mechanics. The course of action is a decision that is up to the player, creating a very diverse set of dynamics, all dependent on the choices of the player motivated by their wants. Whereas one player could decide to eliminate all guards in *Assassin's Creed II,* another player could choose to take on a stealth-like approach to avoid conflict, rather than seeking it out. Wigdor and Wixon continue to the notion of aesthetics in a game of chess, stating how the aesthetics are a direct result of the dynamics, and again, to be experienced uniquely per player. Losing a game of chess, for example, could result in rivalry among players. The player their emotional response evoked after finishing a game of chess is based on the personal conception of the dynamics of said game, these are the aesthetics.[63] In approaching videogames as being one part 'universal', and two parts 'personal', player interaction thus is responsible for the main experience of a videogame. Due to the core mechanics being a set of rules that are unchangeable for the player, questions rise of whether this notion of general, personalised

[61] Hunicke, Leblanc and Zubek, "MDA."

[62] Wigdor, Wixon, 107.

[63] Ibid., 108.

experience is plausible, and if so, what this means for the experience of freedom in *Assassin's Creed II*.

Because of the 'identical' nature of videogames in algorithmic structures, one could argue that there is no actual freedom involved, whereas all sequences of events will eventually lead to the same faith, just as in the example of the game of chess. However, if the player would, hypothetically speaking, not possess freedom, they could still own free will, which could thereupon be confused with freedom. To use the notion of narrative freedom in *Assassin's Creed II*, the mechanics relating to the general sequences of events is divided into fourteen sequences, each,–for the most part–, chronologically arranged and only playable in the said chronological order. Additionally, certain missions during certain sequences in *Assassin's Creed II* do not allow the player to leave the area, that is defined by the game developers as mission borders (Fig. 16). Furthermore, if the player were to assassinate a target under the condition that the player does so in a stealth-like manner and without being seen, the player will be 'desynchronised' (Fig. 17), meaning that the player has failed the mission and must be restarted, this time according to the rules set by the developers of *Assassin's Creed II*. To reflect on the danger of the algorithm shaping its viewer, or in this case player, perception on certain topics as argued by Quadflieg, Neuburg, and Nestler in *(Dis)Obedience in Digital Societies*, in using a limitation of narrative freedom, players could be prohibited in deciding in what way they prefer to play through a mission. This, however, could potentially be viewed as dangerous, whereas a hardwired algorithm based on, for example, the patriarchal norm, can force players deviating from said norm to feel excluded, whereas those in favour of the, again for example, the patriarchal norm can experience freedom, yet at the expense of the deviating party. As mentioned earlier, the burning down of the *Borgia Towers* in *Assassin's Creed Brotherhood*, to thereupon confiscate said tower as *Assassin* territory needed to progress further in the game, could be perceived as the same behaviours *The Creed* claims to go against. In terms of narrative freedom, *Assassin's Creed II* is very limited, whereas the player can be desynchronised and forced to play according to the developers and their desired way. However, due to the possibility of also being able to freely roam around the regions, –that is if not playing through a mandatory mission,–it could be stated that the player is granted tools to fabricate the idea of freedom, whereas there only is free will disguised as freedom, which thereupon relates to the

previously discussed notion of Foucault on the controlled choices society is given to express themselves.

As far as the exploratory freedom in terms of mechanics in *Assassin's Creed II* goes, apart from the exceptions in leaving a mission area, *Assassin's Creed II* allows the player to explore the entire map relatively early in the game, that is after the prologue of the game is over, being one out of the fourteen sequences of *Assassin's Creed II*. Whereas not all sequences take as long to complete, the average time set for completing the main story of *Assassin's Creed II* is nineteen hours, roughly translating to the prologue averaging one-and-a-half hours.[64] An aspect that creates a significant amount of exploratory freedom, however, is the players' ability to move through the world freely, as long as the player is not actively pursuing a mission. The missions, each sequence roughly having ten missions, are marked on the map by an exclamation mark, and upon arrival the player must manually accept the mission by pressing a button to be shown the details of the mission, and press another button to then either accept, or decline the mission (Fig. 18). The requirements to continue the main story of *Assassin's Creed II* do not change, yet the player is free to decide upon their own pace. If anything, it could be argued that *Assassin's Creed II* encourages its players to also explore the world, whereas throughout each region in the game, ranging from the city of Venice to the small town of Monteriggioni, one-hundred collectable feathers are hidden (Fig. 19), with every location being more obvious, or easily accessible than the other. The feathers are introduced early in *Assassin's Creed II*, when Auditore his little brother, Petruccio Auditore, asks Auditore a favour, which is collecting feathers from a bird's nest on top of the Auditore Villa (Appendix 3).[65] Whereas this seems rather unimportant at first glance, it is important to note the untimely and unjustified death of Petruccio in the public execution shown during the first few hours of *Assassin's Creed II*, with the execution being a pivotal event that motivated Auditore into avenging the *Templar Order*. This collecting of feathers is something separate from the main story of *Assassin's Creed II* and is not mandatory, yet it is a mechanic that once interacted with becomes dynamic. After successfully locating and collecting all one-hundred feathers, the player is granted an 'achievement', meaning the player gains 'gamer points', on *Xbox* consoles, or 'trophies', on *PlayStation* consoles. The achievement is not an in-game reward, but rather a personal one

[64] *How Long to Beat*, "Assassin's Creed II."

[65] Bowden, 8.

assigned to a player their 'game profile' (Fig. 20), a social aspect of gaming. This 'achievement' is a rather interesting one, since the player can share this achievement with other players or have the information regarding their achievements publicly available. This calls for an observation regarding the forms of 'social control' via technology and algorithms previously stated by Galloway who argues that informatic control is equally, if not more dangerous than social control.[66] Of course, the higher of a 'gamerscore' a player has, the more of a 'gamer' they might be perceived to be by other players or themselves. Besides the 'gamer points' granted to the player, the completion percentage of any played game is also visible to the player on their social network, whereas one-hundred percent completion in videogames would arguably look 'better' than not. Of course, these are all hypothetical scenarios, and it is very dependent on each player whether they value the digital reward system or value their social 'gamer' appearance. It does, however, bridge the notion of social control via algorithms posed by Galloway, whereas if the player were to value mentioned, digital points and 'gamer' reputation, it could be a phenomenon motivated by forms of social control through the mechanics in *Assassin's Creed II*. Another reward for locating and collecting all the feathers is a piece of clothing, namely the 'Auditore cape', raising Auditore his social status to 'notorious', meaning the guards will attack the player on sight. When wearing this cape in every region of *Assassin's Creed II*, the player is rewarded with another 'achievement'.[67] Again, the same theory on social control via means of set rules in which the player feels as if they are free could be applied here. After the events surrounding the public execution of part of the Auditore family, it is stated that Auditore his mother Maria Auditore entered a state of shock and became unable to speak, Maria sat on her chair 'keening and rocking' while 'clutching' the 'little pearwood box of feathers' Petruccio had given to her.[68] Here, the emotional value that the feathers have for Maria is emphasised. After having located and collected all one-hundred feathers, the player is instructed to deliver the feathers to Maria. Through interaction with the pearwood box, the player triggers a cutscene, here Auditore approaches his mother, embracing her. This then leads to Maria speaking again, after having been unable to for three years, and

[66] Galloway, The Exploit, 125.

[67] *Assassin's Creed Wiki*, "Assassin's Creed II Outfits."

[68] Bowden, 11 – 23.

thanks her son Ezio for 'not forgetting about her'.[69] This is an example of the player actions, i.e., the dynamics, triggering the mechanics, to ultimately achieve an emotional response, being the aesthetics, as stated in "MDA: A Formal Approach to Game Design and Game Research", and further explained by Wigdor and Wixon. In motivating the player to locate and collect the feathers, to thereupon gift them to Maria, an emotional response is triggered. Whereas this response is strongly dependent on each player, it is credible that the mechanics intend to have the player feel as if they have done something good. In doing so, the player is rewarded via means of emotional response. This example, in which the player gains multiple rewards, being two achievements, a cape that is otherwise not obtainable, and Maria her appreciation, could be argued to motivate the player to explore the map, during or after the main story has been completed. In terms of exploratory freedom, the mechanics of *Assassin's Creed II* can be argued to rather motivate the player in exploration, than not.

Lastly to discuss the notion of tactical freedom, entailing the player their ability to use a different set of tactics to still comply with the videogame its mission strategy that is aimed to be achieved, in *Assassin's Creed II*. To illustrate, the mechanics of the game can be compared to the strategy implemented in a videogame, here, if the player interacts with the strategy, tactics form, or dynamics if linked to the MDA-framework. Here, the question is whether, and to what extent the player of *Assassin's Creed II* is given the opportunity for freedom of tactics, meaning that their personal choices of tactics used towards an already established goal are possible. Within *Assassin's Creed II*, the amount of tactical freedom given to the player is strongly dependent on each, individual mission. Several missions require the player to remain undetected until the assigned mission target has been assassinated, an example of said mission is "Port Authority" during the thirteenth sequence of *Assassin's Creed II*.[70] Here, the player is instructed to assassinate a merchant by silently boarding the merchant his ship, to thereupon assassinate the merchant without being detected, detection here will lead to desynchronisation and will force the player to restart the mission. Whereas the player can 'leave' the mission at any given time via the in-game menu, the main storyline will not progress further until after the completion of said mission. Here, the player is given a direct set of rules to which they need to comply. There are several more missions requiring the player to remain undetected,

[69] *Assassin's Creed Wiki*, "Maria Auditore da Firenze."

[70] Ibid., "Port Authority."

sometimes the end goal being an assassination, and other times the end goal being simply to escape the guards that are chasing the player. The latter can be done in multiple ways, whereas the player can either climb a building, run away far enough to where the guards no longer see them, or just assassinate all the guards, murdering their way into hiding. This, however, will raise the player their notoriety, resulting in guards being on 'high alert', and attacking the player more frequently than if the player were to keep a low profile. The notoriety mechanic here is an interesting feature to discuss, whereas there are several tactics the player can use to reduce their notoriety status. The notoriety system is equipped with a few things, most importantly the 'notoriety indicator' shown at all times during interactive gameplay in the top left corner of the screen, with a red symbol indicating high notoriety status, and a grey symbol indicating the opposite (Fig. 21). The player their actions are directly linked to the notoriety system, with a set of actions resulting in higher notoriety, as well as a set of actions resulting in the lowering of said notoriety (Appendix 4). A few of these actions are the killing or fighting of innocent civilians, being seen wandering around a restricted area, being caught both carrying, and looting bodies, and being caught hiding in, for example, a haybale. Even simple actions like accidentally bumping into a civilian, resulting in the dropped goods of said civilian, negatively impact the notoriety status. If the player were to gain a high notoriety status, several things allow the player to lower said status. An example here is the earlier mentioned use of wanted posters, spread throughout the map. The player can interact with these posters, removing them, and ultimately lowering their notoriety by a quarter. However, it is important to not undertake this action when in the proximity of a guard, for where the opposite effect on the notoriety status will occur if a guard catches the player removing said wanted poster. Other than that, the player can bride heralds, individuals throughout the game positioned on a raised platform proclaiming the 'dangerous' assassin that is roaming the streets. After bribing, the player's notoriety is halved. Now, the player can choose whether to pickpocket said herald, gaining a small amount of notoriety back, or kill and loot said herald, though again, gaining notoriety,–but also the money spend to bribe,–back. The third option that will lower the player their notoriety status by three-quarters, is the killing of officials that 'testified' against Auditore, in the form of false statements.[71] Via this notoriety system, the player is allowed to 'create' their own, in-game social experience. One could, for example, decide not to perform said actions

[71] *Assassin's Creed Wiki*, "Social Stealth."

that will eventually lead up to a high notoriety status, or go the opposite way; ultimately leading to a high notoriety status. Both choices do not influence the main story of *Assassin's Creed II*, however, keeping a low profile will generally make for an easier player experience in navigating the map, whereas a high profile will attract the attention of the surveilling guards, impeding the ease in navigating the map. Here, the notoriety system in *Assassin's Creed II* displays a clear example of in-game strategy, where the player is supposed and encouraged to achieve and remain a low profile via 'good' behaviour and not indulge in unduly behaviours such as assassinations that are appointed as 'uncalled' for by the game developers. Yet moving through the crowds in an attempt of blending in or running towards a building with the intent of climbing it, does come with the relatively high risk of bumping into civilians, or guards, thereupon increasing the notoriety status. In doing so, it could be argued that following the list of rules to keep a low profile, is a rather difficult task, whereas some missions even start with the notoriety status at the highest. The player is then encouraged to actively pursue an attempt of lowering said status, via tactics they decide upon themselves. Whereas the missions in *Assassin's Creed II* do not lend themselves to a large selection of tactics, the in-game notoriety system is an example in which the strategy is to keep a low profile, with the tactics allowing for personalised ways to do so, yet the player is unable to fully commit to said low profile due to some of the mechanics of *Assassin's Creed II* either forcing the player to kill and gain notoriety, or raise their notoriety for mission purposes. Remaining undetected, while fighting *Templar* oppression and towards freedom, a small game mechanic separate from the main story does offer the player a certain notion of freedom of tactics to still achieve the goal of *The Creed*, i.e., to work in the dark, while serving the light.

III. *ASSASSIN'S CREED II* COMPARED

Introduction

This last chapter of the thesis will solely serve as a comparative chapter to place *Assassin's Creed II* (2009) into a theorised framework. To do so, the comparison to other games regarding the concepts of narrative freedom, exploratory freedom, and tactical freedom is deemed necessary. This chapter will be divided into three subchapters, each subchapter briefly summarising the assigned mode of freedom as seen in *Assassin's Creed II*, via both the methodologies of philosophy as discussed in the first chapter "*Assassin's Creed II* & Modes of Freedom", and the methodologies of game development as discussed in the second chapter, "The Algorithm at Work". Thereafter, each of the subchapters of this chapter will compare a videogame in terms of one of three modes of freedom, to the portrayal and implementation of said modes of freedom in *Assassin's Creed II*. The first subchapter "Narrative Freedom in Minecraft" will compare *Assassin's Creed II* to *Mojang Studios* (2009 -) 'sandbox' videogame *Minecraft* (2011). The next subchapter "Exploratory Freedom in The Elder Scrolls V: Skyrim" will compare the discussed modes of exploratory freedom in *Assassin's Creed II* to *Bethesda Game Studios (2001) '*action role-playing' videogame *The Elder Scrolls V: Skyrim (2011).* Lastly, this chapter will compare the notions of tactical freedom in *Assassin's Creed II* to *Ensemble Studios* (1994 – 2009) 'real-time strategy' videogame *Halo Wars* (2009). Each videogame to be compared to *Assassin's Creed II* has been chosen based on both years of release, for where a videogame released, for example, five years later than *Assassin's Creed II* can already differ significantly in terms of technological advances in the field of game design, as well as through finding a fitting videogame genre to each discussed mode of freedom. In doing so, this chapter aims to theorise and help the reader understand whether freedom exists in *Assassin's Creed II*, and if so, the extent to which it does exist as compared to other, chosen videogames in this chapter. Of course, there is no unambiguous answer to be given to said question when comparing *Assassin's Creed II* to only three, different videogames. However, an indication of freedom in *Assassin's Creed II* can be established via said comparisons, which thereupon aims to raise awareness and critical thinking in terms of signs indicating, or debunking, the existence of freedom in videogames.

Narrative Freedom in *Minecraft*

As stated earlier by Zussman, narrative freedom entails the ability to freely express oneself in personal, desired ways. What that narrative is, then, is strongly dependent on meanings and morals relevant to their own experiences and overall life. According to Zussman, this selectivity makes narrative meaningful, since it grants the opportunity to personalise an event and create something more than a 'mere list' of events.[72] The videogame *Minecraft* (2011) was released by game studio *Mojang Studio* (2009 -) and is a popular 'sandbox' videogame, entailing a genre that is used to describe videogames allowing to freely move around through the virtual world, rather than forcing the player to use a linear approach.[73] *Minecraft* as a suitable game in comparison to *Assassin's Creed II* has been chosen due to *Minecraft* its use, or rather lack of, guiding posts in encouraging the player to complete the main story of *Minecraft*. *Minecraft* centres around, as digital ethnographer Larissa Hjorth states, the concept of 'block-building creativity', i.e., things out of blocks (Fig. 22). In *Exploring Minecraft: Ethnographies of Play and Creativity* (2020), Hjorth aims to analyse and explore *Minecraft* as a cultural phenomenon for 'creative literacy, social play, and quotidian platformativity'. Hjorth states the 'mundaneness' of *Minecraft*, to thereupon argue how it is this very mundaneness that could offer 'crucial insights' into 'sedimented and collective informal literacies' surrounding both digital and social play.[74] *Minecraft*, being a 'sandbox' game, provides its player with a high level of autonomy, contrary to 'progression-style' games in which narrative guides the player to a certain goal, *Minecraft* allows its players to both autonomously explore the environment, while also being able to shape and create said environment through creative block-building.[75] *Minecraft*, in terms of narrative, hence does not solely rely on story progression as the main playstyle, whereas the main storyline in *Minecraft* is not necessarily notable, nor introduced to the player. Before a player enters a 'new' *Minecraft*-world, a set of choices is presented (Fig. 23). Here, the player can customise a variety of world settings, e.g., the game mode, the difficulty, game rules, and whether cheats are allowed in said *Minecraft*-world. Here, the player is already presented with the personalising of the game experience, thus shaping their narrative

[72] Zussman, 808.

[73] Gabbiadini et al, 2462.

[74] Hjorth, 4-5.

[75] Ibid., 35.

of choice. Each setting, however, does not change the actual *Minecraft* mechanics, whereas each new world created still offers the same main-story line. The 'end goal' of *Minecraft* is to, eventually, defeat the so-called 'Ender Dragon'. The existence of said 'Ender Dragon', however, the player is not made aware of during gameplay, and it is via a combination of exploration and personal advances in finding said dragon, that the player can choose to either defeat the 'Ender Dragon', or not. *Minecraft* tends to guide its player towards exploring certain aspects of the world via, for example, landmarks indicating that there is more to the world than is originally presented to the player. An example here is the 'ruined portals' (Fig. 24), which are portals leading the player to 'the Nether', a different hell-like realm in *Minecraft*. The portal, however, is not functioning, nor is there a guide enlightening the player on how to get the portal to function, and teleport them to the Nether. The 'ruined portal', however, always spawns with lootable chests, containing various items needed to rebuild the ruined portal. This is not mentioned to the player, only hinted, at best. Here, the player is thus not made aware of the existence of the Nether, only after encountering a ruined portal that will still leave the player possibly unaware of the Nether. Similar to the ruined portals, are the 'End portals'. As is the case with the ruined portals, the end portals are also located throughout the world, ultimately teleporting the player to the End, a space-like realm where the Ender Dragon will spawn upon the arrival of the player. Yet this portal differs from the ruined portal; where the player can create their own Nether portal with the right combination of blocks, the End portal is not craftable,–that is in *Vanilla Minecraft* where there are no additional modifications or plugins installed. The sequence of actions the player needs to undertake to not only find said End portal but thereupon activate said End portal could be considered as being a linear narrative, whereas there is no other way in *Vanilla Minecraft* to get to the End, other than via randomly spawned strongholds housing End portals throughout the world. The steps required to enter the End are rather linear, and it does not stop when the player arrives in the End. Here, the player can only leave the End after having successfully defeated the Ender Dragon, or by being killed, thus being forced to finish the linear narrative as soon as they entered the End by either completion or death. After successfully defeating the Ender Dragon, and exiting through the spawned 'exit portal', the player is presented with the end credits of *Minecraft*, to thereafter be returned to their last spawn point. In *Minecraft*, it could be argued that there is little to no 'right' way to play the game, with the events in which the player is expected or forced to follow a linear sequence of events as intended by the developers of *Minecraft* are rare and serve a purpose of,

for example, rolling the end credits. The game does not end after defeating the Ender Dragon, and the player can continue their journey where they left off before entering the End, only now having achieved the 'The End' achievement. *Minecraft* its use of achievements could be argued to function as guidelines, whereas the majority of the achievements are rather simple in nature and very descriptive, for example, the achievement 'Getting Wood', in which the player is asked to 'punch' a tree until a 'block' of wood falls out.[76] The use of the term 'punch' here, is notable, whereas it implies the achievement is rather to be achieved early on in the game, than later. This can be argued due to the lack of tools the player has when starting *Minecraft*, hence punching is done with the player their hands. Here, the use of in-game achievements is used to guide the player through the basics of *Minecraft*, while allowing the player to explore the world and create their narrative where nothing is mandatory except, for example, eating for where the player would otherwise receive damage. This, however, could be prevented, too, by simply starting a 'creative' world, rather than a 'survival' world. To tie in *Minecraft* its presumed narrative freedom to Hegel, Hegel described free will to be an experience, rather than an arranged principle. *Minecraft*, here, offers the player an experience to be shaped to their personal preferences. In an interview with the developer of *Minecraft* Markus 'Notch' Persson (1974 -), who single-handedly coded and created *Minecraft* and is the founder of *Mojang Studios*, Persson states that *Minecraft* its popularity might be partly due to the 'freedom' the player gets.[77] When applying the notions of the internal subject, and external object as theorised by Hegel, the player of *Minecraft* as the internal subject could be able to experience freedom provided that the external subject being the creator of *Minecraft* adheres to the player possessing freedom. In this sense, through philosophical theories on narrative freedom through Hegel, it could be cautiously stated that *Minecraft* offers its players both free will and freedom. This, however, could very easily be disrupted, for where the slightest change in ideology could disrupt the relation between the internal subject, and the external object, ultimately resulting in the loss of freedom. In terms of formal code, *Minecraft* is written in 'Java code', an object-oriented programming language, entailing the code its basic structure is 'message-passing', creating a very direct communication between code components that are thereupon individually

[76] *Xbox*, Minecraft Achievements.

[77] Roberts, "An Interview with *Minecraft* Creator Markus 'Notch' Persson."

targeted.[78] In using this programming language, *Minecraft* is rather 'easy' to modify for personal use. In 2018, *Minecraft* released some of its codes for public use, granting its players the resources to start experimenting with either creating their own game by using publicised *Minecraft* code or helping to improve *Minecraft* its Java engine, as stated by developer Nathan Adams (1991 -) in an official statement from *Minecraft*.[79] In doing so, *Minecraft* extended the 'sandbox' aspect of the game to its formal grammar, allowing the player to create a personalised version of *Minecraft* via an open system. To illustrate, a personal *Minecraft* server can be locally created to host a multiplayer world accessible for multiple clients via several networks. There are two main possibilities for personalising *Minecraft* here, being the server and the client. The server modifications are applied to each of the players of the created *Minecraft* world, for example, the 'Graves' data pack, which spawns a grave at the location the player dies containing the items held by the player upon death instead of scattering the player their items at the location of death, risking the items being de-spawned after five minutes.[80] This 'data pack' can be added to the code of the hosting Minecraft server (Fig. 25), creating a personalised set of rules for *Minecraft* specific to a hosting server. Besides the server modification *Minecraft* offers its players, there is also the option for a player individual modding, entailing packs the player can locally add to their *Minecraft*, for example altering the GUI to match personal preference (Fig. 26). It could be argued that in designing *Minecraft*, player agency and freedom are of great importance, and via *Mojang* actively encouraging *Minecraft* players to do so by publicising code, *Minecraft* offers its players to create their narrative, using the basics provided by *Minecraft*.

With the notion of narrative freedom in *Minecraft* now being analysed, *Minecraft* has shown great differences as opposed to *Assassin's Creed II.* The first striking difference is visible in the clear and linear narrative goal present in *Assassin's Creed II* which is divided into fourteen sequences, guiding the player through the life of Ezio Auditore with little say in Auditore his life. This is further substantiated by the clear division of in-game events by missions, and whereas the player can decide when to start said missions, there are only a few

[78] *A Dictionary of Computer Science*, "Object-oriented Programming."

[79] Stone, "Programmers: Play with *Minecraft's* Inner Workings!"

[80] *Vanilla Tweaks*, "Data packs."

activities the player can do if not progressing further in the main story of *Assassin's Creed II.* The external object aims to have the player complete the main sequence of events, hence not adhering to the internal subject where the player could believe to possess freedom. In *Minecraft*, this has been argued above to be the contrary. When the aspect of player modifications in *Minecraft* as opposed to *Assassin's Creed II*, the differences are striking. Although *Assassin's Creed II* can be modified, it is nowhere as accessible as in *Minecraft*. Besides, most modifications available for *Assassin's Creed II* are purely visual modifications, which do not change the components of the videogame responsible for the narrative that the player is expected to follow. In *Assassin's Creed II*, the player can in a way decide Auditore his behaviour, yet only in ways that do not change the narrative set out in the game for the player to follow, and if not executed 'properly' leads to the desynchronisation of the player. In *Minecraft*, it could be argued that the opposite is true. With no information given on what to do or where to go when the player enters a *Minecraft*-world, the player is invited to create their narrative via means of interacting with the world as well as the code that is *Minecraft*. This desired interaction is dependent on personal, player preference, and whereas one could embark on a journey to defeating the 'Ender Dragon', *Minecraft* also grants the player the opportunity to build their world, without the player being guided towards the narrative of *Minecraft* its main story. It is important to note that *Minecraft* is a 'sandbox' game that already displays considerable discrepancies when compared to the stealth, action-adventure game that is *Assassin's Creed II.* Therefore, it does not come as a surprise that *Assassin's Creed II* and *Minecraft* differ considerably from each other. This is not necessarily a bad thing, whereas the opposing notions of narrative freedom in both *Assassin's Creed II* and *Minecraft* contextualise how 'freedom' might be experienced in videogames, while simultaneously emphasising the lack of said narrative freedom in *Assassin's Creed II.*

Exploratory Freedom in *The Elder Scrolls V: Skyrim*

As discussed earlier in this thesis, exploratory freedom translates to the concept of exploring, that is going to an unknown area with the sole purpose of discovering the said area, and freedom, the state of being able to act upon free will.[81] The case study chosen to compare to *Assassin's Creed II* (2009) here is *Bethesda Game Studios* (2001 -) *The Elder Scrolls V: Skyrim*

[81] *Oxford English Dictionary Online*, "Explore, n."

(2011) (Fig. 27). As described by *Bethesda*, *Skyrim* 'reimagines' and 'revolutionises' the 'open-world fantasy epic', that in doing so 'brings to life' a virtual world that is open for the player to explore in any way they want and desire.[82] Being a 'single-player action roleplaying game', *Skyrim* allows the player to create a character to their liking, to thereafter enter the world of *Skyrim*, located on the continent of *Tamriel*. Skyrim, as stated by Grant Tavinor in his chapter 'Art & Aesthetics' in *The Routledge Companion to Video Game Studies* (2016), can be considered a 'beautiful, representational artefact,' with the 'naturalism' accompanied by the rich detailed environment, that together with the exploratory role of the player create an 'aesthetically rewarding' player experience. Tavinor thereupon raises the question of whether 'aesthetically rewarding' and thus pleasing videogames such as *Skyrim* could be considered works of art, and more importantly the role of the player in 'artistic performance', and their appreciation of videogames.[83] This question of whether a videogame such as *Skyrim* could be considered to be a work of art due to its aesthetically pleasing sceneries (Fig. 28) in the sense of exploratory freedom, could be presenting an interesting perspective on the experience of exploratory freedom. The concept of videogames and ludology strongly rely on player interaction to create an experience, the 'beauty' of *Skyrim* combined with the open-world, and non-linear narrative could impact the player their experience of freedom. Starting *Skyrim*, the player follows a mandatory part of gameplay, where the player is asked to create their character and escape from a dragon attack, introducing the reoccurring theme of dragon attacks throughout the world of *Skyrim*. The player is quick to learn that they are the so-called last 'Dragonborn', meaning they are individuals with 'the body of a mortal', yet possessing both the blood and soul of a dragon.[84] This mandatory sequence of events in the first hour of gameplay emphasises the assumed importance of pursuing the main quest line of the Dragonborn, however, *Skyrim* offers the player many side quest lines, without actively pursuing said main storyline. Locations of where to start any side quest are scattered throughout the world of *Skyrim*, and via communication with non-player characters, the player is guided towards new landmarks to further continue their questline of choice. In doing so, the player is encouraged to not only explore *Skyrim* but also actively engage with its environment. Due to

[82] *Bethesda Game Studios,* "*The Elder Scrolls: Skyrim."*

[83] Tavinor, 'Art & Aesthetics.'

[84] *The Elder Scrolls Wiki*, "Dragonborn (Lore)."

the non-linear nature of *Skyrim*, the player is, for a large part, in control of the narrative they want to follow, and whereas the player is guided towards the path of the Dragonborn during and after the first quest after starting *Skyrim*, what the player thereafter does is dependent on multiple factors, the most important one here is the exploration of *Skyrim*. In doing so, *Skyrim* offers the player the option to completely ignore the main storyline, if they would want to. An example of how the open-world concept of *Skyrim* could encourage the player to explore, rather than restrict them to following the linear, is by a dialogue option given to the player when speaking with the non-player characters hosting the bar in the local inn or tavern. The inns and taverns, spread throughout the cities of *Skyrim*, all offer the player the dialogue option to ask for the latest 'gossip', each time the player asks the 'gossip' can differ, yet not all 'gossip' is useless to the player. The player could be made aware of Aventus Aretino, who is rumoured to try and perform the so-called 'Black Sacrament' in the city of Windhelm, which is a ritual executed by an individual that wishes to contact and hire the services of the *Dark Brotherhood*, a faction of assassins. This 'gossip' can be heard from other places than inns and taverns, whereas the player can also learn about Aventus Aretino his attempts in contacting the *Dark Brotherhood* through interaction with orphaned children in the city of Riften, or via an individual named Maul, with whom an interaction is triggered upon the player entering the city of Riften. Throughout *Skyrim*, this rumour can thus be heard in multiple locations, this could imply that the exploration of the area is thus encouraged with rumours that eventually lead the player to the beginning of a new quest spread throughout the two cities relevant to said quest. Dependent on where the player is, the walk from Riften to Windhelm to speak with Aretino will take around one in-game day. This gives a better idea of the size of *Skyrim*, and whereas there are options to fast travel in *Skyrim*, it costs the player in-game money to travel to undiscovered cities. Upon arrival in Windhelm, the player must then find Aretino, which again encourages in-game exploration. Only after finding Aretino, a quest starts, providing the player with objectives and a marker on the map on where to go next. Of course, the player always possesses a map of *Skyrim*, yet in terms of navigating the world, the map (Fig. 29) does not offer much guidance to an inexperienced player. Another feature implemented in *Skyrim* encouraging exploration is the map that will not show landmarks other than the main cities in *Skyrim* until the player has discovered landmarks by 'physically' being there. In the direct rewarding of the player via exploration in terms of dialogue starting quests and discovering landmarks, it could be argued that *Skyrim* encourages the player to explore and direct their

own, personal experience. This is substantiated by an interview with the game director of *Skyrim*, Todd Howard (1970 -) in which Howard is asked his opinion on the 'easy-to-get-distracted-thing' that is described to be *Skyrim*. Here, Howard states his belief in players being 'self-directors' in their own experience. Howard furthermore states that even though there will probably be a 'huge percentage' of the world of *Skyrim* that the majority of players will not see, they still experience the same realm of *Skyrim*.[85] What is notable about exploration in *Skyrim*, is the reoccurring threat of dragons, a threat the player is objected to 'solving' if they were to follow the main quest, lessening the spawning of the dragons (Fig. 30). The dragons are spawned at both scripted locations as well as randomly generated locations in *Skyrim* to attack the player once a certain amount of in-game time has passed, in doing so the randomly spawned dragon attack could happen anywhere, as long as it is outside, and the said amount of time without dragon spawns has passed. It often occurs the dragon is noticed by the player only after the dragon has already noticed the player and will thus attack the player. For players that do not enjoy fighting the dragons, or are focused on a different in-game quest, this could result in a constant state of awareness for dragons, when spending time outside. The use of the fast travel option in *Skyrim* still counts as in-game time passed, as if the player were to walk from and to said location, thus counting towards the time passed since the last dragon spawn. This could be linked to Foucault his notion of control through constant surveillance, or the induced state of awareness achieved via the idea of constant surveillance. With the fast travel still counting towards in-game time passed, there is not necessarily a way in which the player can escape the threat of the dragons. In doing so, *Skyrim* does not grant the player in-game rewards when fast travelling instead of exploring, whereas the spawn of dragons will still happen roughly every three in-game days. To put this in perspective, the aforementioned walk from Riften to Windhelm takes approximately one in-game day, from sunrise to sunset. Twenty-four hours in *Skyrim* roughly translates to seventy-two real-life minutes.[86] Dragons thus typically spawn every 216 real-life minutes, i.e., around every three-and-a-half hours. With the walk from Riften to Windhelm then roughly costing the player thirty-six real-life minutes, roughly every seventh trip would include a dragon encounter. Dependent on the player, the average amount of real-life time it takes to walk from one end of the *Skyrim* map to the other, is one

[85] Peckham, Matt. "The Elder Scrolls Skyrim Todd Howard Interview."

[86] Sinclair, "How Long Is a Day in Skyrim? (In Real-Time)."

hour and fifty minutes.[87] This translates to roughly thirty-six in-game hours, and with dragons typically spawning every three-and-a-half hours, walking the map of *Skyrim* would present the player with no dragon encounters. However, with the average time needed to complete only the main story of *Skyrim* being thirty-four hours, the player could be stated to encounter at least roughly ten randomly spawned dragons, that is excluding the 'named' dragons that do not respawn once defeated.[88] The encountering of dragons does not end once the player finishes the main storyline, the amount of time it takes for dragons to spawn, however, does decrease. Yet dragons are always present in *Skyrim*, and spawn at relatively set points in time, meaning that they cannot be avoided. To go back to Foucault his notion of surveillance as means of control, the player cannot escape the threat of the dragons, and will approximately every three-and-a-half real-life hours encounter one. Whereas tracking time the player spends outdoors to predict the next dragon encounter is an option, it only grants the player a sense of relief from the dragon 'surveillance', yet they can never escape. This ties in with the mechanics used in *Skyrim* in terms of exploratory freedom, whereas the set interval at which the dragons spawn is part of the mechanics of *Skyrim* that do not change as the result of player interaction. As explained in an earlier chapter through the MDA framework, the mechanics are set, the dynamics are player input to which the mechanics react, and the aesthetics aim to evoke an emotional reaction in the player while playing. This here is relevant to the previously mentioned argument of *Skyrim* being a work of art due to its assumed, highly aesthetical value. Tavinor, for example, states how *Skyrim* is 'emotionally expressive', entailing *Skyrim* its ability to 'express' emotions via its presumed beauty.[89] It could be argued that through player interaction with the world, by, for example, picking flowers to be used in alchemy, the presumed beauty of *Skyrim* is emphasised through the mechanics allowing the flowers to be pickable, creating player opportunity and hence dynamics, that thereupon could evoke an emotional reaction.[90] This reaction could be enhanced then via the presumed beauty and 'emotional expressivity' *Skyrim* possesses, as stated by Tavinor. In doing so, the use of mundane interactive things such as picking flowers in *Skyrim* creates a 'stronger' cooperation

[87] Ticus, "*Skyrim* (Special Edition) - Walk across the Map."

[88] *How Long To Beat*, "How Long Is the *Elder Scrolls V: Skyrim*?"

[89] Tavinor, "Art & Aesthetics."

[90] Hunicke, Leblanc and Zubek, "MDA."

between the set mechanics of the world, and the interactive dynamics of all the things the player can choose to do while roaming the world of *Skyrim*, while simultaneously being visually stimulated by the presumed beauty of *Skyrim*. The picking of flowers, however, is not mandatory in a *Skyrim* playthrough, yet through gaining in-game skills in the branch of alchemy, the player can experience benefits in overall player-performance. Due to, for example, alchemy its voluntary nature, those who wish to explore the world of *Skyrim* differently are free to do so, with Howard stating how the many different experiences depending on personal choice *Skyrim* offers is a 'really good thing', for where players sharing experiences are rarely identical, yet relatable due to the common denominator being the world of *Skyrim*. Furthermore, Howard mentions the thought that went into the so-called 'flow' of roaming through the world of *Skyrim*, whereas Skyrim being a role-playing game rewarding the player depending on the individual, player choices, allowing each player to personalise and 'carve' their own desired experience.[91]

Compared to *Assassin's Creed II*, it can be argued *The Elder Scroll V: Skyrim* offers its players a significantly larger degree of freedom. However, as in the previous comparison between *Assassin's Creed II* and *Minecraft*, *Skyrim* is an action role-playing game as opposed to *Assassin's Creed II* being an action-adventure game. The role-playing aspect of *Skyrim* is what aims to grant the player freedom of personalisation to an extent, which is not what *Assassin's Creed II* aims to do. It, therefore, is important to keep in mind the differentiating aims of both games while offering perspective and context on exploratory freedom in *Assassin's Creed II* compared to *Skyrim*. Where it is mentioned the use of exploring landmarks throughout *Skyrim* leads to the player 'unlocking' locations on the in-game world map for both fast travel, as well as navigational purposes, this notion of world exploration already differs from that used in *Assassin's Creed II*, where the player is instructed and expected to make use of and synchronise 'viewpoints' that are located throughout the game. With *Assassin's Creed II* having a set amount of seventy-three viewpoints to be synchronised or 'discovered', the mechanics in world exploration are limited when compared to *Skyrim*, in which there are 338 locations, excluding discoverable locations located in areas not included on the main map of *Skyrim*. This includes locations such as caves, 'dungeons', and sometimes even other dimensions. The total of discoverable locations including the ones mentioned above would then

[91] Peckham, "*The Elder Scrolls Skyrim* Todd Howard Interview."

add up to 670 all placed on a fifteen square mile map,–translating to roughly thirty-nine square kilometres.[92] Roughly every square kilometre in *Skyrim* thus has an average of approximately eighteen locations. Opposed to *Assassin's Creed II*, where there are 102 discoverable locations, that is including landmarks of fast travel locations, *Templar* 'lairs', and *Assassin* 'tombs', spread throughout a zero-point-eighty-three square mile map, being roughly two square kilometres.[93] This means that every square kilometre in *Assassin's Creed II* thus has roughly fifty-one discoverable locations, three times as much per square kilometre as in Skyrim. The significantly smaller map of *Assassin's Creed II*, on average having more discoverable locations than *Skyrim* results in less ground to cover regarding exploration. *Skyrim* thus offers the player the opportunity to 'free roam', that is freely moving around at will choosing where to go and what to discover dependent on personal preference. Contrary to *Assassin's Creed II*, where the player 'discovers' viewpoints, that after synchronisation will show the player objectives in the 'synchronised' area, rather than *Skyrim* its approach of free-roaming. The notion of collecting items throughout the map as mentioned via flower picking in *Skyrim* could be thought of to be similar to the collecting of feathers in *Assassin's Creed II*, however, the feathers in *Assassin's Creed II* do not contribute towards the building of a specific skill as does in *Skyrim*, yet it rewards the player via emotional investment in Auditore his relationship with his mother while simultaneously discovering the map of *Assassin's Creed II.* In *Skyrim*, picking flowers and collecting ingredients for alchemy purposes contributes to character development and skill building, granting the player the choice of whether this specific skill of alchemy is a skill they wish to pursue. *Skyrim* hence offers the player many instances in which the player can act upon their free will, yet fully experiencing freedom when roaming the outdoors could be argued to not be possible due to the looming threat of the dragons spawning at a set time interval in which every outdoor location in *Skyrim* could become an area that *Assassin's Creed II* labels as being 'restricted'. Where *Assassin's Creed II* shows the restricted areas, granting the player the choice of whether to enter the said area, or not, *Skyrim* does not, and the possibility of all outdoor spaces transforming into 'restricted' areas could leave the player in a state of constant awareness via the potential surveillance of both the threat of the dragons, as well as the actual dragons.

[92] Varnson, "How Many Unique Locations *Skyrim* Actually Has."

[93] Gibson, "*Assassin's Creed Odyssey's* Map Compared to 10 Other Games in the Series."

Tactical Freedom in *Halo Wars*

The notion of tactical freedom as discussed earlier entails the player their ability to personalise the use of tactics to execute a selected course of action. As described by Marc R. Hildenbrand, tactical freedom entails the ability of a 'combat formation' to execute a selected course of action, despite 'enemy actions' to the contrary.[94] Whereas the notion of tactical freedom is often used in a military context, the case study to be compared to *Assassin's Creed II* (2009) will be the real-time strategy videogame *Halo Wars* (2009) (Fig. 31) by *Ensemble Studios* (1994 – 2009). The videogame genre 'real-time strategy' is a subgenre of strategy games, which centres around strategic or tactical planning that takes on a less active approach than videogames in which the player is expected to use quick decision-making, such as in shooter games.[95] The two subgenres of strategy games are real-time strategy games, and turn-based strategy games, with turn-based altering in turns based on a set order and real-time being non-reliant on turns but allowing all players to play simultaneously. *Halo Wars*, a real-time strategy game, is part of the *Halo* (2001 -) franchise and the first of two real-time strategy games released as part of the *Halo* videogame series, consisting of a total of fourteen videogames including both the *Halo Wars*. As described by the developer of *Halo Wars 2* (2017) of *343 Industries* (2007 -), the *Halo* videogame series centres around a 'galaxy at war', with the protagonist Master Chief (Fig. 32), i.e., John, as the 'legendary hero' fighting a war against the so-called 'Covenant', an alien species out to achieve extinction of humanity.[96] Whereas the events of the *Halo* videogames after the first release of *Halo: Combat Evolved* (2001) all centre around Master Chief and his quest to destroy the weapons of mass destruction, referred to as the 'Halo rings', before the Covenant uses the rings against humanity, *Halo Wars* is set roughly twenty years before *Halo: Combat Evolved*, namely in the year 2531. The general theme of *Halo* is to be summarised centring around the threat of human extinction at the hand of the Covenant, which resulted in the 'creation' of Master Chief as the ultimate 'super soldier' through both physical and biological augmentation. *Halo Wars* takes place at the peak of the war against the Covenant before humanity is on the verge of extinction. The player hence gains control over human soldiers and their military equipment to fight the war in hopes of saving humanity,–even though

[94] Hildenbrand, 5.

[95] Hosch, "Electronic strategy game."

[96] *343 Industries*, "Franchise."

the events portrayed in *Halo: Combat Evolved* released eight years earlier, already imply the impossibility of preventing humanity from near extinction. One could therefore argue that the player is fighting against a pre-determined loss, which ties in with the notion of determinism, i.e., the belief that all human action is pre-determined by external motives and forces that are capable of acting upon free will, contrary to mankind, whose freedom is therefore non-existent.[97] What is notable, is the use of a so-called 'deterministic simulation' used in *Halo Wars.* 'Deterministic' in this context aligns with the definition given of determinism above, yet in computer science 'deterministic' entails algorithmic processes whose resulting behaviour and output are always the same depending on the input.[98] This means that each input has a pre-determined output, e.g., each player-action has a pre-determined outcome. To comprehend the concept of the deterministic simulation in *Halo Wars*, it is important to understand not only how real-time strategy games function, but *Halo Wars* specifically, too. During the game, the player is given three types of 'units', meaning the type of vehicle or soldier that can be used for different moves and types of attacks during the game. As can be read in the *Halo Wars* manual that can be found in the booklet of the physical *Halo Wars* videogame copy, the three 'unit types' are ground vehicles, infantry battalions, and strike aircraft.[99] The player can move each unit separately by clicking on the preferred unit, and again clicking on the location on the map the player wants the unit to move. The manual furthermore shows a diagram (Fig. 33) stating what unit type 'beats' another unit; vehicles beat infantry, infantry beats aircraft, and aircraft beats vehicles. This is already an example of the usage of a deterministic simulation, where the 'power relations' between unit types are pre-determined, and with the opponent that is the Covenant being equipped with the same set of unit types, knowing each unit its weaknesses thus assists the player in creating a tactic. Moving the units across the map will result in the exploration of new areas, yet in the manual, the player is warned that what may be unexplored for them, might not be for the opponent. Throughout the map, there are 'base locations', which are described to be the place where the player 'trains', or 'generates', their army, research upgrades used in strengthening the player their units, and where the player can gather resources. Each base location can be used to construct one facility, hence the more bases

[97] *Oxford English Dictionary Online*, "Determinism, n."

[98] *A Dictionary of Computer Science*, "Deterministic."

[99] *Ensemble Studios*, and *Microsoft Game Studios*. *Halo Wars*

the player can ‘claim’, and ‘fortify’, the better in terms of overall strength. The bases can be claimed via the destruction of the enemy-claimed base to thereupon build a new base belonging to the player if they were to have enough resources to build the base. If the base site is not claimed by the opponent, the player can build a base instantly if they have the resources. On the base, the player can build a range of different facilities, including ‘turrets’, a ‘fixed gunnery/tracking system’ used for base defence, or facilities more focused on strengthening or increasing their military units.[100] Dependent on player preference, the base offers customisation in terms of tactics, for where it is a personal choice differing per player which unit or tactics of attacks they prefer. While moving through the map, the player encounters the Covenant opponents, who have access to the same set of facilities and unit types as the player has, apart from the so-called ‘special attacks’, which differ per unit type. To illustrate the differences, whereas the human army of the *United Nations Space Command* (UNSC) includes infantry battalions able to hijack opponent vehicles, the Covenant infantry battalions have the ability for ‘suicide mode’, meaning the dealing of extra damage to the UNSC at the expense of their healthiness.[101] Whereas there are minor differences in unit types between the UNSC and the Covenant, in the mechanics of the *Halo Wars,* the result power relations that are established and mentioned above do remain and will always prevail due to the deterministic nature of the simulation used in *Halo Wars*. When playing the main campaign of *Halo Wars*, the player is given a list of objectives for each mission, which need to be fulfilled to progress further in the campaign. The strategy being a plan of action used to achieve an overall goal is thus made clear to the player, the tactical approach, however, is for the player to decide. To reflect on *Halo Wars* via the MDA framework, it can be stated that the mechanics of the game are deterministic in nature and dependent on the dynamics, there will always be the same outcome. To clarify, the deterministic approach means that if the player were to make decision *x*, its outcome will always be *y*. Contrary to a non-deterministic approach, in which decision *x* could result in *y1, y2, y3*, etc. Each decision and move the player thus decides upon while playing *Halo Wars*, thus has a set outcome, emphasising the importance of a tactical approach to still achieve the desired goal set through strategy. The mechanics in *Halo Wars* are thus set, yet the result of the dynamics is as well. When this is analysed via the notions of Alexander Galloway’s

[100] Ensemble Studios, and Microsoft Game Studios. *Halo Wars.*

[101] Ibid.

'protocological' approach and the notion of 'hardwired freedom', *Halo Wars* can be argued to the algorithm that is unchangeable for the player, and thus potentially dangerous for where the player is given the sense of changing the outcome, yet it is deterministic in nature and therefore not possible. Furthermore, the general theme of *Halo Wars* centring around a 'galaxy at war', brings into consideration the representation of war, to thereafter raise questions relating to the approach taken on by the developers to depict said war. Depending on the developers of *Halo Wars* their perspectives on war, it could be a potential risk that,–possibly unbeknownst to the developers due to the nature of a 'norm',–the binary opposition of the 'good' and 'bad' in the UNSC and Covenant is shaped through the dominant ideology in justifying the murder of others through the belief that the opponent is 'bad'. As discussed in *(Dis)Obedience in Digital Societies*, the danger of algorithms that are based on and further developed through the, possibly, patriarchal norm will only contribute to the said norm, in which one individual their freedom might come at the expense of an individual who does not meet the criteria and thus deviates from the said norm. The usage of a deterministic mechanical system in *Halo Wars* could be argued to not help in challenging the potential dominant ideology of 'good' and 'bad' in an environment of war, whereas it could even be argued to contribute to said ideology by taking away player agency in strategics. *Halo Wars* thus not only centres around an 'unwinnable' war due to the pre-determined canon of the *Halo* universe already having established the increasing dominance and power of the Covenant, but the mechanics used also being of deterministic nature contribute to the potential lack of freedom in gameplay, too. To reflect on Hegel who argues that for an individual to be free, they require to let go of the motivation that forms the identity of said individual, while simultaneously expressing themselves through identifying motives.[102] When applied to *Halo Wars, Halo Wars* thus needs to free itself from what it *is* that is *Halo Wars*, while also still *being Halo Wars*, for where *Halo Wars* would otherwise cease to exist. Tactical freedom in *Halo Wars* is deterministic in nature, thus posing a potential danger to those who interact with it, for where it might be the dominant ideology in which the 'good' is free at the expense of the 'bad'.

When compared to *Assassin's Creed II,* it could be argued that the more reliant on strategies a videogame is, the less freedom a player has. Whereas *Assassin's Creed II* can be argued to be rather restrictive where the player cannot truly behave without gaining notoriety,

[102] Yeomans, 4 – 5.

there are more variables present deciding what increases, and decreases notoriety, possibly through taking on a non-deterministic approach. With *Assassin's Creed II* emphasising the importance that nothing is true, and everything is permitted, *Halo Wars* could be argued to do the contrary, whereas everything in *Halo Wars* is determined and therefore true, 'nothing' is permitted.

CONCLUSION

This thesis has explored the field of ludology, philosophy, and technology to ultimately try to answer the question of the extent to which freedom in video games exists via the three chosen categories of narrative freedom, exploratory freedom, and tactical freedom. To help narrow down the question, *Assassin's Creed II* (2009) has been analysed in terms of narrative, exploratory, and tactical freedom thereupon be compared to videogames released around the same time as *Assassin's Creed II* to contextualise *Assassin's Creed II* in both its standpoint in videogames, as well as its standpoint in a specific timeframe of videogames. The compared videogames have been the 'sandbox' videogame *Minecraft* (2011), 'action role-playing' videogame *The Elder Scrolls V: Skyrim* (2011), and 'real-time strategy' videogame *Halo Wars* (2009). In working towards ultimately gaining sufficient insight to contribute to this thesis its debate surrounding the existence of freedom in videogames, this thesis has been structured through the use of three chapters. After a brief introductory chapter defining the 'start' of videogames and thereby the field of ludology, the first chapter "*Assassin's Creed* & Modes of Freedom" comprised three subchapters, each targeting a different, yet relevant area within the scope of this research. The first subchapter "The Brotherhood of Assassins" served the purpose of defining what it is that makes for *Assassin's Creed II* to be relevant in the theme of freedom by exploring the general narrative of *Assassin's Creed II* by placing in perspective the motives of the protagonist Ezio Auditore da Firenze in his fight against oppressive behaviours at the hand of *The Order of Knights Templar*. The following subchapter "Philosophy of Freedom" thereafter established a philosophical theoretical framework through the use of theories by Michel Foucault (1926 – 1984), Jean-Paul Charles Aymard Sartre (1905 – 1980), and Georg Wilhelm Friedrich Hegel (1770 – 1831) on the concepts of free will, freedom, and the opposing deterministic approach. Additionally, the perspectives of computer programmer Alexander Galloway (1974 -) are incorporated to provide a contemporary lens for examining the philosophy of freedom which has been proven to be of relevance in the latter chapter "The Algorithm at Work". Through not only analysis but also comparison, "Philosophy of Freedom" established the ground for further analysis in both recognising and defining concepts discussed by the aforementioned philosophers in *Assassin's Creed II*. The last subchapter "Freedom in *Assassin's Creed II*" hence utilised the theories and philosophical nature of freedom through three categories relevant to videogames, namely; narrative freedom, entailing the extent to which the player is free to experience their personal story, exploratory freedom, entailing the

extent in which a videogame allows the player to freely explore an in-game world, and lastly tactical freedom, entailing the usage and freedom of tactics as desired by the player. Here, it came to the fore that through the lens of the observer, narrative freedom in videogames does not exist, yet the player can experience said freedom. In *Assassin's Creed II*, this is mainly noticeable through small mechanics allowing the player to feel as if they are in control of Auditore, whereas the linear story-telling of *Assassin's Creed II* via a set quantity of sequences and mission suggests otherwise. Exploratory freedom in *Assassin's Creed II* is limited by the linear approach of the videogame, whereas the player can explore the open world of *Assassin's Creed II* through the mechanic of free-running allowing for interesting and dynamic gameplay, yet is discouraged to do so when playing through a mission, or when entering a 'restricted' area. Via 'viewpoints', the player is encouraged to engage with the physicality of their surroundings, yet restricted by the player not having progressed far enough in the game to explore said areas. The usage of viewpoints by the *Templar Order* in gaining control over an area strongly represents the notion of Foucault and the induced state of awareness and 'correct' behaviour by constant surveillance, or the idea that one might be under constant surveillance. Tactical freedom in *Assassin's Creed II* as linked to *The Creed* their mantra of nothing is true, everything is permitted reflects the notions of existentialism, and via subtle implemented parts of gameplay the player is given some tactical freedom, yet due to the linear nature of the main story, tactical freedom in *Assassin's Creed II* is limited.

The second chapter "The Algorithm at Work" explored the usage of theories on freedom in the technological realm and Information Age via the analysis of the algorithm relevant to understanding the mechanical build of videogames needed to thereupon better understand freedom in videogames. The first subchapter "Defining the Algorithm & Its Dangers" therefore served as an explanatory component that via the physical example of an algorithm used in solving a *Rubik's Cube* further progresses in the role algorithms take on in everyday, digital life. Subsequently, the potential dangers of the algorithm in the digital sphere came to the fore, and through literature by Alexander Galloway and Sven Quadflieg (1983 -), Klaus Neuburg (1977 -), and Simon Nestler (1983 -) these potential dangers and consequences have been further analysed. The main concern that came to the fore, here, is the lack of transparency in algorithmic use via, for example, state institutions, resulting in the possibility of conflict in both the social, as well as political sphere through unawareness surrounding the

‘protocological’ and ‘hardwired’ networks as means of control. Furthermore, the basic understanding that the algorithm ‘responds’ to what it thinks is a solid base, is oftentimes based on a social norm, therefore potentially strengthening a harmful norm if that norm were to exclude or impair those who deviate from said norm. The last subchapter “Algorithmic Freedom in *Assassin’s Creed II*” thereafter explored how the algorithm functions in the realm of videogames. Through the MDA framework, entailing the analysis of the mechanics, dynamics, and aesthetics of a videogame, the ‘building blocks’ of a videogame have been explored further through categorising each component to thereafter provide an understanding of critical areas relating to algorithmic freedom in videogames, specifically in *Assassin’s Creed II*. The algorithmic perspective on narrative freedom in *Assassin’s Creed II* mainly argued the linear structure of said narrative, in which it could be implied that the player is forced to act upon the will of the videogame, rather than act upon free will. In *Assassin’s Creed II*, this is mainly noticeable in the concept of ‘desynchronisation’, where the player is brought back to the start of a mission if they were to fail in completing the objectives as wished so by the developers. This, however, could be stated to potentially be viewed as dangerous, whereas a hardwired algorithm based on, for example, the patriarchal norm, can force players deviating from said norm to feel excluded, whereas those in favour of the, again for example, the patriarchal norm can experience freedom, yet at the expense of the deviating party. Exploratory freedom in *Assassin’s Creed II* via algorithmic approach analysed the mechanics allowing the player to free-roam the in-game world. In *Assassin’s Creed II*, the player can move through the world freely, that is as long as the player is not playing through a mission. The starting of said missions, however, is optional, thus providing the player with a choice on whether to continue the main storyline or not. In *Assassin’s Creed II,* the player is presented the opportunity to collect feathers as a memento of Auditore his deceased brother, Petruccio. The feathers, a total of one hundred which are located throughout the entire in-game world, are deliberately placed in locations ‘difficult’ to reach, hence encouraging active engagement with the in-game environment through world exploration. After collecting all feathers, the player is granted an ‘achievement’, linking the dangers of algorithms to social control whereas full completion of the game does require all the feathers. This combined with the social aspect of ‘gamer profiles’ that showcase acquired achievements, the mechanics of the feathers in *Assassin’s Creed II* could be argued to therefore implement a form of social control as discussed by Quadflieg, Neuburg, and Nestler as one of the dangers algorithms pose. The lastly discussed concept of

tactical freedom in *Assassin's Creed II* has centred around the usage of 'notoriety' mechanics in *Assassin's Creed II*, ultimately concluding that despite the deterministic nature of Auditore gaining notoriety eventually as *Assassin's Creed II* progresses and the required assassinations are gradually becoming more high-profile, the player is given a non-deterministic approach in tactics for decreasing said notoriety. Opposed to the missions part of the main storyline of *Assassin's Creed II* lacking in tactical freedom, implemented mechanics such as said notoriety system provides the player with a sense of freedom, rather than actual freedom. In general, this chapter provided an in-depth analysis of three modes of freedom through the algorithm that is inherent to *Assassin's Creed II*, ultimately concluding that freedom in the algorithmic base of *Assassin's Creed II* could be argued to be barely possible. Yet through the usage of philosophies closely relating to Sartre that are existentialist in nature, the player is morally 'excused' from feeling guilt towards the brutal murdering of individuals, and 'allows' the player to feel as if there are no rules that apply to them, ultimately leading back to the philosophy guiding *The Creed* in which nothing is true, and everything is permitted.

The third and last chapter "*Assassin's Creed II* Compared" focused exclusively on the comparative analysis of *Assassin's Creed II* as opposed to three videogames chosen based on the year of release, which is important when discussing the field of videogames due to the rapid development of said field and based on the genre of the videogame fitting with the discussed mode of freedom to serve as anchor points for *Assassin's Creed II* to better contextualise and understand its value relating freedom. This chapter served unifying purposes in which the theoretical knowledge that has been applied to *Assassin's Creed II* has been compared to known videogames for their narrative freedom, exploratory freedom, and tactical freedom. The compared games have been *Mojang Studios* (2009 -) *Minecraft* (2011), *Bethesda Game Studios* (1986 -) *The Elder Scrolls V: Skyrim* (2011), and *Ensemble Studios* (1994 – 2009) *Halo Wars* (2009). The first subchapter "Narrative Freedom in *Minecraft*" centred around both the philosophical notions and technological notions of narrative freedom in the 'sandbox' game *Minecraft*. This subchapter mainly stated the extent to which Minecraft does not have a linear narrative or no clear narrative at all, and whereas the player can defeat the 'Ender Dragon' after which the end credits will be shown, *Minecraft* does not end after the player achieves a certain goal. Additionally, the partly publicising of *Minecraft* its source code by *Mojang* for both educational as well as creative purposes allows the player to 'create' their version of *Minecraft*,

hence granting the player almost all freedom in creating a narrative that is personalised to an extent that they choose. When compared to *Assassin's Creed II*, significant differences were revealed, one notable difference being the division of *Assassin's Creed II* its main storyline into fourteen sequences, consisting of several missions in each sequence, all needed to be completed to progress further in the game while guiding the player through the life of protagonist Ezio Auditiore with limited player agency. While the player can choose when to start said missions, there are few alternative activities available for the player where they decide not to progress further in the main story, and, for example, explore the in-game world. The external objective of *Assassin's Creed II* aims to lead the player to complete the main sequence of events, undermining the perception of internal subjectivity and player freedom. Contrary to *Minecraft*, a videogame that presents an opposing viewpoint through no clear narrative whatsoever. As discussed earlier, M*i*necraft allows for extensive player modifications, surpassing the accessibility of such modifications in *Assassin's Creed II*. Furthermore, most modifications available for *Assassin's Creed II* are purely visual and do not alter the narrative components that players are expected to follow, something that is possible via modification of *Minecraft*. While *Assassin's Creed II* allows the player some degree of decision-making regarding Auditore his behaviour, these choices do not deviate from the pre-determined narrative path, and straying from it leads to player desynchronisation. In *Minecraft*, however, the opposite could be argued. Upon entering a *Minecraft*-world, players receive no instructions regarding what to do or where to go and are invited to create their own narrative by interacting with the world and the underlying code, which is partly publicised, by *Minecraft* itself. While one player might embark on a journey to defeat the "Ender Dragon," *Minecraft* also offers the opportunity to build and shape the world without being guided towards the game its main story. It is of great importance to note and thereupon acknowledge that Minecraft, being a sandbox game, inherently differs from the action-adventure videogame with stealth components that is *Assassin's Creed II*. Therefore, it is not surprising that *Assassin's Creed II* and *Minecraft* differ greatly from each other regarding narrative freedom, in both its surface representation, as well as underlying mechanical structure. This contrast, however, is not necessarily negative, as it contextualises how 'freedom' can be experienced in videogames and via the use of *Minecraft* emphasises the lack of such freedom in *Assassin's Creed II*. The next subchapter "Exploratory Freedom in *The Elder Scrolls V: Skyrim*" compared the action role-playing game to *Assassin's Creed II* regarding exploratory freedom. It has come to the fore that *Skyrim* emphasises

personalisation and freedom to a greater extent than *Assassin's Creed II* does. *Skyrim*, for example, uses discoverable locations on the in-game map to thereafter provide the player with new landmarks shown on said map, in doing so, *Skyrim* grants the player a 'fast-travel' point. This has proven to differ from *Assassin's Creed II*, where *Assassin's Creed II* uses the 'viewpoints' for the player to synchronise as a tool for unlocking locations on the in-game map. With the map of *Assassin's Creed II* having, on average, more locations per square kilometre than the map of *Skyrim* does, the locations in *Assassin's Creed II* are in closer proximity to each other and discoverable in higher quantities at once. The focus of in-game exploration in *Assassin's Creed II* is hence significantly less focused on the actual exploring of the world as is in *Skyrim*, where the player is encouraged to explore through the large, interactable world. With *Skyrim* generally being perceived as aesthetically pleasing, the mechanics that allows the player to interact with said environment can result in a positive player experience, granting a possible reward system for exploring in *Skyrim*. This further developing and personalising an in-game character in *Skyrim* is amplified via the use of skill building, whereas collecting flowers works towards the alchemy skill. In *Assassin's Creed II*, the collecting of feathers only contributes to a multilayered narrative in which Auditore his mother speaks again after three years of being in a state of shock after the public execution of her husband and two sons. Here, both *Assassin's Creed II* and *Skyrim* reward the player for exploring and collecting, yet the faith of Auditore his mother is set, and that of a player their in-game *Skyrim* character is not. What is similar, however, is the mechanic of inducing the player with a sense of constant awareness via permanent surveillance. *Assassin's Creed II* does this via the use of *Templar Order* towers, and *Skyrim* via the set spawning of dragons that will attack the player. *Skyrim* hence offers players a greater sense of freedom compared to *Assassin's Creed II*, with its expansive map, numerous individually discoverable locations, and the emphasis on personal choice in exploration and, thereafter, its impact on character development. However, the looming threat of dragons limits complete freedom when roaming the outdoors in *Skyrim* as if the player were to enter a restricted area as seen in *Assassin's Creed II,* however, the in-game map of *Skyrim* does not show the player the boundaries of the said area as *Assassin's Creed II* does. The last subchapter "Tactical Freedom in *Halo Wars"* compared *Assassin's Creed II* to the real-time strategy game *Halo Wars. Halo Wars* centres around a 'galaxy at war' and takes place approximately twenty years before the first *Halo* videogame *Halo: Combat Evolved* (2001) was released. In the events starting during *Halo: Combat Evolved*, humanity is on the verge of

extinction at the hand of the powerful alien species known as the Covenant. *Halo Wars* offers the player the opportunity to fight the Covenant, yet humanity and its faith are pre-determined as already known to be the theme of the *Halo* videogames. This, of course, does not necessarily means something in terms of tactical freedom, however, through the use of a deterministic model, each of the actions the player is given in the combat of *Halo Wars,* has a set outcome. *Halo Wars* thus rely on deterministic principles that allow for little player agency and freedom. Furthermore, the dominant ideology of a potentially harmful perspective on war could therefore potentially cause harm to those deviating from said dominant ideology. Contrary to *Assassin's Creed II,* where the player can lessen notoriety through a non-deterministic model. Even though both the deterministic and non-deterministic models used in *Halo Wars and Assassin's Creed II* are only ways to grant the player a sense as if they were to possess tactical freedom, the end goal is set.

Employing both philosophical and technological approaches to freedom, it has come to the fore that freedom in unchangeable hardwired code that is at the origin of videogames, that the existence of any form of freedom at all is a topic of debate on itself. With *Assassin's Creed II* compared to the philosophical approach taken on in this thesis, it can be argued that throughout the game *The Creed* themselves are free yet trapped in their moral code. The player, in a way, is situated similarly, being free yet trapped in algorithmic code. To now ultimately circle back to the main question this thesis has aimed to answer and provide insight into, the notion of freedom in videogames is a broad topic taking into consideration a variety of different methodologies, ranging from purely philosophical methods to computer science and mathematical methods. *Assassin's Creed II* can be argued to offer a sense of freedom to its players via the radically 'free' mindset that is present in The Creed, yet the mechanics of *Assassin's Creed II* are far from free. Yet this does not mean that *Assassin's Creed II* is a game that oppresses its players. Whereas *Assassin's Creed II* controls players via a set of rules that are needed to play the game via input devices, such as a controller or a mouse and a keyboard, the player of *Assassin's Creed II* agrees to give up the player agency to be able to relive the epic, action-filled life of Ezio Auditore da Firenze. Of course, it is of utmost importance that the player of *Assassin's Creed II*, and any videogame for that matter, is aware of the potential dangers that lie in the underlying algorithmic structure that are not visible to the player. Even though *Assassin's Creed II* could be argued to provide little freedom to its players after

comparison to *Minecraft*, *Skyrim*, and *Halo Wars, Assassin's Creed II* is not intended to do so. Yet dangers could thus lie in the dominant ideology that is presented to the player via, for example, the social dynamics between the Auditore and the Medici family. Topics such as portraying history as based on real-life historical events could be tricky where they potentially tell a story based on a harmful dominant ideology that has been established in the past through ethics that are no longer seen as ethical today. Further research would thus be fruitful when it comes to experiencing freedom in videogames. Furthermore, during the research on the philosophies of *The Creed*, a potential link to the philosophies of German philosopher Friedrich Wilhelm Nietzsche (1844 – 1900) was found, this implies the possibility for a more in-depth analysis of the ethics and morale of *The Creed,* for where this could potentially harm individuals and contribute to the hypothetical dominant ideology that could be based on possible harmful norms. Another notable topic of further research would be the scheduled release of *Assassin's Creed Mirage* (2023), set in ninth-century Baghdad, Iraq. It has been rumoured that this *Assassin's Creed* videogame brings back a lot of elements that were defining the first four videogames of the *Assassin's Creed* series, many of which were introduced in *Assassin's Creed II*. If that were to be the case, a comparison between *Assassin's Creed II* and *Assassin's Creed Mirage* could be very interesting, for where the fourteen-year gap between both games has seen tremendous developments in the field of game development. How the same mechanics as, partly, criticised in this thesis in *Assassin's Creed II* are then implemented and used in a state-of-the-art videogame in the same franchise could offer new insights adding to those gained in this thesis. Of course, these are only rumours, yet the rumours alone already pose for an interesting and potentially fruitful comparison, one that would certainly be worth analysing, for where freedom in videogames during the 2010s is questionable, fifteen years of development might have changed the notion of freedom, or players might just have grown accustomed to the illusion of freedom, rather than freedom. Whether this is known to the player or not, in a mechanical environment where freedom equals deviating from the algorithm, it could potentially destroy a controlled society.

APPENDICES

Appendix 1:

"The meeting to which he's been summoned would surely provide [Ezio Auditore] with the answers to some of his questions, and though he knew in his heart of hearts that he would find some of the answers frightening, he also knew that he could not turn his back on [The Brotherhood of Assassins].

As [Auditore] approached the top, he could hear muted voices. At last, he reached the stonework at the very top of the tower and swung himself into the bell loft. A circular space had been cleared and the seven Assassins, all wearing cowls, were ranged around its perimeter, while a fire in a small brazier burned at its centre.

Poala took [Auditore] by the hand and led him to the centre as Mario began to utter an incantation;

'Laa shay'a waqui'n moutlaq bale kouloun moumkine . . .

These are the words, spoken by our ancestors, that lie at the heart of our Creed. . .'

Machiavelli stepped forward and looked hard at Ezio. 'Where other men blindly follow the truth, remember—'

And Ezio picked up the rest of the words as if he had known them all his life: '—Nothing is true.'

'Where other men are limited by morality or law,' continued Machiavelli, 'remember—'

'—Everything is permitted.'

Machiavelli said, 'We work in the dark, to serve the light. We are Assassins.'

And the others joined in, intoning in unison: "Nothing is true, everything is permitted. Nothing is true, everything is permitted. Nothing is true, everything is permitted. . ."[103]

[103] Bowden, 390 – 391.

Appendix 2:

"There is no book or teacher to give you the answers, show you the path. Choose your own way. Do not follow me or anyone else."

“There are those who would take our freedom from us. Too many of you gladly give it.”

"When I was a young man. I had liberty, but i did not see it. I had time, but I did not know it. And I had love, but I did not feel it."[104]

"There is nothing more deceptive than an obvious fact. Always question what you see, what you hear, what you believe."

"To say that nothing is true is to realize that the foundations of society are fragile, and that we must be the shepherds of our own civilization."

"We are free to follow our own path. There are those who will take that freedom from us, and too many of you gladly give it."[105]

[104] Johns, “Assassin’s Creed: Coolest Ezio Quotes.”

[105] Nastase, Otilia. “Assassin’s Creed: 10 Powerful Quotes by Ezio.”

Appendix 3:

"Close to his house, he caught sight of his younger brother, whom he hadn't seen since the morning of the previous day. He greeted the lad warmly. 'Ciao, Petruccio. What are you up to? Have you given your tutor the slip? And anyway, isn't it past your bedtime?' 'Don't be silly. I'm practically grown-up. In a few years' time, I'll be able to knock the stuffing out of you!' The brothers grinned at each other. Petruccio was holding a carved pearwood box close to his chest. It was open, and Ezio noticed a handful of white and brown feathers in it. 'They're eagle's feathers,' explained the boy. He pointed to the top of the tower of a nearby building. 'There's an old nest up there. The young must have fledged and gone. I can see plenty more feathers caught in the stonework.' Petruccio looked at his brother pleadingly. 'Ezio, would you mind getting a few more for me?'

'Well, what do you want them for?'

Petruccio looked down. 'It's a secret,' he said.'If I get them for you, will you go in? It's late.'

'Yes.'

'Promise?'

'Promise.'

'All right, then.' Ezio thought, well, I've done Claudia a favour today, no reason why I shouldn't do one for Petruccio as well. Climbing the tower was tricky, as its stone was smooth, and he had to concentrate to find grips and toeholds in the joints between its stones. Higher up, ornamental mouldings helped as well. In the end, it took him half an hour, but he managed to gather fifteen more feathers – all that he could see – and brought them back to Petruccio.

'You missed one,' said Petruccio, pointing up.

'Bed!' growled his brother.

Petruccio fled.

Ezio hoped their mother would be pleased with the gift. It didn't take much to fathom Petruccio's secrets. He smiled as he entered the house himself."[106]

[106] Bowden, 8.

Appendix 4:

“The notoriety icon, set next to the synchronization bar, indicated Ezio's level of notoriety amongst guards. When caught undertaking socially unacceptable deeds, his notoriety in that individual city or location increased.

Notorious actions:

1. Killing or fighting civilians.
2. Becoming detected by guards in a restricted area.
3. Bumping into a stationary guard, without the gentle push or brushing aside.
4. Being caught pickpocketing civilians.
5. Being caught looting bodies.
6. Being caught carrying bodies.
7. Knocking into minstrels.
8. Being discovered in a hiding spot by Seekers.
9. Causing guards to flee from fights.
10. Killing guards in open conflict.
11. High profile assassinations.
12. Killing Borgia messengers and pickpockets.
13. Hijacking guards' horses.
14. Knocking into civilians carrying objects (e.g., crates), causing them to drop the object, in the presence of guards.
15. Removing a "Wanted" poster in the presence of guards.

Redeemable actions:

1. Removing wanted posters would lower Ezio's notoriety by 25%, however if guards saw this act, the Assassin would receive a small increase in notoriety, and a guard would shove him. If a poster was located on the wall of a Borgia Tower, igniting the tower would not lower Ezio's notoriety.
2. On bribing heralds, Ezio's notoriety was lowered by 50%. After this, the Assassin could pickpocket the heralds to retrieve the 500 florins he had bribed them with, however,

this would cause a slight rise in notoriety. He could also kill and loot heralds after bribing them, though it yielded the same results.;

3. Assassinating officials who gave false witness, or selected key guards, would reduce Ezio's notoriety by 75%. This was the most effective way to lower high levels of notoriety, however, it was usually only available when Ezio attained a significantly high level of notoriety."[107]

[107] Assassin's Creed Wiki, "Social Stealth."

IMAGES

Figure 1:

Ubisoft Montreal, Cover Image of *Assassin's Creed II,* 2009.

Figure 2:

Ubisoft Montreal, Blending in Big Crowds, *Assassin's Creed II*, 2009.

Figure 3:

Ubisoft Montreal, 'Stealth' Kill, *Assassin's Creed II,* 2009.

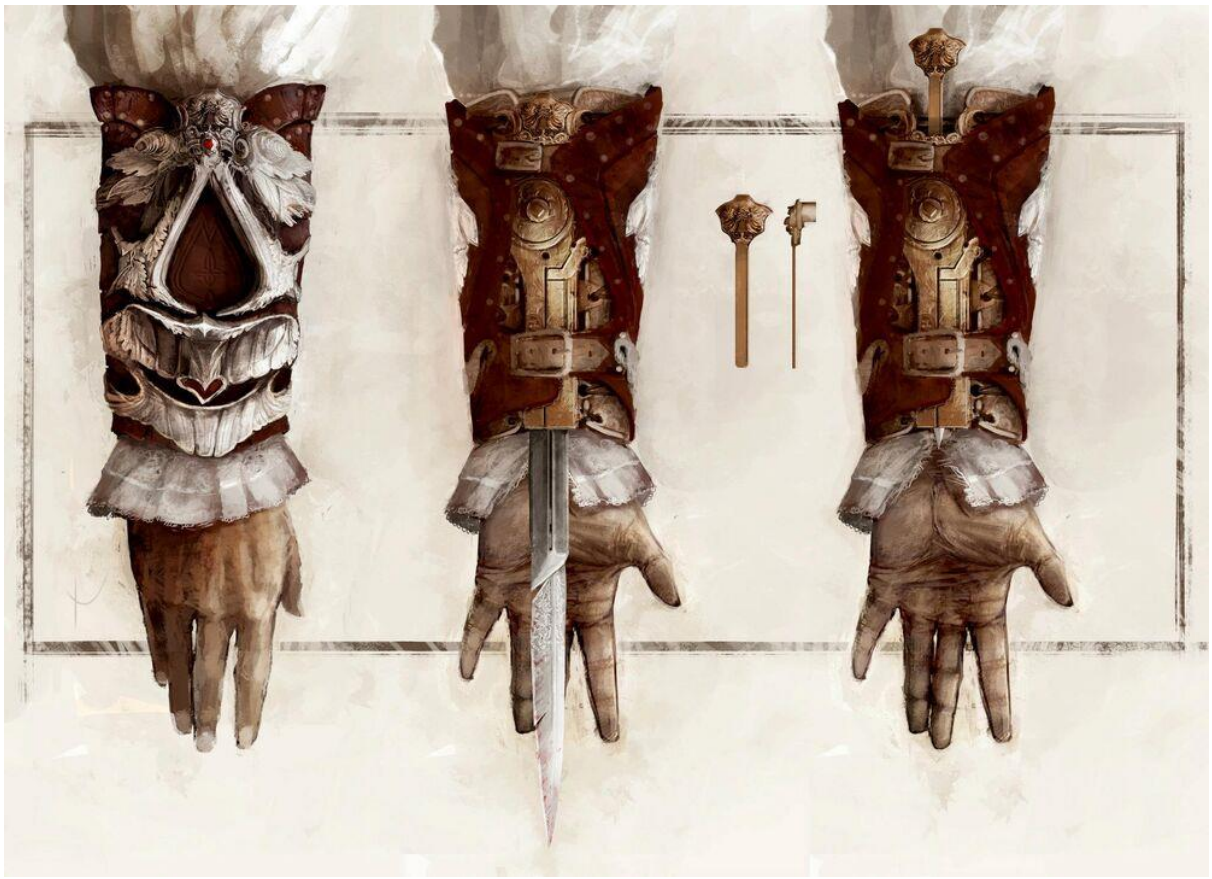

Figure 4:

Ubisoft Montreal, Concept Art of the Hidden Blade as designed by in-game Leonardo Da Vinci, *Assassin's Creed II*, 2009.

Figure 5:

Ubisoft Montreal, The Cowl Worn by Ezio Auditore, *Assassin's Creed Brotherhood,* 2010.

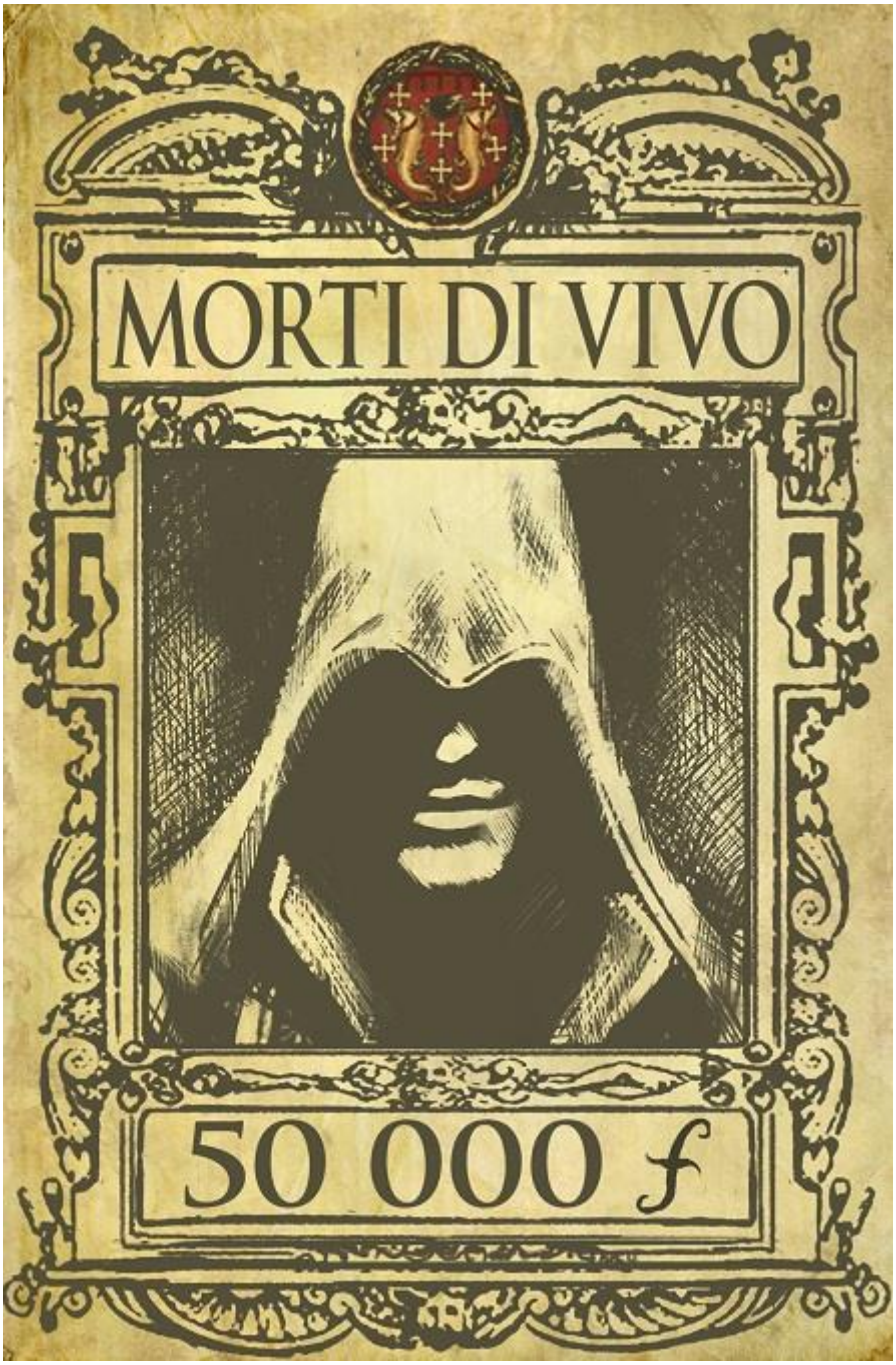

Figure 6:

Ubisoft Montreal, Morto Di Vivo, Wanted Poster Portraying Ezio Auditore, *Assassin's Creed II*, 2009.

Figure 7:

Ubisoft Montreal, Ezio Auditore da Firenze, *Assassin's Creed II*, 2009.

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Ubisoft Montreal, Ezio Auditoe Holding the Apple of Eden, *Assassin's Creed II,* 2009.

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Ubisoft Montreal, The Birth of Ezio Auditore and Assigned Button Commands, *Assassin's Creed II,* 2009.

Figure 10:

Ubisoft Montreal, Protagonist Anro Dorian on the Notre Dame, Paris, France, *Assassin's Creed Unity*, 2014.

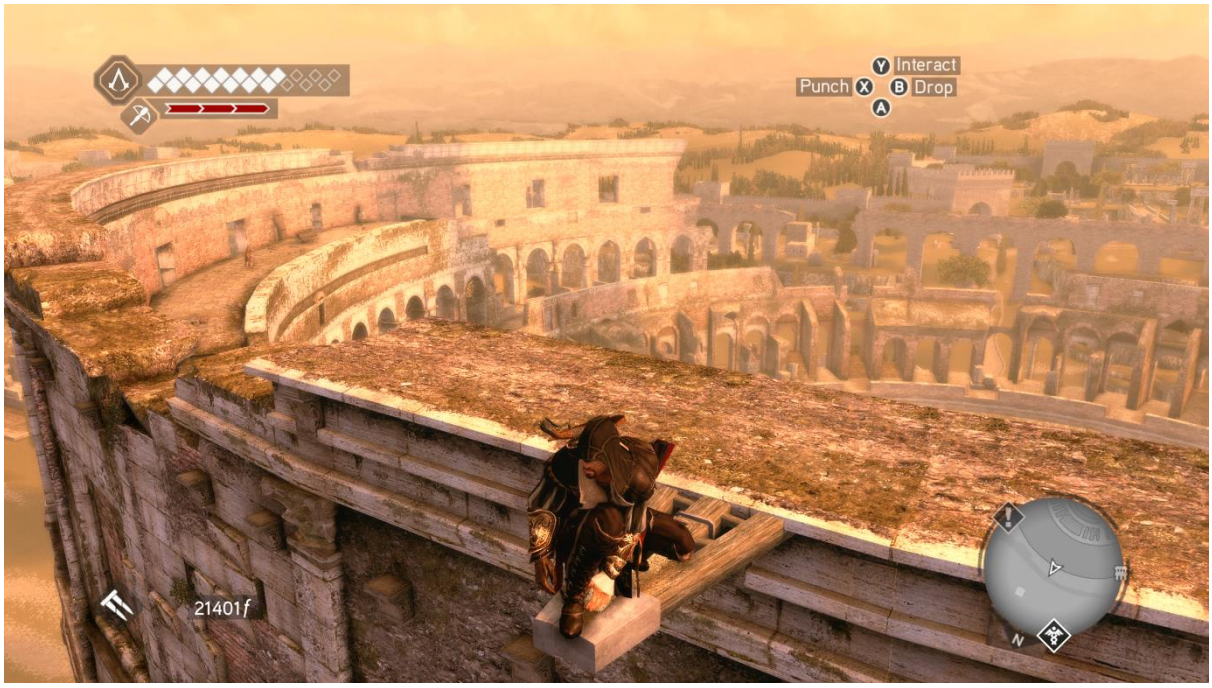

Figure 11:

Ubisoft Montreal, Protagonist Ezio Auditore on the Colosseum, Rome, Italy, *Assassin's Creed Brotherhood*, 2010.

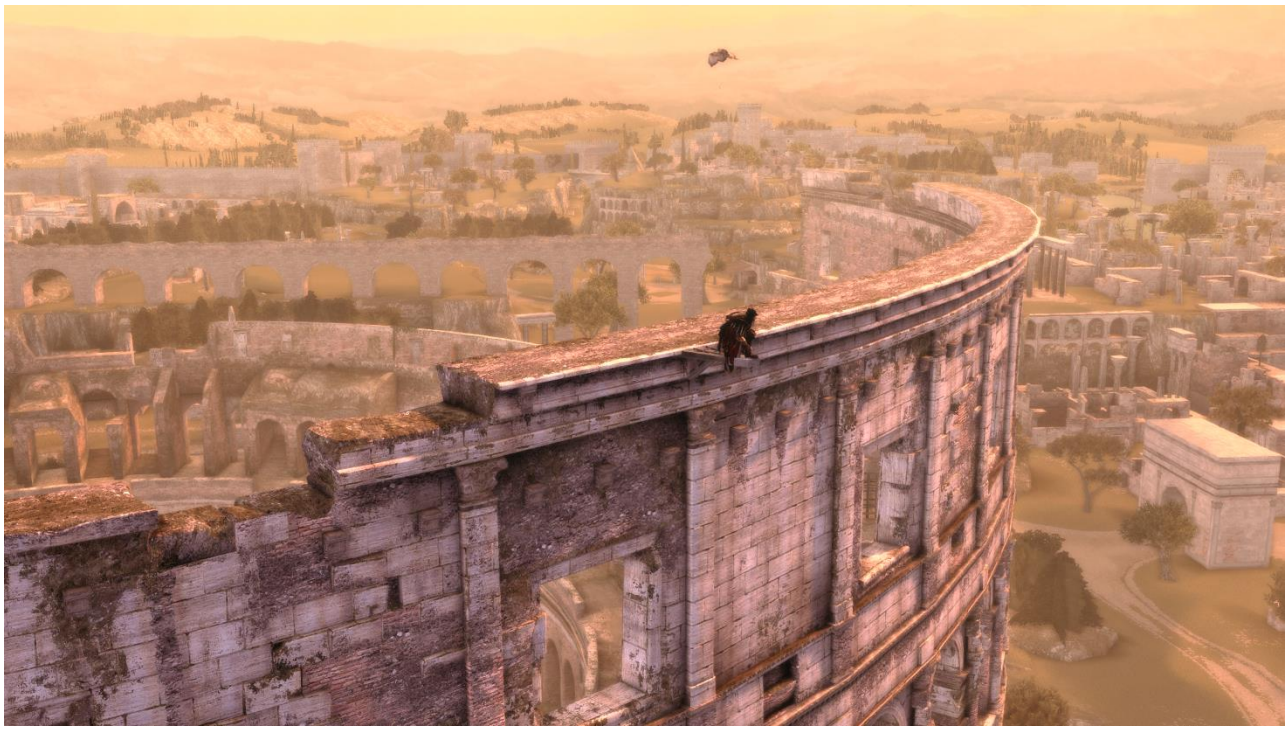

Figure 12:

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Figure 13:

Ubisoft Montreal, the 'Restricted Area' Highlighted in Red, *Assassin's Creed II,* 2009.

Figure 14:

Ubisoft Montreal, Ignition of a *Borgia Tower*, *Assassin's Creed Brotherhood,* 2010.

Figure 15:

Ubisoft Montreal, The Use of ‘Eagle Vision’ to See the ‘Hidden’ Glyphs, *Assassin’s Creed II,* 2009.

Figure 16:

Ubisoft Montreal, Mission ‘Borders’, *Assassin’s Creed Brotherhood*, 2010.

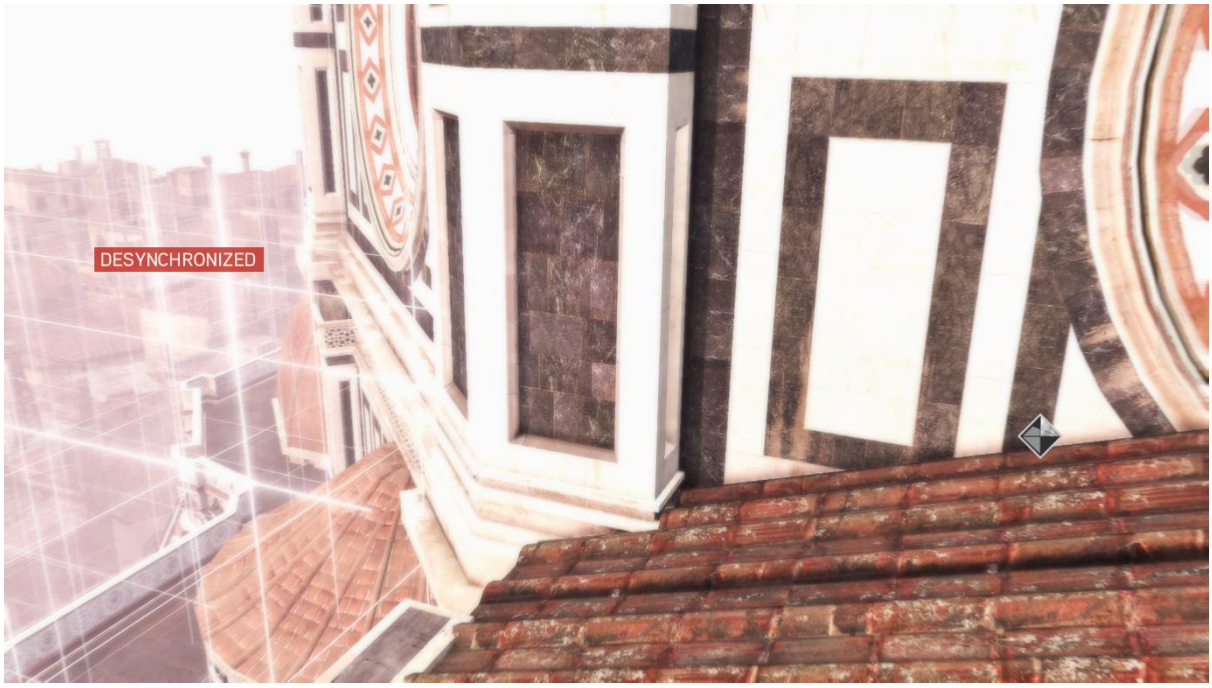


Figure 17:

Ubisoft Montreal, Player Desynchronised, *Assassin's Creed II,* 2009.

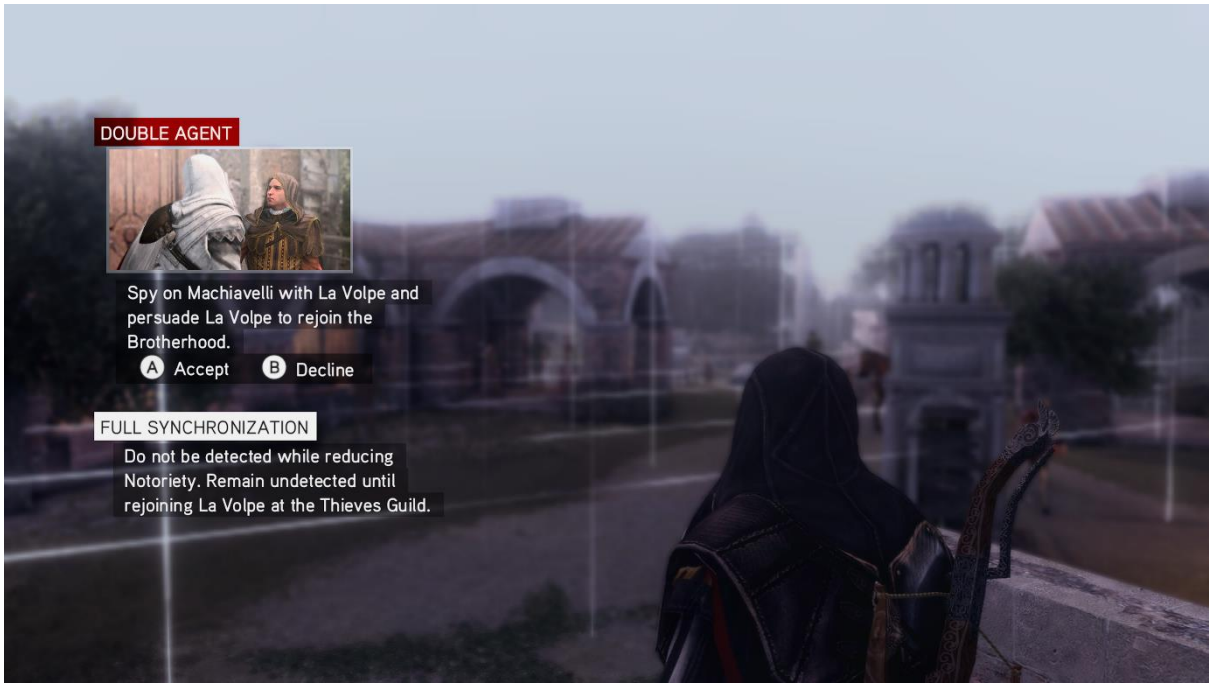
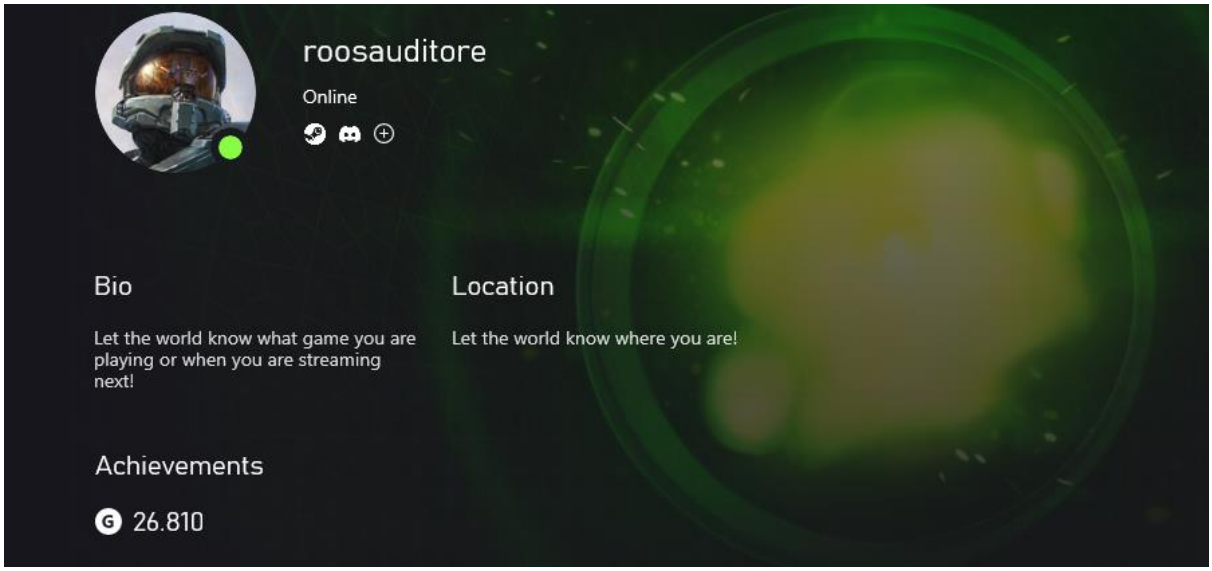


Figure 18:

Ubisoft Montreal, Mission Options, *Assassin's Creed II*, 2009.

Figure 19:

Ubisoft Montreal, Feathers Located Throughout the World, *Assassin's Creed II*, 2009.



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Roos van Nieuwkoop, *Xbox* Game Profile, 2023.

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Figure 22:

Mojang Studios, *Minecraft* Blocks, *Minecraft*, 2011.

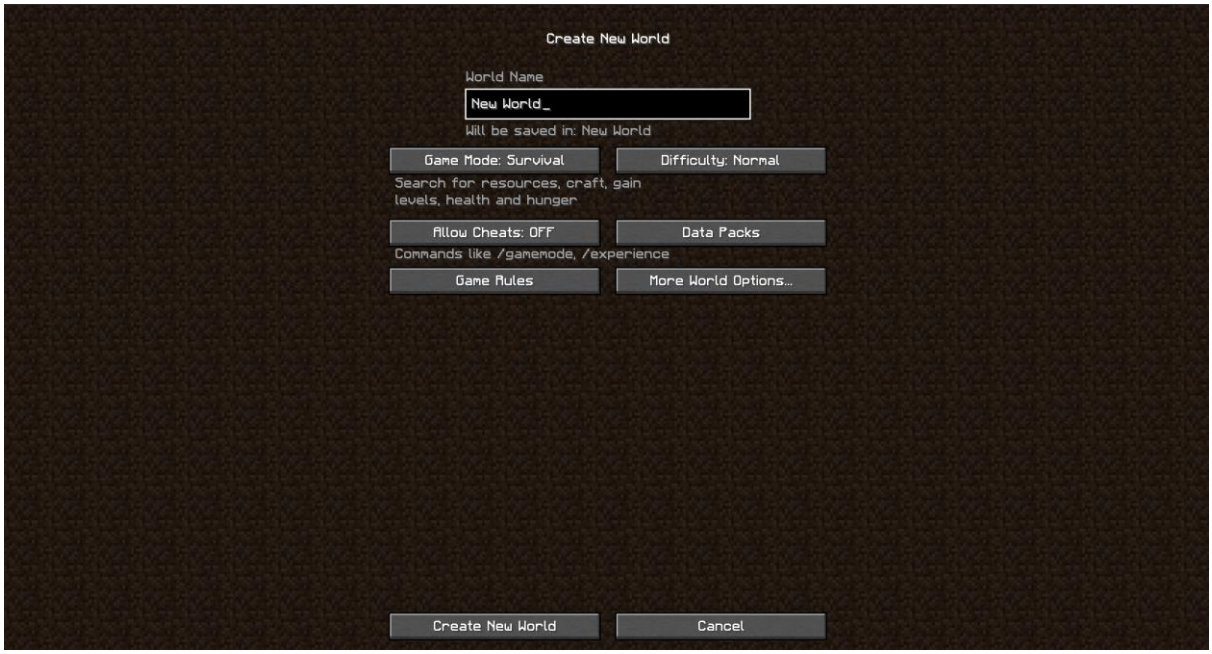


Figure 23:

Mojang, *Minecraft* Choices in World Creation, *Minecraft,* 2011.

Figure 24:

Mojang, ‘Ruined Portal’, *Minecraft*, 2011.

Figure 25:

Minecraft, Personal Server Code Portraying the ‘Grave’ Add-On in Plug-Ins, *Minecraft*, 2023.

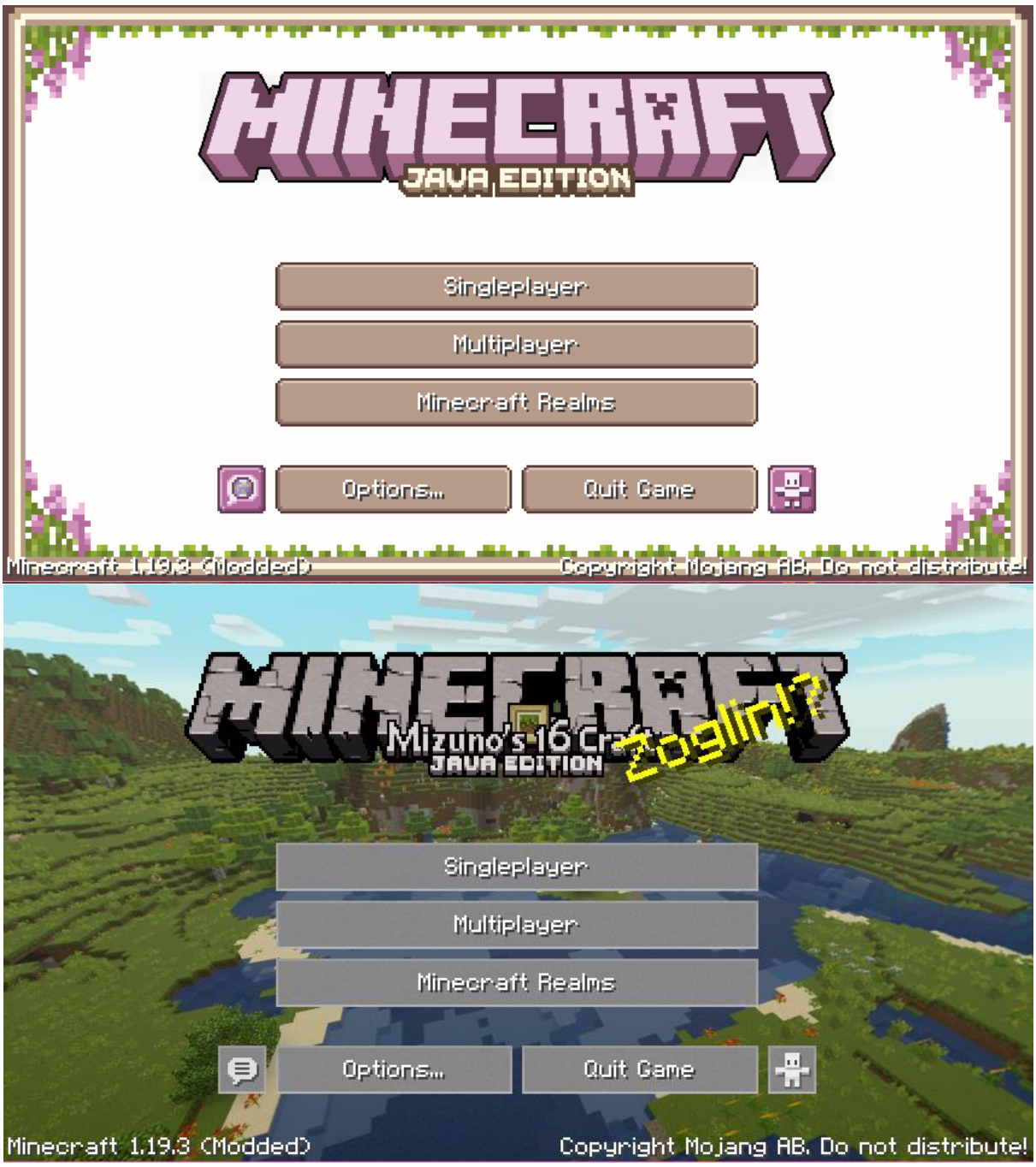


Figure 26:

Mojang, GUI Above Custom Modified & GUI Below Standard, *Minecraft*, 2011.

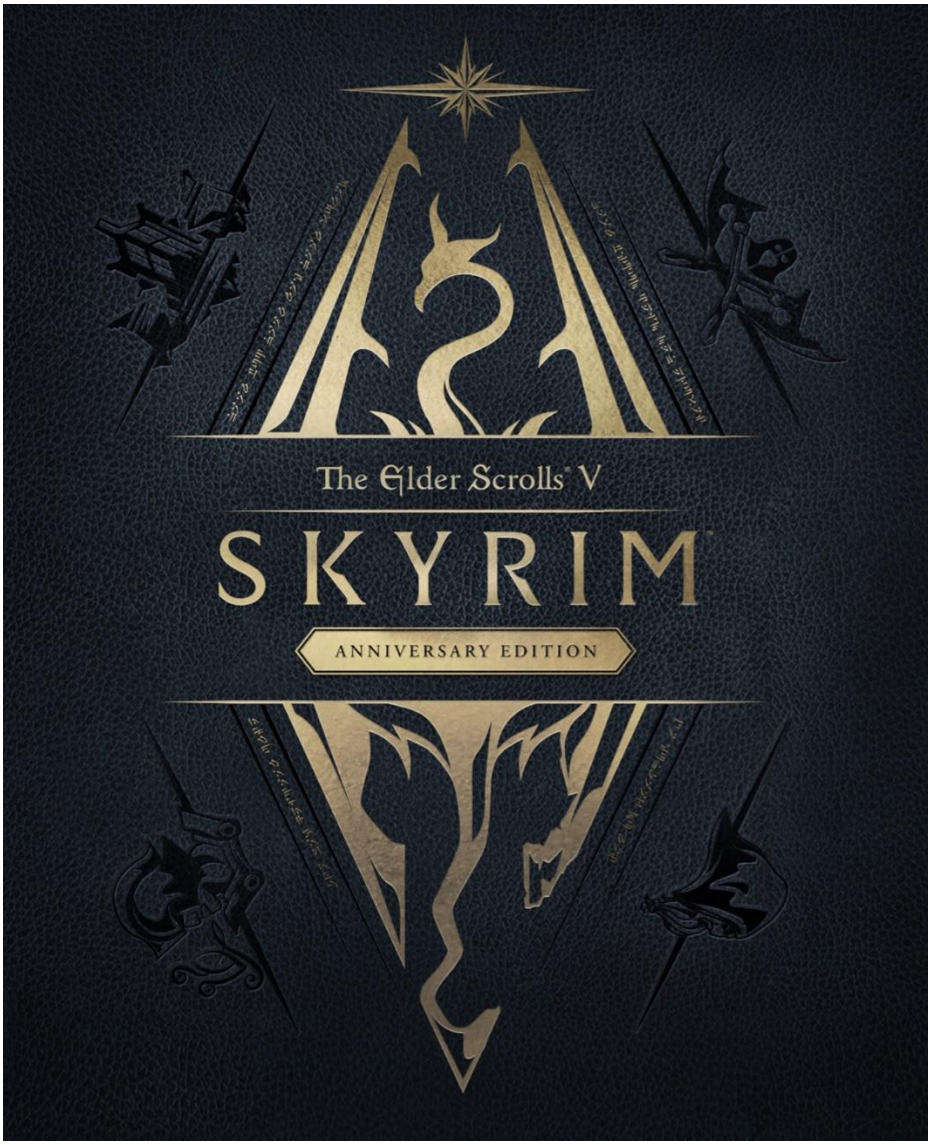


Figure 27:

Bethesda Game Studios, Cover of *Skyrim*, *The Elder Scrolls V: Skyrim*, 2011.

Figure 28:

Bethesda Game Studios, Scenery of *Skyrim*, *The Elder Scrolls V: Skyrim*, 2011.

Figure 29:

Bethesda Game Studios, Fully Explored Map of *Skyrim*, *The Elder Scrolls V: Skyrim*, 2011.

Figure 30:

Bethesda Game Studios, Dragons in the Sky, *The Elder Scrolls V: Skyrim*, 2011.

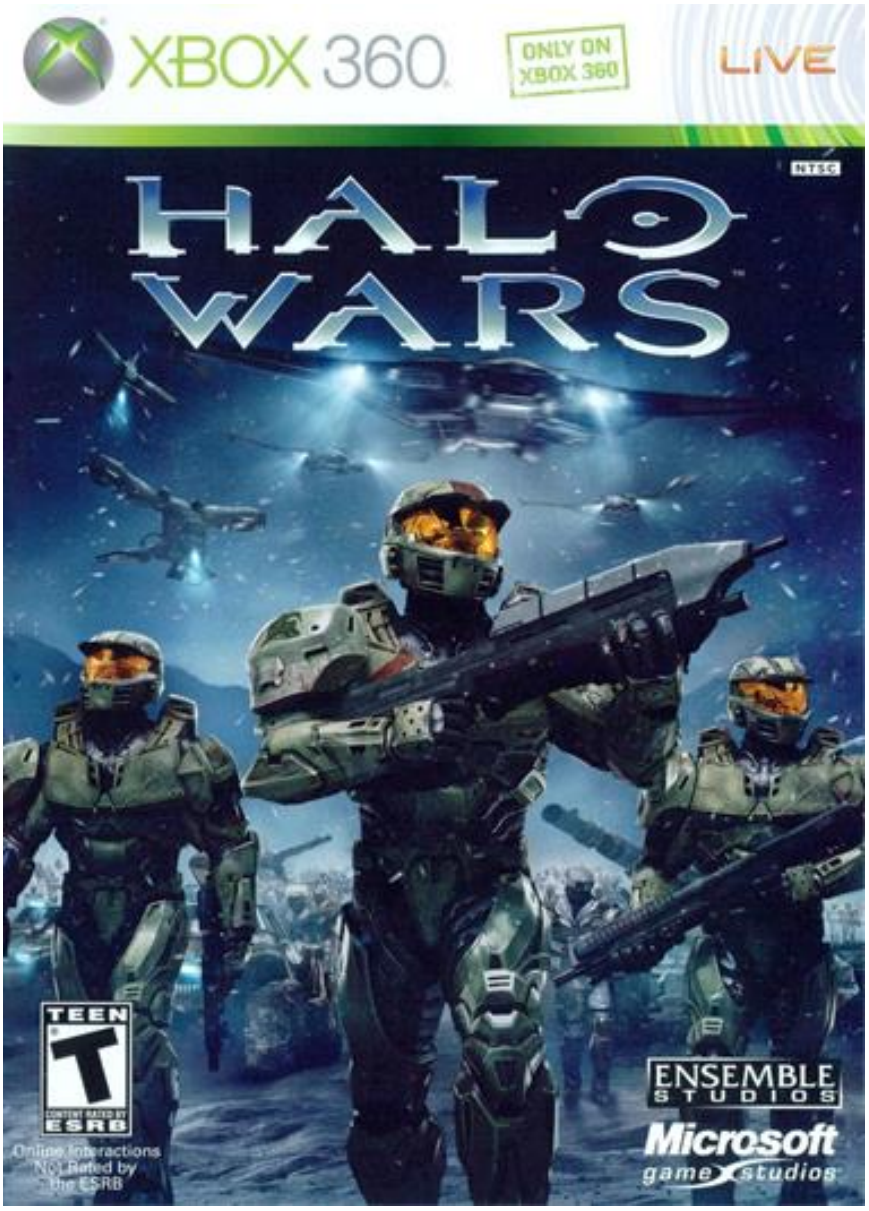
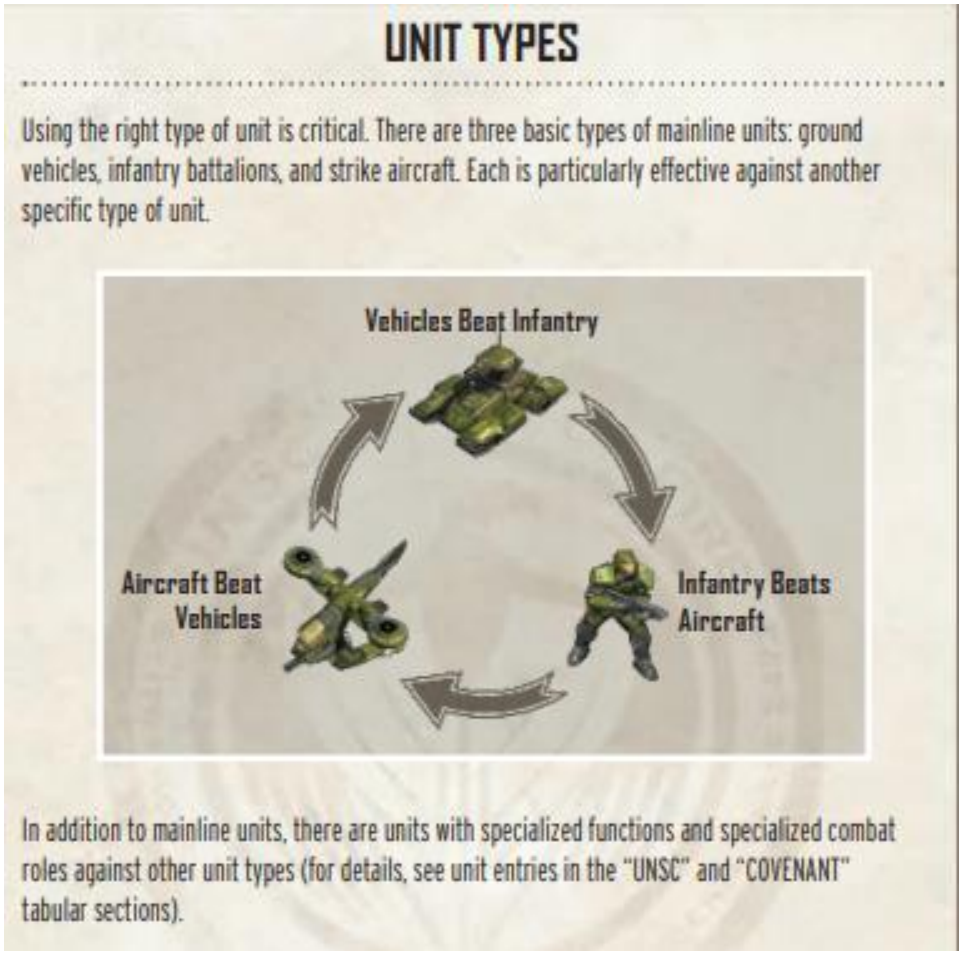


Figure 31:

Ensemble Studios, Cover of *Halo Wars, Halo Wars,* 2009.

Figure 32:

343 Industries, Master Chief, Halo *Infinite*, 2021.



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