



HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI

A Final Fantasy of eco-lifestyle-

A case study of environmental agency in two video games

University of Helsinki
Master's programme in
Environmental Change and
Global Sustainability
Master's thesis
06/2021
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Tiedekunta - Fakultet – Faculty Bio- ja ympäristötieteellinen tiedekunta		
Tekijä - Författare – Author Henni Korhonen		
Työn nimi - Arbetets titel – Title A Final Fantasy of eco-lifestyle - A case study of environmental agency in two video games		
Oppiaine - Läroämne – Subject Ympäristönmuutos ja globaali kestävyys		
Työn laji/ Ohjaaja - Arbetets art/Handledare - Level/Instructor Pro gradu/ Nina Janasik, Jari Lyytimäki	Aika - Datum - Month and year 3.7.2021	Sivumäärä - Sidoantal - Number of pages 56
Tiivistelmä - Referat – Abstract <p>Tämä pro-gradu keskittyy tekemään tutkimusta ympäristötoimijuudesta kahdessa eri videopelissä, <i>The Sims 4 Eco Lifestyle</i> ja <i>Final Fantasy VII Remake</i>.</p> <p>Tutkimuskysymykset pyrkivät vastaamaan kysymyksiin siitä, millä tavoin pelaaja pystyy toimimaan ympäristötoimijana näissä kahdessa pelissä, ja mitkä ovat huomattavimmat eroavaisuudet pelien välillä. Tutkimus on tehty käyttäen laadullista kahden tapauksen tapaustutkimusta käyttäen apuna lähilukua. Lähiluvun avulla kahdeksan eri toimijuustyyppiä, jotka yhdessä muodostavat tutkimuksen typologian, on analysoitu luotettavien vastauksien saamiseksi.</p> <p>Tutkimuksen aineisto on kerätty pelaamalla kumpikin peli läpi ja tekemällä muistiinpanoja lähiluvun tekniikkaa noudattaen. Tämän jälkeen muistiinpanot analysoitiin eri toimijuustyyppien avulla. Tuloksista on nähtävillä selkeää päällekkäisyyttä toimijuuksien välillä. Johtopäätöksenä voikin vetää, että kun tällaista päällekkäisyyttä ilmenee, pystyy pelaaja käyttämään ympäristötoimijuutta paremmin. Toimijuuksien eri tyypit täydentävät toisiaan, mikä mahdollistaa mahdollisen pelistä oppimisen paremmin. Isoimpana erona pelien välillä oli selkeästi se, että <i>The Sims 4 Eco Lifestyle</i> tarjosi enemmän monipuolisia ympäristötoimijuuden mahdollisuuksia pelin sisällä.</p> <p>Aiemmat tutkimukset ympäristöteemaisista peleistä ovat yleisimmin keskittyneet opettavisiin peleihin (serious games) eikä niinkään viihteellisiin peleihin. Videopelit tarjoavat paljon mahdollisuuksia ihmisten motivoimiseen ympäristöasioiden saralla, varsinkin, jos pelaajatoimijuutta hyödynnetään oikein ja riittävän tehokkaasti. Se tarjoaa pelaajille mahdollisuuden tehdä merkittäviä valintoja. Jos nämä valinnat on kehitetty hyvin, pelaaja pääsee näkemään pelissä tekojensa seuraukset, mikä voi parhaassa tapauksessa johtaa positiiviseen oppimiseen. Tässä tapauksessa pelin sisäinen ympäristötoimijuus voitaisiin siirtää koskemaan myös tosielämän ympäristötoimijuutta.</p> <p>Koska nykyiset videopelit on kehitetty entistä immersiiivisimmiksi ja niiden sisäiset ympäristöt entistä realistisimmiksi, olisi mahdollista ajatella, että virtuaalista ympäristöä ei tarvitsisikaan erottaa niin rajusti tosielämän ympäristöstä. Tästä syystä nykyaikaiset pelit, kuten <i>The Sims 4 Eco Lifestyle</i> ja <i>Final Fantasy VII Remake</i>, voisivat toimia esimerkkeinä siitä, miten ympäristötoimijuutta peleissä voitaisiin hyödyntää laajemmassa käytössä.</p>		
Avainsanat – Nyckelord ympäristötoimijuus, pelaajatoimijuus, toimijuus, videopelit, ympäristöviestintä, ympäristö		
Keywords		
Säilytyspaikka - Förvaringsställe - Where deposited Helsingin yliopiston kirjasto, Viikki		
Muita tietoja - Övriga uppgifter - Additional information		



Tiedekunta - Fakultet - Faculty Faculty of Biological and Environmental Sciences		
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Työn laji/ Ohjaaja - Arbetets art/Handledare - Level/Instructor Master's Thesis /Nina Janasik, Jari Lyytimäki	Aika - Datum - Month and year 3.7.2021	Sivumäärä - Sidoantal - Number of pages 56
Tiivistelmä - Referat - Abstract <p>The focus of this thesis is on environmental agency in two different video games, <i>The Sims 4 Eco Lifestyle</i> and <i>Final Fantasy VII Remake</i>.</p> <p>The research questions aim to answer how the player can act as an environmental agent in these two games and what are the key differences between these games. The study is executed in a form of qualitative two-case case study with the help of close reading. With close reading eight different types of agencies that form the typology of this study, will be analysed in order to answer the research questions.</p> <p>The data for this thesis was collected by playing both games and taking notes by following close reading. The notes were then analysed with the different types of agencies. The results showed clear overlapping of the types of agencies, and it could be said that environmental agency can be used better in the game when the overlapping is happening. The agencies complemented each other and made the possible learning process in the game more fulfilling. The main difference between the game seems to be that <i>The Sims 4 Eco Lifestyle</i> as a life simulation game offers more diverse possibilities for environmental player agency.</p> <p>The studies about environmental games are mainly focused on serious games and not so much on commercial games. Video games hold great potential to engage people in environmental things especially with the help of player agency. It offers the player the ability to make meaningful choices and if they are structure well, the player can see the consequences of their agency which serves as an effective feedback which could lead to positive learning. In this case, the environmental agency in the game could be transformed into real-life environmental agency.</p> <p>As video games have become more immersive and their environments more realistic, it could be worth considering that separating virtual environment from the real-life one might not be necessary anymore. Therefore, games like <i>The Sims 4 Eco Lifestyle</i> and <i>Final Fantasy VII Remake</i> could serve as an example of how environmental agency within them could be harnessed into wider use.</p>		
Avainsanat - Nyckelord		
Keywords environmental agency, player agency, agency, video games, environmental communication, environment		
Säilytyspaikka - Förvaringsställe - Where deposited Viikki Campus Library		
Muita tietoja - Övriga uppgifter - Additional information		

Abbreviations

AA	Actual Agency
AFA	Actual Fictional
AMA	Actual Mechanical
DLC	Downloadable content
EF	Eco Footprint
FA	Fictional Agency
IA	Interpretive Agency
IFA	Interpretive Fictional
IMA	Interpretive Mechanical
MA	Mechanical Agency
NAP	Neighbourhood Action Plan

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1 Introduction

Since video games have grown massively in popularity and more people in different age groups play them, commercial games could possibly raise environmental awareness (Harteveld & Drachen, 2015, 6-7). Most game studies about environmental themes seem to focus on climate change or educational (serious) games. These themes are not often acknowledged in studies about purely commercial games. However, commercial games are more commonly played than serious games. Therefore, video games could encourage the players to think about the topics about climate change without making it into a lecture. This could lead to the player to use the feedback given in the game world to develop their individual environmental agency outside the game world. Even simple dialogue could have an impact on the player.

“Some bad people are... trying to hurt the planet. And Daddy... Daddy and his friends are trying to stop those bad people. The slums, your friends, the whole planet — it's Daddy's job to protect it.” -Barret Wallace, *Final Fantasy VII Remake*

This Master's thesis focuses on environmental agency, how it can be used and applied in the environments within the game (in-game). I analysed two different video games, *The Sims 4 Eco Lifestyle* (2020) and *Final Fantasy VII Remake* (2020). I played each game through and analysed the different types of agencies in them by using close reading to develop a case study. The different types of agencies were used to form a typology and applied to specific player agency types that offer insight on how the player could solve different in-game problems by using the agencies. They also explain what type of player agency the games offer in general. In this thesis, the types of agencies were applied from normal player agency to environmental player agency. In this case, environmental agency would mean an individual's ability to perform intentional action in relation to the game world's environment or refrain from doing so (Tieteen termipankki, 2021).

1.1 Media and environment

Media, especially online media, has increased its importance the more the world advances with digitalisation. People receive their news and information from different online platforms and form their opinions based on them. A good example of this are environmental issues (Schäfer & Schlichting, 2014). An increasing number of people also suffer from climate anxiety due to the daunting and negative tone of environmental communication (Harrisberg, 2021). This, combined with rapid environmental changes, has led to an urgent need to find, and promote new ways of learning about the changing environment, especially when it comes to translating science into commonly understood knowledge (Fabricatore, 2012; Reckien, 2013).

The existing means of communication have not always been good enough to evolve people's knowledge and interest to act (Ouariachi, 2018; Ouariachi, 2017). One answer to this could be found from participatory culture (Muriel & Crawford, 2018, 75). This type of culture encourages people to absorb and respond to the topics rather than passively consuming the content (Kuo et al., 2017). Video games are part of this new media culture because they generate the experience of agency, the choice to act, and enable players to evolve the agency. Furthermore, they hold the potential of effective environmental communication by engaging the consumer more effectively (Eichner, 2014, 12; Ouariachi, 2017). More environmental communication studies are being done on how different popular cultures influence people's attitudes about the environment (Cox, 2013, 17). However, some media forms still lack the attention they deserve, like video games and environmental movies (eco-cinema) (Omrow, 2018).

The use of media is an important form of communication and social action (Eichner, 2014, 12). The meaning-making and interaction with the media form connects it to human agency. Some well-known TV series, like *Game of Thrones*, have been analysed to highlight climate change politics (Milkoreit, 2019). This kind of climate fiction is seen to intervene in real life visions and offer a different approach (Abraham & Jayemanne, 2017). Many media forms, especially popular culture, have different perspectives, of nature, human-nature relationships, and

environmental issues and how to approach them (Cox, 2013, 76). Even autonomous sensory meridian response (ASMR) content has been harnessed to engage and motivate people to help with this approach (Bogueva & Marinova, 2020).

1.2 Video games today

Video games are usually seen as digitally produced activities that are played by the means of images on a video screen for pleasure and entertainment (Eng, 2019; Eichner, 2014, 100). However, over the years they have developed immensely and now include serious games, simulations, and gamification, which refers to how game elements are used in non-game environments (Muriel & Crawford, 2018, 5). The number of genres has diversified over the years, and entertainment games have begun to offer more hidden informative content (Eng, 2020). Today, video games give the players a possibility to make responsible choices (Eng, 2020 & 2019). They provide various levels and forms of player agency depending on the game's genre, rules, goals, and interactions. Many games present the player with daunting or complex problems with the help of active enjoyment and engaging problem solving (Kelly & Nardi, 2014). Gaming has long been seen as a separate part of life in its own space and reality (Harteveld & Drachen, 2015, 11). However, throughout the years, the definition of virtual environment has increasingly been connected to real life. With the help of augmented reality, digital technology enhances real life experiences (Sanastokeskus ry, 2017). Some games, like *Pokémon GO* (2016), are a good example of this.

Approximately 2.6 billion people play video games globally, 45% of Europeans and 58% of Americans (Patterson & Barrat, 2019; Caroux et al., 2015). The video game industry itself gains 140 billion dollars a year and has undoubtedly become one of the most important creations of the digital era (Muriel & Crawford, 2018, 4). People play video games everywhere and on different platforms, varying from mobile devices to computers (Harteveld & Drachen, 2015, 1–2). Over 600 million people also watch other people play through different streaming services like YouTube and Twitch (Patterson & Barratt, 2019). This is bigger than the

combined audience of the biggest streaming services *Netflix*, *HBO*, and *ESPN*. As said, video games are nowadays used for different purposes. For example, the United Nations Environment Programme (UNEP) started a project, *Playing for the Planet*, in August 2020 where it brought some of the biggest video game companies together to raise awareness of environmental issues with the means of video games. The project reached more than 970 million people globally according to the report written by Patterson and Barratt (ibid.).

1.3 Research questions

The aim of this thesis is to study the possibilities of environmental agency in a variety of video games and how the player acts as an environmental agent. Additionally, brief studies between selected games will be covered. With the information from the introduction and literature review presented below, I have chosen two research questions for this thesis. As mentioned earlier, not many commercial games have gained attention about their environmental themes and even less about environmental agency provided for the players.

The questions aim to bring out more details about the different kinds of environmental agencies in the two video games I have chosen and how the player can employ them within the game. The questions should also highlight the possible differences between the games. My aim is to answer these questions by analysis based on the two video games that represent different genres.

The research questions are:

1. How does the player act as an environmental agent in the selected games?
2. What are the key differences in environmental agency between the games?

2 Terminology

In this chapter I will give a brief introduction to the terminology used in this thesis. Each term will be further explained later so this section is just to give a little bit of deeper understanding for the reading process.

Environment has multiple meanings depending on the field of expertise. Most commonly, it is used when talking about the natural environment which is in external interaction with human society. In this thesis it also includes a digital environment, which is built virtually in video games. Environmental agency in this thesis describes the ability of a human being to take intentional action towards the environment or refrain from doing so. Player agency means the player's ability to make meaningful choices with consequences in the game world. Agency in general describes a person's ability to choose whether or not to take action. The act is intentional and is usually formed by different components.

Player-video game interaction means the interaction that happens between the player and in-game environment, what they do in game and how it affects the player. Serious games refer to games driven by educational purposes rather than the entertainment value developed by commercial games.

3 Literature review

In this chapter, I investigate the theoretical background relevant to this thesis. First, I will explain how game analysis has been done before on a general level. Then, I will investigate studies on serious / educational games, as they are mostly studied regarding climate change and environmental issues. Lastly, I will introduce the theoretical background of the agency and the types of agencies that will be used in this research.

The literature review was done by searching for books and scientific articles from both Google Scholar and the university's library database, Helka. The main keywords used were "video game", "environmental issue", "serious game", "climate change video game", "environmental video game", "environmental

agency”, “player agency”. The keywords were used on their own and in different combinations to gather specific search results. The same words were used on both databases. Different keywords were combined to ensure the minimal number of gaps in the whole literature search. This was done until no new material was found, therefore the keywords were exhausted. Some gaps in the search were likely left, either due to wrong keywords or lack of literature available for free use. However, I tried to ensure that as little gaps were left as possible.

3.1 Game analysis

Video games have been studied for quite some time now. The field of video game studies started 30 years after the first highly successful video game, Pong, was released in the 1970s (Ouariachi, 2017). As the popularity of video games grew, new scientific articles about video games were published (Caroux et al., 2015). Slowly, the critical analysis of games as one form of text evolved further (Consalvo, 2006). This has led to studying different areas of video games. For a long time, the focus has been on game audiences or game critique. In previous game studies that are focused on the content, it has been made clear that it is important for the researchers to play the games they study and gather as much data as possible with the method they have chosen. There are many things to consider no matter what aspect of a game is being studied. For example, player-video game interactions as a focus and their connections to different themes have grown in popularity (Caroux et al., 2015). Particularly, violence in video games has been extensively studied (Ferguson, 2017). Therefore, the results from game studies help game developers create better games so that the player can be engaged and even encouraged to educate themselves about the complex topics, such as changing environments and how the process works (Caroux et al., 2015).

Every game contains intent and meaningful choices that are strongly connected to player agency (Ouariachi, 2017; Eng, 2020). Meaningful choices can be divided into four areas: reminders (after the choice is made, the player is reminded of it), consequences (the aftermath of the choice is shown inside the game), permanence (the choice cannot be changed afterwards), and awareness (the availability of choices for a player needs to be clear) (Eng, 2019). Every

single video game has meaningful choices at some level, but role-playing games (RPGs) are especially known to include many well-structured, meaningful choices. Game mechanics build up the mechanical part of the game and form the structure and rules that guide the player through the game (Eng, 2020). They give the player the possibility to act, be more engaged, and use their agency.

Video games are generally seen as engaging and interactive (Harteveld & Drachen, 2015, 16–17; Muriel, 2020). This engagement makes the players deeply involved in the activities. If player engagement is deep enough, it could make the players do tasks they normally would not. For example, educative use of the game could encourage the player to learn more about topics, such as day to day ecological acts and in-game approaches with different outcomes. and understand the different approaches and outcomes of in-game issues (Wu, 2015). In social science research alone, engagement has many applications and meanings (Ouariachi, 2018). When studying game engagement, one of the focuses should be on the player feedback, like does their choice cause visible changes in the game environment status? The feedback should be positive to motivate the player to act further (Ouariachi, 2017).

3.2 Serious games

Games that prioritize education and training over entertainment are called serious games (Muriel & Crawford, 2018, 25–26). Serious games have a long history, especially in the environmental field (Harteveld & Drachen, 2015, 1). They come in many different formats: video games, online games, board games, role-play/management games, card games, mobile games, and simulations (Reckien, 2013). They can be used for participation, raising awareness, persuasion, training, data collection and analysis, assessment, and scenario analysis in many different fields of expertise (Harteveld & Drachen, 2015, 1).

Just as any other game, serious games should have good mechanics, a story, and actions that should make sense to the player (Eng, 2020). The game should provide rewards and feedback to make the best possible learning process. Player motivation is more prevalent when the game is meant for learning. For example,

successful climate change games blend digital and real-world elements that offer the player realistic problem-solving choices and actions (Wu, 2015). The games usually provide some basic level education about the topic and, depending on the target audience, can go into finer details (Reckien, 2013).

Video games have begun to be used more in everyday education (Harteveld & Dranchen, 2015, 3–7). Serious games have been studied extensively, and gaming is seen as a good and valid method to help deal with complex problems like climate change and other environmental issues. Video games in general, not just serious games, have great potential to educate and engage people (Ouariachi, 2018). However, there is still a great need for more research to be done about their full effects; the results right now seem to be contradictory even with what seems to be an extensive amount of research (Ouariachi, 2017).

3.3 Agency

Agency is seen as one of the fundamental traits of human action in this world; it refers to the ability to take action and change things (Eichner, 2014, 11–24, 86, 105, 158). Agency is not straightforward and will face restrictions depending on the action taken. These restrictions are caused by other people executing their agency for economic, societal, or cultural reasons, or personal drive and environmental factors. Agency has many different meanings depending on application. In this thesis, environmental agency and player agency will be in focus. Understanding freedom, responsibility, control, and requirements to decide, interact, and choose are important no matter what kind of agency is studied (Muriel, 2020).

It is good to remember that executing one's agency is not inclusive to successful outcomes; failed actions matter, too (Eichner, 2014, 11–24, 86, 105). Human agency has its weaknesses and strengths (Jones, 2004). It can be difficult, or sometimes impossible to properly predict, which creates a level of uncertainty. Agency is commonly seen as a disadvantage. However, agency is a big part of the change. Therefore, it should be considered a positive matter because recognizing the potential of agency can help manage risks and develop solutions.

There is great potential behind people's ability to envision possible outcomes of their actions and how it may positively affect motivation and agency, making engagement and awareness an important part of it (Bandura, 1989). Agency expands outside of real life and is seen in different media either based on real life or fiction (Eichner, 2014, 158).

3.4 Player Agency

Player agency is one of the most important aspects of video games (Eng, 2020). The intention gives a player the possibility to interact with the game world by encouraging change and action through meaningful choices. Player agency allows the player to choose roles and explore different motivations (Fabricatore, 2012). It is also about the player's commitment to the meaning of the game (Tanenbaum & Tanenbaum, 2009). Therefore, it is not only simple interactivity. Some games provide more agency than others and it is usually given through game mechanics (Eng, 2020). "Choose your own adventure" types of games are known to offer it extensively.

Sometimes agency is just the feeling of agency without having the possibility to make effective decisions (Eng, 2020). It can, however, be enough on its own and engage the player (Muriel, 2020). Thanks to this, the player can build their own experience (Eng, 2020). The choices can be diverse depending on the game, some more meaningful than others. For example, players can choose to recycle versus picking decorative flowers. It is good to remember that if the player chooses not to act, it can be counted as using their agency (Muriel, 2020). If they fail, it is a sign that something needs to be fixed in the way the agency is used. Giving the player full freedom to do whatever they wish, however, does not equal effective agency (Tanenbaum & Tanenbaum, 2009).

The player agency can be taken more seriously when the player cannot go back on their decisions and instead must face the consequences of their choices, like in real life, and therefore possibly enabling more effective learning (Eng, 2019). It also enables the player to explore different "what-if" situations that could not necessarily be done in real life (Hartveld & Drachen, 2015, 14). The consequence

of this exploration is effective feedback of the agency (Ouariachi, 2018; Tanenbaum & Tanenbaum, 2009). The greatest agency is given when the player can affect the outcome of the game itself (Eng, 2019). To further encourage using agency, the players should engage in their emotions, imagination, and values (Ouariachi, 2018). Hence, it is important that players can actively engage in the game and form their own knowledge. Because of this, two different players can have completely different experiences of the game (Kuo et al., 2017).

Enjoyment of the gaming process is important as well. It increases motivation and leads to emotional experiences which further enhance agency and the feeling of it (Caroux et al., 2015; Cole & Gillies, 2021). Giving the player enough meaningful challenges, mechanical or emotional, drives the player to use their own knowledge and problem-solving skills. Therefore, agency in video games could possibly have an impact on real life agency (Muriel, 2020).

3.5 Environmental Agency

To make changes in the world, it is not enough that people know things about climate change and other environmental issues (Ouariachi, 2018). They also need to care about the matter and be motivated to use their agency. However, even if the person is motivated and engaged, the tone about the environment can be overwhelming and even crippling, causing climate anxiety, even in young people (Pihkala et al., 2020, 153). This might lead to feeling completely powerless (Ouariachi, 2018). Hence, enhancing emotional and behavioural awareness and engagement are crucial. Video games could be one solution for this as they would allow the person to try out different meaningful choices and see the consequences of their environmental agency. When one acts as an environmental agent, they do not necessarily take only one role; they can be active with one issue and passive with another. The level of both roles can vary.

Children's environmental agency has also gained more attention (Trott, 2020). Their growing environmental awareness has awoken a need to put it into use and expand it. Trott's article (ibid.) covers environmental agency and how it may influence young people to use their agency effectively, encouraging self-

reflection. In the best-case scenario, they could also pass it on to the older generations. The question is, then, how to offer young adults and children education about the matter in the most efficient and diverse way. This raises the fact that agency cannot be assumed to emerge spontaneously, no matter how much people know about the issues (Jones, 2004). Rather, it needs to be created. The weak link of agency is a situation when action is not taken. To build a good environmental agency, one must be able to deal with all the complex dynamics that are part of it (Fabricatore, 2012). This leads back to the importance of offering people a possibility to see the consequences of what could happen.

People are constantly pushed towards environmental actions from multiple directions (Oliphant et al., 2020). Therefore, it is good to locate the factors, big or small, that influence people to use their agency for pro-environmental behaviour, be it self-interest or pro-societal. A link can be made from environmental agency to environmental behaviour and how it is changed. Hence it is highly beneficial to study which actors drive this behavioural change. Encouraging this process is important, both in social, governmental, and educational sectors due to its difficulty (Fudge & Peters, 2011; Tayne et al., 2020). Therefore, environmental agency is all about making meaningful decisions in real life that secure our environment's wellbeing. When it is linked to player agency, these decisions are made in a virtual setting.

4 Materials and methods

In this chapter, I will describe shortly how I am planning on answering my research questions. I will then give descriptions of the selected video games to offer a better understanding of the content. After this, I will discuss the basis of the research methods and tools I have chosen.

4.1 Materials

The two video games selected for this thesis are *The Sims 4 Eco Lifestyle* (2020) and *Final Fantasy VII Remake* (2020). These games were chosen from multiple options together with *Abzû* (2016) and *Super Mario Sunshine* (2020). However,

the latter two were ruled out later as the amount of data grew too large. They also turned out to be quite simple in terms of environmental agency or did not offer enough insight that would have benefited this thesis. There were multiple different games to choose from but these two offered a diverse setup for two completely opposite games genre and content wise. For example, I chose *The Sims 4 Eco Lifestyle* instead of *Cities: Skylines* (2015) because it provided more details about everyday life. *Final Fantasy VII Remake*, on the other hand, was chosen over *Dishonored 2* (2016) because it seemed to give a more complex point of view about the environmental issues presented in the games. The two remaining games were selected by searching for different video games with an environmental aspect as the main focus. The game search was executed by a Google search and asking people who play video games regularly. The games are considered as well-known commercial video games. Genre wise, these games are also completely opposite of each other, one a life simulation game and the other an action role-playing game. I personally had not played these games before starting the thesis research.

To answer the research questions about how the player can act as an environmental agent in the games and differences between games, the study was carried out in the form of a qualitative two-case case study. Close reading was used as a method to analyse the types of agencies that formed a typology to help execute the analysis. Data was collected by completing the games and taking notes throughout playthroughs with the help of close reading. The notes were then analysed through eight different types of player agency, which have been presented later in this chapter. With these types, I aim to see how the player uses environmental agency in the games. Additionally, the eight types offer insight to key differences between the games.

4.1.1 *The Sims 4 Eco Lifestyle*

The Sims 4 Eco Lifestyle was published by Electronic Arts in 2020. The game is designed and aimed for almost all age groups; for teens and up. It is the ninth expansion pack (DLC) for *The Sims 4* game series and part of a larger game series, falling under the genre of life simulations. The game is made for

computers and therefore it was the software I used. The general idea is to create a character known as a sim in which the player controls throughout the game. *The Sims* game series is known to not have story-based games. The main focus of the DLC is the environment, and the player can make decisions either against or for the cause.

At the beginning of the game, the player is set to create their sim. The *Eco Lifestyle* DLC provides theme-fitting clothes, hairstyles, and accessories. The DLC offers four completely new traits (personality types and interests) and two aspirations (life goals) for the sim with the environmentalism theme. The new traits are:

- “*Freegan*”: The sim rejects consumerism and instead prefers to decrease spending in any way possible; they love recycling and investigating the dumpsters for useful items and edible food waste.
- Green fiend: The sim is happy when living on a green street and is enthusiastic to make the living environment even more eco-friendly.
- Maker: The sim is happy when making things from scratch.
- Recycle discipline: The sim is a passionate recycler and can find useful items and materials easier.

In my own playthrough, I chose all these traits for my sim to observe how their interactions would affect the way the sim reacts to choices and what they would like to be done. The two new aspirations are master maker aspiration (the sim has learned all the necessary tricks for fabricating and crafting with minimal costs) and eco innovator aspiration (the sim gains influence and can make the community work together). For my own playthrough, I chose the eco innovator aspiration.

Eco Lifestyle offers an ecocentric game world, Evergreen Harbor, with three neighbourhoods to live in. Grims Quarry is next to an old mine with white rocks and clear water and is bathed in sunlight. Port Promise is the complete opposite; it is an industrial port area full of smog. The third neighbourhood, Conifer Station, is flourishing with trees and green areas around it. Each of them has their own

Eco Footprint (EF) status. Conifer Station starts off as neutral, Grims Quarry good, and Port Promise, bad. The neighbourhood introduces a variety of traits, some of them more ecological than others and even the default energy form is different.

Many of the items and materials available for the player to utilise in the game have special traits to them. Some decrease water and energy usage, while others make the neighbourhood more eco-friendly and improve the EF. For example, the player can buy solar panels, wind turbines, rainwater collectors and generators, planting boxes, and bug hotels. However, if the player chooses to industrialise the neighbourhood, they can choose items that use large amounts of energy or fossil fuels instead.

Because the game is a life simulation, the player can do whatever they please. However, the player can decide their own goals. For my own playthrough, I wanted to achieve the life aspiration I chose and impact the EF meter positively. The DLC also offers one new job option; a civil designer. Later, the player can choose either a civic planner or a green technician career path. I chose the green technician, for example. Each of them gives the player different rewards. The player can modify the EF level by living as eco-friendly as possible, or not, and taking part in Neighbourhood Action Plans (NAP) which are portrayed in a Community Voting Board that can be found in every neighbourhood. The player can choose to vote for one plan every week to change the state of the neighbourhood with a maximum of four active plans with an option to repeal one. The voting requires the sim to have influence points (ten per vote, five if another sim, a non-playable character, is convinced to vote). The sim can acquire influence points by talking to people or working in the civil designer job. The player can learn new skills like crafting and gardening to affect the EF. *The Sims 4 Eco Lifestyle* is full of gameplay options, providing an assortment of paths and achievable goals.

4.1.2 *Final Fantasy VII Remake*

Final Fantasy VII Remake is an action role-playing game, released in 2020 by Square Enix and is meant for an older audience around 16 years and older. It is based on the original version, *Final Fantasy VII* which was released in 1997. They are both parts of a bigger *Final Fantasy* game series. *Final Fantasy VII Remake* is made for PlayStation 4, which is the platform I chose, and was later modified for PlayStation 5. The game is quite long, taking 35 to 40 hours to finish. It is a story-based game with a clear ending.

The game starts with the protagonist, Cloud Strife, a mercenary and ex-SOLDIER of an electric power company called Shinra, who was hired by an eco-terrorist group Avalanche. Together they undertake the biggest energy producer of the planet, the Shinra Electric Power Company. Shinra is harvesting the universe and the planet's main life source, which is refined into mako. Mako is utilized in multiple ways, electricity being one example. Their propaganda is strong and has a tight hold on people living in the city, Midgar, where the game takes place.

The game is divided into 18 chapters, all varying in length. The first chapter starts with Cloud and some members of the Avalanche, venturing into Mako Reactor 1 to destroy it with an explosive. Even though the explosion is made intentionally worse by Shinra, Avalanche is blamed for the massive destruction of the area surrounding the destroyed reactor. As the game proceeds, different characters in the game, especially Barret Wallace, the leader of the group, reveal more information concerning the state of the planet. The player learns about Shinra's actions and its effects, slowly killing the very planet they inhabit. It is also made clear that Shinra, especially the president, does not care. In Midgar, people are divided into eight different sectors in layers. The ground levels are dedicated for slums and the upper levels for more fortunate people.

The characters in the game show different levels of care for the planet. Avalanche members attempt to inform people what is going on, but Shinra's propaganda presents them as the enemy. Change can be seen in Cloud as the story progresses. In contrast to the beginning, where Cloud shows little empathy

towards the global escalating problem, he begins to consider the planet's situation and people's well-being.

Later, Cloud and Avalanche destroy yet another reactor. In the aftermath, Cloud goes missing and finds Aerith who descends from the creators of the planet, the Ancients/Cetra. The player learns that Shinra wants to find a mythical land of the Ancients to drain the life energy and make even more mako. However, this plan is ruined in the end by Sephiroth, the main villain of the original *Final Fantasy VII* game, who kills the president and tries to destroy the planet by disturbing its life balance. This leads to the end of the game where Cloud tries to defeat Sephiroth and restore the balance of the planet. The ending intentionally leaves many questions unanswered to ponder upon as the game is only the first part of a bigger saga.

4.2 Close Reading Under Case Study Approach

A case study is one of the many ways to conduct research and each of its methods has its pros and cons (Yin, 2003, 1–2). Approaching this research with an applied case study is a good fit as they are often used when the research question asks “how” or “why”. As mentioned in the literature review, agency is formed by multiple factors, and this is no simple process. Therefore, a case study is an ideal choice to examine as it helps to understand the diverse and complex details. Hence, one must pay close attention to how the research and analysis are done. A case study offers a good and diverse base to understand complex phenomena with multiple variables that are important for complete understanding (Merriam, 1998, 41).

In order to avoid generalized research through a single case study, using multiple, or a two-case study is ideal (Yin, 2003, 10, 54). This way, the external validity for this particular case study is strengthened and the results can be seen as a bigger picture. Therefore, this thesis is a case study of two smaller cases about environmental agency in two different video games. To further substantiate the cases' reliability, the analysis will include detailed and direct observations which play as evidence for the case.

Close reading as a method has a long history and is formed by multiple methods over time (Smith, 2016). As a form of analysis, it is very detailed and aimed at a specific piece of writing. It is not used alone often, but is connected to other methods like qualitative case studies. It is a method from literature theory and has evolved in different directions (Bizzocchi & Tanenbaum, 2011). Close reading has expanded from traditional texts, like books, to be used in other forms of media. It makes it possible to find previously hidden meanings and qualities in media text, making the analysis process more diverse. As a method, it is very adaptable and can be applied to multiple studies.

Over the past few years, close reading has been used in studying video games as well (Bizzocchi & Tanenbaum, 2011). It offers better insight into different game qualities, such as emotions, immersion, narrative, ludic flow, imagination, and engagement. There are many aspects to consider if close reading is used as a method. The researcher must come up with their own themes and lenses which are used in the data gathering and analysis process. When the focus is on textual analysis, it is highly important to actualise or practice the text. Meaning, in the case of video game studies, the games need to be played. The act of reading is a process of making a momentary meaning of what has been read, and then repeating the reading process. It ensures that the creation of meanings has been exhausted and no more information can be extracted. The reading is done badly if the process is rushed and finished before the material is exhausted. It is more of a process-driven technique. Therefore, when reading a text, the themes and lenses chosen together with theoretical issues are used to look at the specific themes in the text.

The meaning of text needs to be expanded from its traditional meaning of written words on a page (Bizzocchi & Tanenbaum, 2011). When it comes to video games, it is good to realise the issues understanding the game and its meanings as different players carry different interpretations. Therefore, sometimes it is necessary to play the game more than once. Close reading is a strong method to study video games as it is grounded in the experiences of the gameplay, and everything related. The researcher should experience the game in an authentic

manner while conducting close research. Frankly, taking a dual stance towards the game is suggested: a role of a naïve player and a role of a researcher. That way, the game is experienced without preconceptions while mediation is still considered. These two roles must be kept in balance when executing the analysis. The data collected in this method is usually large and therefore better to concentrate on one specific entity of the play.

In this case the notes were taken with, but not restricted to, these types of agencies in mind. Thus, the possibility to re-link relevant observations and types of agencies were justified. Because there is no exact rule regarding how close reading should be done in this case, the possibility for subjective distortion is present, especially when the researcher chooses the typology themselves. Therefore, it is a necessity to actively attempt objectivity to minimize bias. However, completely eliminating self-interest is impossible since the researcher's own interest is integral to the process.

4.4 Types of Agencies

Many previous studies concentrated on the player agency have mostly focused on examining the player's selective actions (Cole & Gillies, 2021). In their article, Cole and Gillies (ibid.) proposed that player agency is more than just picking actions. It is about the challenge of understanding. Usually, games offer many challenges. Therefore, the need for multiple agencies is a key component to solve them. Cole and Gillies (ibid.) state that there should be ways for the player to overcome emotional challenges as well. This has led them to propose a set of player agency types that provide a better understanding of player agency and how it can be applied.

These types of agencies are actual agency, interpretive agency, fictional agency, mechanical agency, actual mechanical agency, actual fictional agency, interpretive mechanical agency, and interpretive fictional agency (Cole & Gillies, 2021).

- **Actual agency** (AA) shows the meaningful actions the player can take and what effect those actions have. If the action does not have any consequences, it is not actual agency.
- **Interpretive agency** (IA) describes the player's ability to form their emotional and cognitive understanding. It shows how the player can take action with their own thoughts and put together their own interpretation to fill the gaps and make connections.
- **Fictional agency** (FA) simply describes how the player can affect the story, narrative, world, and/or NPCs (non-playable characters) of the game world.
- **Mechanical agency** (MA) describes the player's actions within the game, for example, the ability to manipulate the game environment or move the game avatar.
- **Actual Mechanical agency** (AMA) describes the straightforward effect of the actions and mechanics. The effects would show in terms of systems and mechanics, for example, solving puzzles in the game, using combat options differently or evolving character traits.
- **Actual Fictional agency** (AFA) describes the way the player can change the way the in-game story goes with their actions. In many cases, the player is made to feel like they have AFA or the effect of actions and choices are minimal, for example, via side quests (optional in-game tasks).
- **Interpretive Mechanical agency** (IMA) is more about the player's thoughts. It describes the way the player examines what their actions mean when they do not get clear answers or feedback. Basically, it describes the way the player is left to consider the moral values and significance of their actions especially when there is not clear feedback, or the feedback is conflicting.
- **Interpretive Fictional agency** (IFA) describes the way the player can form their own understanding of the game with the information they have. Therefore, the player needs to work harder to understand the meanings of the actions and choices.

These types of agencies could possibly allow the researchers to see the complexity of agency (Cole & Gillies, 2021). This has led to the selection of using

these types as the typology to analyse the data of this thesis. They will be applied to environmental player agency in order to see how the player can act as an environmental agent in the games.

5 Results

In this chapter, I will present the results after analysing the game notes with the eight types of agencies that were introduced in the materials and methods chapter. I will go through them game by game, type by type, and present the level they show up as in very apparent, quite apparent, not very apparent, and barely apparent. First, actual (AA), interpretive (IA), fictional (FA), and mechanical agency (MA) will be inspected, after which actual mechanical (AMA), actual fictional (AFA), interpretive mechanical (IMA), and interpretive fictional (IFA) agencies are examined.

5.1 Agency in *The Sims 4 Eco Lifestyle*

Actual agency

In *The Sims 4 Eco Lifestyle* DLC actual agency (AA, actions that show real effect) was very apparent. Most of the player's actions were meaningful and therefore the number of findings for this type of agency was by far the largest based on qualitative interpretation. For example, the decisions made in the sim's work-life affect their career and the number of influence points they get. Further on, this affected how many times the sim can vote a certain NAP (Neighbourhood Action Plans) and therefore influenced the Eco Footprint (EF) level. If the player made the sim vote enough and their desired NAP received enough votes in total, it can change the neighbourhood one way or another. For example, the NAP could clean up the garbage in the area with Green Initiatives NAP and make energy-efficient home electronics more widely used. The player could also vote an existing NAP out by collecting five signatures from NPCs. The choices concerning the sim's traits and life aspirations mattered in the end as the sim would enjoy different activities with improved performance. For example, the game reminded the player to recycle when the sim had not done it enough and therefore got sad.

On the contrary, picking the sim's attire had no effect, and for this reason, was not actual agency.

Choosing the neighbourhood for the sim to reside affected the level of effort the player endured to work towards a better EF, or determination to retain a good level. It also affected the sim's mood and health, such as the polluted area where they would be choking on smog and get attacked by flies. The process of moving in and renovating the house had some actual effects too. Correctly choosing the materials in the house and items with high EF directly affected the neighbourhood's EF meter. Items could reduce the water and electricity bills if chosen correctly. The player may also choose to generate their own water and electricity, selling the excess power and water if they so wished. This gave the player either money or smaller bills. However, the power and water could be stored for their own use which lead to smaller bills as well. One interesting detail was buying a sink. The player was given the option of saving more water at the expense of good hygiene or choosing good hygiene at the expense of water usage.

To get more influence points, the player must talk to NPCs and make friends. Having an environmental job and doing it well also gained the player more points. If the player chose the Civil Designer career path, they occasionally received work-related problems that had to be solved. For example, the sim had created a wonderful new product which reduced the energy usage of electronics and garnered a bigger company's interest. They wanted to fix it to their liking by decreasing the eco-benefits in order to increase profit. The player could choose whether to approve or decline the idea. By declining, the sim performed well at work and obtained a good amount of influence points. However, the choice had no effect on the game world itself. The job gave the sim daily tasks outside work which the player could choose to ignore or complete. These tasks could be recycling, talking about city planning, crafting items, and so on. By completing the tasks, the player gained influence points and helped the sim feel better about their eco-choices in addition to receiving promotions at a faster rate. Later, the choice between two different main career paths had different impacts.

The player could choose to use the recycling machine that could be purchased in the game (picture 1). The sim's mood was positively affected with an increase of influence. On top of that, the sim could get eco-upgrade parts that make the home more eco-friendly. The player could also make these parts themselves. The player could choose to buy solar panels, rainwater catchers, wind turbines, water generators, planting boxes, trees, and bug hotels, which affected the bills positively and increased the EF meter. For example, growing your own plants and fishing gave the sim free food, making them happy. Planting trees increased the EF. Bug farms served for the same purpose and offered the player free biofuel.



Picture 1. The sim is using a shared recycling machine in *The Sims 4 Eco Lifestyle*.

The player could choose to talk to the neighbourhood's eco-expert after moving in or send him away. If the player chose to listen, the NPC gave information about the area and EF meter, then asked if the sim wanted to start recycling. The player could choose to answer yes, do not know, or never. A positive answer made the sim proud and inspired their effort towards a more ecological lifestyle.

Interpretive agency

In this game, the player's thought process played a rather large role as there was no pre-set story. Therefore, interpretive agency (IA, action taken with thoughts) was very apparent. When the player chose the traits for the sim, they could

already think of how the new eco-traits could possibly work with their sim. This way, the player could reflect their own desires in the game and form the avatar into something they would like to be themselves. Even if the new attire provided by the DLC did not have actual agency, the player could still think of how the sim would come across if they had a certain style.



Picture 2. A map of the neighbourhoods.

When the player chose the neighbourhood to live (picture 2) and play in, they received an image of what the places were like and decided the starting level of the sim's life. The lot traits did not matter too much in the game, but the player could choose the lot according to them, for example, if they wanted the sim to live in an eco-friendly house. The lot purchasing process offered the player a choice of buying the place either furnished or not. Completely demolishing the lot and then building a completely new house from scratch was also possible. This way, the player was challenged to balance between being wasteful and possibly affecting the sim's mood if their traits went against consumption. When buying items and materials, the player could determine the level of environmental consciousness, or perhaps, go completely against it. The choice between the sinks mentioned earlier with reference to AA could also fall under IA. The player needed to decide which is better for their own liking by weighing the pros and cons on a scale. The player needed to examine moral choices afterward, especially if they chose better hygiene over smaller water usage. The moral and emotional thought process was also present when the player had the possibility to choose an eco-friendly house in a polluted neighbourhood.

When the player was choosing NAPs to vote for, they needed to think about which would be the most beneficial. The player's previous understanding of the matter and their own standards could affect decision making and how they wanted the game world to be. They could, of course, choose not to vote at all and just idly sit by to see what happened. Voting NAPs out could be thought of as rotating them and using it as the neighbourhoods developing process. Most of the NAPs did not have a visible effect, so it gave freedom of imagination for the player to fill the gaps. The player could make the sim talk to NPCs excitedly about ecological matters. However, it did not do too much other than gaining influence points. In this case, the player could deliberate over the possible increase in common awareness and boost their reputation.

When it came to the work problems, the solution the player chose did not affect the game world other than giving influence points. The player got to use their own knowledge and feelings when picking the solution. Choosing between the two eco-career paths did not really matter, either. It was all about the player's decisions and how they would want to benefit from it. Although the sim grew their own food, it did not seem to visibly affect the world. Therefore, it was up to the player to decide whether they wanted to practice gardening or not.

Fictional agency

Overall, fictional agency (FA, effects on the story, world, and NPCs) in the game was not very apparent. Some traits could still be seen. The player could make the sim become friends with NPCs. When the friendship had been achieved, the player could convince the NPC to vote for a certain NAP. However, if the friendship level was not strong enough, the NPC might have ended up voting for something else than what the player asked. One of the most visible pieces of evidence of FA was caused by the EF meter. When the player worked on changing it one way or another, the game world changed accordingly. If the meter was on the good side, the player could see sun rays and northern lights in the neighbourhood. The sims in the area were also happier. On the contrary, if the meter was on the other end, the area was filled with smog and flies.

The player had an opportunity to make eco-upgrade parts by buying and using a fabrication machine. They could either keep these parts to themselves or give them to NPCs. This way, the other game characters could upgrade their homes into more eco-friendly ones. Another option was for the player to visit NPCs with their own sim and upgrade their items by themselves.



Picture 3. Garbage piles around a NAP common board.

Once again, NAPs could be raised to FA. Certain NAPs changed how the neighbourhood looks, getting rid of most of the piles of garbage (picture 3) is a good example of this. The looks of the neighbourhood and the EF meter could be enhanced by decorating the lot with trees and other plants. Placing solar panels and wind turbines also had the same effect.

Mechanical agency

Mechanical agency (MA, actions within the game and manipulation of the environment) was not very apparent. There were only a few examples. The player could change their sim's lot by planting trees, adding planting boxes in their outdoor area, and changing the plants that were growing in them. The player could not interact too much with the outside area that was not the sim's lot; the actions in general were very simple. For example, the player could not remove the garbage in the neighbourhood area on their own. They could still interact with a few common items in the area, like the common recycling machine, garbage cans, and NAP boards.

Actual mechanical agency

AMA (straightforward effect of the actions and mechanics) was quite apparent. When the sim improved in their gardening skills, they got to grow a larger variety of plants and improve and study the plants (picture 4). If the player decided to sell the improved plants, they got more money out of it. Improving the plants made the sim happier and led them to an eco-inspired state. In this state, the sim could make eco-innovations and other eco-friendly actions with better luck and success. When the sim made more eco-upgrade parts and items with the fabrication machine, the skill levels grew; allowing the sim an opportunity to create better upgrade parts and items. Simultaneously, the player could decide to improve the sim's repair skills which allows the use of eco-upgrade parts to enhance items in the house, increasing the EF meter. For example, the player could make the toilet seat a compost and the bathtub recycle water.



Picture 4. Gardening boxes with different cultivated plants.

The more the sim completed work tasks and improved certain skills, the faster they got promoted. This gained the sim more influence points and later, more challenging work problems to solve.

Actual fictional agency

AFA (changes made into the story) was not very apparent, although there were a few instances. There were a few good examples, however. For example, even if the neighbourhood started at some certain EF meter level, the player could

change it by their eco-actions in the game. The player could make it worse, causing negative reactions like smog and unhappy sims, or choose better to trigger happy sims, northern lights, and sun rays.

By making friends with NPCs, the player could help change the neighbourhood as it gave the sim more influence points. There were some cases where the player seemed to have AFA, when in reality did not. For example, the work problems fell under this. The player was given the feel of AFA, but it did not have any kind of direct effect on the story, the game world, or the NPCs.

Interpretive mechanical agency

IMA (thought process of the actions) was very apparent. When the player got to solve the work problems, they needed to choose the solutions according to their moral judgement and previous knowledge. Even if the player assumed they chose the right one (usually driven by their EF goals), the feedback from the solution was possibly opposite. This would leave the player thinking of their choice and the different actions they could have taken and why they received this kind of conflicting feedback.

The player did not get much feedback in the beginning when they needed to choose whether to listen to the neighbour's eco-expert or not. This was decided on how the player felt about it completely. The situation was the same when the player was initially asked about recycling.

Interpretive fictional agency

IFA (formations of one's own understanding) was very apparent. The game did not give much of a story. The player was encouraged to build their own stories and its understanding. The player could think about how the sim's actions would improve the area. However, in the game, the IFA was not very big. Being close to the experimental narrative as the player, it created the narrative from the very beginning rather than freely exploring an existing diegesis that is pre-built.

The EF meter development left room to imagine and create the player's own understandings as it did not tell the player when it was changing, its exact effects, and when. The player did not necessarily have the foresight to know what mattered in the long run, so they could come up with reasons and connections themselves. The player could not know how all the ecological acts affected the NPCs in the neighbourhood. The player could talk about ecological matters, but do not receive anything from it. This way the player filled the gap in individual knowledge and considered how the NPCs could possibly be affected. One thing to note was the player's inability to change other neighbourhoods, even though they could visit them. It was up to the player if they wanted to think of the changes reaching the other areas too.

4.2 Agency in *Final Fantasy VII Remake*

Actual agency

In *Final Fantasy VII Remake*, the player did not offer many meaningful choices that would drastically affect the storyline. Therefore, AA was not apparent. The game supplied a feeling of agency instead of actual agency with significant impact. Some examples of AA could still be found, however. The player had some smaller choices, producing smaller consequences that were still important for the game. The player could decide whether to complete or ignore smaller side quests in the story. If the player chose to do them, they would gain the benefits one way or another. The protagonist, Cloud, received money from the NPCs and made acquaintances around the game world. He made connections, improving his reputation as many people shied away from him due to his background as a former SOLDIER operative. The player's choices were usually within dialogues or presented as small actions. At times, the player's decisions influenced the type of side quests that were later assigned.

Actions related to environmental agency did not surface through the dialogues, but whether or not the player decided to complete side quests. For example, the "*Rat problems*" side quest provided the player an opportunity to rid away giant rats. Completing this quest led to an additional quest where the player needed to get rid of more monsters that were seen as pests. Completing the task made

the area safer to live in and caused people to fulfil their daily needs. It is good to note that some side quests were mandatory to complete even though they felt optional. With “*The Angel of the Slums*” quest the player got to help keep the people in the slums in a slightly better condition in their environment.

“*The Language of Flowers*” side quest was available when the player completed all the side quests in chapter 8. Cloud would share a moment with Aerith, where she told him that the flowers in the garden were trying to tell her something important, but did not know how to get the message across (picture 5). Once Cloud was alone by the flowers, he looked at them and said, “*Learn to talk to her.*” This represented the player's communication with the planet and was apparent later throughout the game.



Picture 5. The flowers are trying to tell Aerith something important in *Final Fantasy VII Remake*.

Interpretive agency

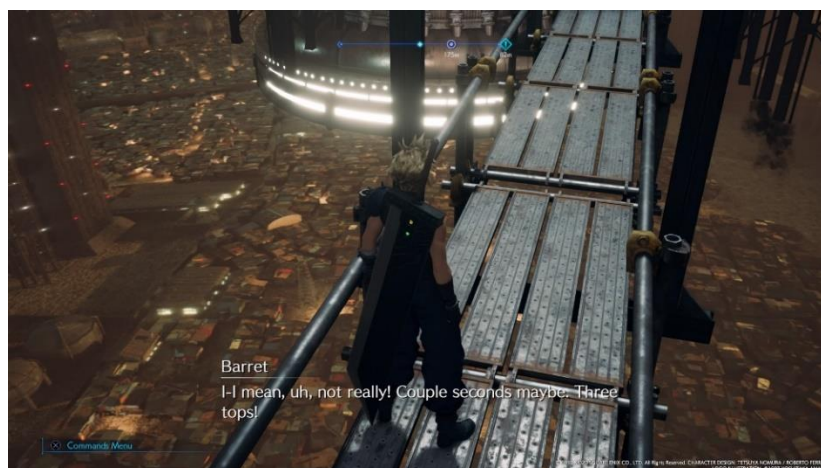
IA was the biggest kind of agency in this game. The majority of the agency executed through actions and choices had an indirect effect. When they blew up the Mako Reactor at the start of the game, the player was not given much information. They were offered some bits and pieces regarding mako and the place they were in. The player needed to connect the dots themselves.

When the player found out that Avalanche was labelled as an eco-terrorist group, they were required to think about what exactly eco-terrorism was. When Barret,

the group leader, explained more about mako and the harvesting of the planet's life energy, the player would recognize Cloud's apathy. This may cause the player to consider the possible outcomes of the entire situation if things continue as they are. However, when the player got to know more about their cause, they most likely would not feel as bad about their actions against Shinra. Though, when "innocent" people were hurt, the player might have started to think more about the pros and cons of the mission and whether the heroes of the game were heroes at all.

The player got to live through Cloud. They were made to consider their actions when they heard people speak negatively about the Avalanche and their lack of reaction and action towards their planet's state. This could lead to questions about whether the group's actions were good or bad and should even be done. Even though the player had no control over the general storyline, they could think they were doing the right thing when Cloud was helping Tifa change water filters for the people in the slums.

In chapter 4, another Avalanche group appeared. The player learned that this group had labeled Barret's group as too extreme. This gave the player more to think about the level of their actions and the moral status behind them. Later in the story, Cloud had no choice but to join the group to destroy the next reactor. There was little information provided about how the character felt about it and what it would mean in the game's future timeline.



Picture 6. One of the sun lamps is still working and shining over the slums.

In chapter 6, Avalanche shut down big “sun lamps” that used extensive amounts of mako and provided light for the slums below (picture 6). When the player was around the lamps, they could see large amounts of air pollution released into the air, right above the slums. This encouraged the player to evaluate the significance of these lamps, how they could possibly be changed, and how much it affected the living area when they were shut down and left that way.

The player got to see a big difference between Sector 5 and 7 slums as Sector 5's nature flourished more. This could leave the player thinking if the actions in the game, like blowing up mako reactors, would improve the state of Sector 7. Moral thoughts were raised about Shinra and Avalanche's actions when the player saw Turk's, a specialist SOLDIER group within Shinra, leader say about destroying Sector 7 slums: “Consider them as a sacrifice. We have taken so much from the planet, so we ought to give something back”. The player was shown that different people had different ways of thinking about what a “good” act for the planet is. The idea behind the quote was that all dead things return to the planet as life energy.

The cut scenes, non-playable moments, throughout the game showed snippets of life outside Midgar and how life was getting poorer and more difficult. This was shown to be all because of excessive mako harvesting. Seeing these scenes might have motivated the player and made them think about the severity of the situation and imperative actions. The ending of the game was left quite unclear, and it left room for guessing if the planet was safe for good or just for now.

Fictional agency

FA in the game was barely apparent. The player improved Cloud's reputation by completing side quests. As a result, Barret began to approve of him more, and as a result, began to tell him more about the planet (picture 7); Cloud was able to learn more. The story became much more serious and personal.

The player could change some little things in the narrative with the choices they made. However, most of them could not be counted as environmental choices. The player could see some of the comments from NPCs changing along the way about Avalanche and the planet. These opinions became more negative, and they were shifted into blaming the group for the destruction of the planet.



Picture 7. Barret is telling Cloud about Shinra's actions.

Mechanical agency

The player could not interact with the surrounding area in the game world other than picking up items. The MA was barely apparent and in general concentrated on combat actions that did not involve environmental agency. Overall, there was very little MA to analyse.

Actual mechanical agency

AMA was not very apparent and came across mainly as levelling up in the game. Levelling up the characters was a crucial part as it would help later in the game. When the character levelled up it was easier to go through the quests and gain more knowledge and help. The level upgrading could be done by completing quests as they lead to better outcomes. If the player decided to do all the side quests, they gained more and could unlock different items and discover more details about the game world and the planet's situation as well as other characters.

Actual fictional agency

AFA was quite apparent. There were numerous side quests that affected the little details of the story, for example, the “*Language of Flowers*” side quest was given when all required side quests were completed, outfits of the characters changed according to the player’s choices during the quests, as well as the final team for the final battle. The choices were offered in the dialogue options as well and they had the same kind of effect pattern as the quests.

The game made it feel like the player could change the NPCs’ opinions and development in the story. For example, when Barret started liking and caring about Cloud, and Tifa, Cloud’s childhood friend, worked out her doubts about the big operation of destroying the reactors. In actuality, the game developers had already created the consequences shown in the characters and surroundings.

Interpretive mechanical agency

IMA was quite apparent and appeared when the player took the quest, and they did not immediately know what the outcome would be. However, the player could guess the outcomes and draw motivation from these assumptions. Later in the game, the player got feedback on their choices. It could be said that the IMA in the game was only temporary. For example, placing the bomb on the reactor with either a 20- or 30-minute time limit chosen by the player would make the player think if it would really have any effect on the outcome or not (picture 8).



Picture 8. Inside the mako reactor. The liquid inside is mako.

Avalanche's cause and the state of the planet might justify all the actions done by the player. However, when the player heard the passing commentary from the NPCs, they might have had conflicting thoughts. They might have tried to seek compensation for this by doing all the side quests to help the people in the game world. The case of the sun lamps from earlier was one example. The player was left to guess what happened when the sun lamps were turned off. The same could be said about the potential consequences for ordinary people if the reactors were shut down.

Interpretive fictional agency

IFA was very apparent. One of the biggest examples of it was the ending of the game. Was the planet saved by the player? Was mako harvesting over? Did the player push Shinra back successfully? Would Sephiroth try to destroy the planet again? Would the balance be restored thanks to the player? Would the planet recover from its excessive use? Was it all for nothing? The player did not get an immediate response to these questions and therefore got to use their IFA often. The game in general made the player fill the gaps, especially when it came to the question of whether the player could save the planet or not? The game made it clear that the universe tried to keep the destiny unchanged and steer it back on track.

Except for a few hints provided by Cloud's actions and minimal reactions, the player did not learn much about his thought process about the planet. It made the player think whether Cloud changed his mind and started to care about the planet or not. Another good example of IFA was "*The Language of Flowers*" side quest, once again. It raised questions such as: what were the flowers trying to say? Were they trying to tell something about the planet or perhaps something about the true enemy of the planet? The disparities between Sector 5 and Sector 7 slums may have made the player worry if the life energy had been taken out of Sector 7 because there appeared to be almost no green places, and Tifa mentioned that she couldn't recall the last time she saw a real flower. The player

might have thought about the possibilities of a better future for the sector now that some of the reactors were destroyed.

6 Discussion

In this chapter, I will discuss the results and compare the different findings between the games. I will also present a summarising results table to highlight some of the main findings from each type of agency in both games. Then I will be looking into the meaning of environment especially when the world nowadays is existing more and more on digital platforms as well. After that, I will discuss how the environmental agency is represented in video games and what the future possibilities for it are.

5.1 Comparing the Results

Both games showed a varying number of different agencies in them. They offered examples for all eight types of agencies, however, provided clear differences. *The Sims 4 Eco Lifestyle* is a life simulation. It was interesting to see how it seemed to offer more agency than *Final Fantasy VII Remake*. It was a surprise to realise how a big part of the environmental agency was about the feeling of agency instead of proper agency. The player did not necessarily notice this in the game right away, but later when they started to think about it. All in all, AA was available for the player to use significantly more often in *The Sims 4 Eco Lifestyle*. A majority of the actions that the player could do in the game had meaningful impact. This DLC offered an interesting option for the player to use their environmental agency against the environment and make the neighbourhood in the game as polluted as possible. This gave the player virtual reality simulation of how bad choices could lead to even worse consequences.

The lack of action was also given as an option. In *Final Fantasy VII Remake*, the player was taking the role of “good evil” as they try to save the planet but act against the government. The amount of AA was not nearly as large because the options presented to the player had very little effect on the game world, even less than in environmental agency. MA in both games was also very low when it came

to the environmental aspects of agency, which was a surprise, especially in *The Sims*. The case was the same with FA, which was even more surprising, especially in *The Sims* as one would have thought it would have offered it to the player more clearly since it is a simulation game. IA was perhaps the biggest and most evident in both games. Many things were left up to the player to ponder upon and fill the gaps using their own thinking. This could possibly be a good thing too when it comes to learning from the games. In *The Sims*, the player got to create a whole new story from scratch. Because not all consequences of their actions were depicted in the game, the player had to rely on their imagination, prior knowledge, judgement to fill the gaps and think about what could occur. In the best-case scenario, the player was further motivated to reflect these possibilities to their own life, especially if the player had created the sim in a way that represented a person they would have liked to be. In *Final Fantasy VII Remake*, the story unraveled little by little and even then, did not show the vast impacts of the actions the player got to take. Even if the consequences were shown, they still left details in the dark.

AMA, AFA, IMA, and IFA types were present in both games but once again their level of apparency varied. *The Sims 4 Eco Lifestyle* had the biggest amount of agency, especially with the environmental theme in mind. Interestingly, AMA did not have that big of a role in it. MA was relatively low, but AMA was still higher. That situation was the same for AFA, but FA seemed to match its low apparency. IMA and IFA, however, could be found often in *The Sims*. In *Final Fantasy VII Remake* AMA was present but it was quite simple, only coming out as levelling up characters. In contrast to *The Sims*, AFA appeared many times, which could be expected since the story left much up to the player's imagination. IMA and IFA were equally represented but it was clear there were not as many examples of them as in *The Sims*.

In general, all types of agencies overlapped and only AFA and IMA were barely apparent in *Final Fantasy VII Remake*. As it was stated before, neither of them excluded one another and it is more than likely that all of them were present in the game, just at different levels. The player was offered the chance to connect the different types of agencies and see how they could complement each other,

which was quite interesting to see. When different agencies overlapped, the game seemed to offer a lot more. One could easily imagine that the game would not have had nearly as much to give for environmental agency in general if the types of agencies were strictly separated from one another.

The research questions of this thesis were: “How does the player act as an environmental agent in the selected games?” and “What are the key differences in environmental agency between the games?” The player got to act as an environmental agent in many diverse ways. They had the possibility to change the state of the area where their game avatar lived in, interact with NPCs in the game, contribute to making the game world more ecologically friendly, or choose to do nothing or act against it. On the other hand, they got to help people in the game and work towards a bigger outcome to even save the planet. The games showed that the environmental agency can start from very small and simple acts and go all the way to more extreme ones. When it comes to the key differences between the games, overall, the player was able to use more environmental agency in *The Sims 4 Eco Lifestyle*, whereas *Final Fantasy VII Remake* offered more of a feeling of agency and the little things that the player could do as an environmental agent were quite simple and repetitive. It forced the player to use their own knowledge and ability to put things together from the facts given and form their own understanding of the story. On the contrary, the acts in *The Sims 4 Eco Lifestyle* were many in number and diverse, offering more possibilities to combine one’s different acts. Table 1 shows a summary of the different environmental player agency findings in both games.

Table 1. Different types of agencies in both *The Sims 4 Eco Lifestyle* and *Final Fantasy VII Remake*, how apparent they are in the gameplay and examples of the cases where they chose and can be used.

<u>Game Type</u>	<i>The Sims 4 Eco Lifestyle</i>	<i>Final Fantasy VII Remake</i>
Actual (AA)	Very apparent, most of the actions were meaningful. E.g. voting for NAP, buying certain items, recycling.	Not very apparent, not many big and meaningful choices, more of a feeling of agency. E.g. Ignoring vs. doing side quests, dialogue options, “ <i>Rat problems</i> ” side quest, “ <i>The Angel of</i>

		<i>the Slums</i> ” and “The Language” quests.
Interpretive (IA)	Very apparent, no pre-set storyline. E.g. combining eco traits, choosing a place to live, solving work problems, choosing a career path, choosing furniture.	Very apparent, the story unravels slowly. E.g. the cause of the Avalanche, Cloud’s attitude, sun lamps, differences between areas, cut scenes.
Fictional (FA)	Not very apparent, some examples. E.g. convincing NPCs to vote for a certain NAP, gifting eco upgrade parts to NPCs, using a NAP to clean the garbage.	Barely apparent. E.g. better reputation with side quests, small changes with dialogues.
Mechanical (MA)	Not very apparent, very few examples. E.g. planting trees on the lot, buying and using planting boxes.	Barely apparent. E.g. no interaction with the area, mainly through combat.
Actual Mechanical (AMA)	Quite apparent, some examples. E.g. improving gardening and fixing skills, making eco upgrade parts, evolving house items, doing work tasks.	Not very apparent. E.g. levelling up to gain more knowledge.
Actual Fictional (AFA)	Not very apparent, a few good examples, mostly feeling of AFA. E.g. changing EF meter level by eco-actions, making friends with NPCs.	Quite apparent. E.g. numerous side quests’ impacts, “ <i>Language of Flowers</i> ” side quest, dialogue options, NPCs’ opinions.
Interpretive Mechanical (IMA)	Very apparent. E.g. work problems giving contrasting feedback, no feedback with eco-expert interaction.	Quite apparent, the outcomes are not apparent immediately. E.g. setting a bomb, the cause of the Avalanche, sun lamps
Interpretive Fictional (IFA)	Very apparent, many examples but also fall under the feeling of IFA. E.g. EF meter changes, eco-act impacts unsure on NPCs and other neighbourhoods.	Very apparent. E.g. the unclear ending, the control of destiny, Cloud’s minimal reactions, “ <i>The Language of Flowers</i> ” side ques, differences between the greenery in areas.

5.2 Environmental agency in video games

When natural environments in video games are developed insightfully, they stop being just a background (Brown, 2014, 384). If they offer feedback on the player's actions, they become an important part of the player agency which can lead it to be part of the environmental player agency. Video games could possibly offer a way to enhance the human-nature relationship and give ideas for the real-life environmental agency. For example, in *Final Fantasy VII Remake*, the environment is seen as separate from humans and it lives its own life. Therefore, the in-game people do not care to take action on the state of the planet as they think that it is resilient and will recover on its own. In other words, it is an example of how some people use their agency very differently and decide not to act. This line between real-life and virtual worlds is slowly blurring. The environmental agency from virtual worlds, like video games, is most likely seeping into real life which means an even stronger understanding of environmental agency is needed.

The player can use their previous knowledge of environmental matters when acting and making decisions in the game (Harteveld & Dranchen, 2015, 14). The game world has the possibility to guide the agency to simulate different, even realistic, paths of events and how to possibly change them (Bell-Gawne et al., 2013). As it has been said, agency does not suddenly appear and happen spontaneously. It needs to be built. Building fictional future scenarios and letting the player discover themselves what is needed to change the future is a good example of in-game environmental agency (Abraham, 2018).

The player is given the option of taking on various roles and viewing the world from various perspectives (Wu, 2015). This allows the player to see what the consequences of their actions are. For example, in *The Sims 4 Eco Lifestyle*, the player can explore the impacts of different energy-saving methods, generating one's own energy, recycling and on the contrary, doing things that would negatively affect the environment. *Final Fantasy VII Remake* on the other hand makes the player think more about the moral sides of their actions and possible outcomes when the impacts are not visible immediately or at all. It encourages

them to see the bigger picture and show care and interest in matters that do not directly affect their own life. Therefore, video games show the possibilities for a new kind of agency that has its critical sides while still being creative which lines up with what Muriel (2020) has stated. Environmental agency in video games could very possibly contribute to developing environmental awareness and agency in real-life environments which has also been suggested by Abraham and Jayemanna (2017).

5.3 The Meaning of Environment

The definition of the environment has multiple meanings, even within environmental sciences (Cantell et al., 2020, 28-30; Davoudi, 2012; Lyytimäki, 2012). It depends on the point of view and field of work, varying from nature reserves to risks and problems. It is usually divided into four main groups: an ecological environment which is also understood as nature, a human-built environment, a social environment, and a digital environment which is a newer addition to the group. Quite often the focus is on the natural environment instead of the built one and despite an increasing number of people spending their time in different virtual environments with mobile devices, computers, and video game consoles, the virtual environment is still strongly separated. These could possibly affect the way people view real-world environments. New realistic 3D game environments, VR (virtual reality), and augmented reality games, such as a well-known *Pokémon GO*, offer a completely new kind of layer to digital environments where immersion is made even easier (Kuo et al., 2017). When it comes to the individual centred environment, humans are thought to be in the centre of it with human-nature relationships playing an important role. On the contrary, in natural sciences, humans are seen to be a separate part of nature while in social sciences the environment is defined depending on human action and impacts. To balance this out, post-humanitarian environmental studies strive to look away from the human-centred point of view and see humans as part of the environment instead (Cantell et al., 2020, 28).

Nowadays the technological goal for video game developers is to create a space for the player where they can be fully immersed (Barton, 2008). When high

immersion is made possible, it gives the player a feeling that they have more agency to use in the game (Eng, 2020). Therefore, it is used more creatively and possibly gives a better chance for learning. Virtual environments can be seen as human-built environments as well where the player agency is promoted (Brown, 2014, 386; Muriel, 2020). This way the virtual world becomes clearer for the player, and it can be referred to the real world more often (Barton, 2008). The immersion is easier the more the game environment represents the world around the players. For example, creating realistic weather dynamics in the game have been used for this purpose.

It's feasible that in the future, the natural world in video games will blend in with the real-life natural environment, especially for young people (Brown, 2014, 385–386, 397). With “open-world” games, where the player is allowed to freely explore the game world, this can be evident as the player is free to have somewhat boundless human activity and agency, like choosing whether to act towards or against the environment. Social environments can also be part of virtual environments, especially in multi-player games where the player is able to interact with other players (Ouariachi, 2018). As Bell-Gawne et al. (2013) suggested, multiplayer games could offer more accurate visualisation of how climate change is handled together with other people. This makes the agency in the game more diverse for the player to use. Therefore, our way of seeing and knowing the different environments around us will most likely keep changing.

5.4 Future possibilities

It would be good to have both environmental thoughts and experience available in the game to maximise engagement and awareness (Brown, 2014, 403). The research has slowly started to grow in popularity. Young people especially have shown their interest in learning about pro-environmental behaviour rather through something engaging and fun (Bogueva & Marinova, 2020).

The designing process of video games which are both entertaining and educating in a way that does not make it into a strictly serious game, is a difficult task (Harteveld & Dranchen, 2015, 41). Therefore, it would be a good idea to combine

the knowledge and skills of both game designers and experts and have them work together throughout the whole process. This is already done on some level with serious games and should be brought more into developing commercial games as well.

In the future, there would be a great possibility to do studies on how the environmental agency in video games could possibly affect the real-life environmental agency. Could the games meant for entertainment help the player to think about their agency outside the virtual environment and draw motivation from it? What would be the best ways to increase the impact of video games? Does the genre or the format of the game matter? It is also important to recognise that the gaming industry is rapidly expanding. This brings light to the fact that the big game industries themselves put pressure on the changing environment but at the same time, produce games with environmental education purposes. Be it a serious or entertainment game, there is a possibility to compensate for the situation. There is no strict evidence about this connection, however, but it could offer something to think about in the future.

7 Conclusions

As video games are constantly growing in popularity, questions are raised whether they could be useful for other purposes other than just entertainment. However, more and more game developers aim to create an in-game virtual environment that represents the real world. It increases immersion and could be seen as more engaging and fascinating. The escapism feature might never fully disappear, but it could be combined with hidden lessons about the environment. When learning and discovering is combined with positive enjoyment, the player might possibly act outside the game world as well. They are offered the possibility to view different outcomes and consequences of their actions. Games can always be started over from the beginning and therefore it is easier to make mistakes there. In real life, there is no such option.

Environmental themes and issues in video games is no new thing. For example, the original *Final Fantasy VII* was released in 1997 and the main theme was the

same as in the remake. Still, commercial games with these themes need more attention and studies done about them. As environmental issues keep increasing, they inevitably seep into different virtual environments. Many video games have environmental themes to them, for example, *Abzû*, where the player takes the role of a diver who is part of an ancient culture that takes care of ocean ecosystems, and *Super Mario Sunshine*, where the player plays as Mario and cleans an island from an oil-like substance. There are many ways to represent problems and just as many ways to deal with them. When the player is granted just the right kind and amount of player agency in games, they can turn it into an environmental agency. This way, the player may recognise what they can and cannot do with the kind of feedback their agency provides. Feedback is one of the most important drivers of agency. Without it, people cannot distinguish between right and wrong in regards to their goals.

The Sims 4 Eco Lifestyle and *Final Fantasy VII Remake* offer a diverse collection of different player agencies that can be seen as environmental player agencies. The amount and type of agency seem to depend on the genre of the game. However, differences within one genre are also likely. For the future, it would be interesting to see how the environmental player agency could possibly turn into a real-life environmental agency in the hands of the player.

8 Acknowledgements

The author of this Master's thesis wants to thank Nina Janasik from the University of Helsinki and Jari Lyytimäki from the Finnish Environment Institute (SYKE) who worked as thesis supervisors for this work. Also, Elisa Wiik, a doctoral researcher and coordinator of Centre of Excellence in Game Culture Studies and Daniel Fernandez Galeote, a doctoral researcher at the Gamification Group, both from the University of Tampere who helped with the planning and inspiration of the thesis.

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