

Magnus Ingebrigtsen

User Collaboration and Self-Expression in Virtual Worlds

Master's thesis in Digital Collaboration

Supervisor: Ilias Pappas

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Norwegian University of Science and Technology
Faculty of Information Technology and Electrical Engineering
Department of Computer Science



Summary

In this master's thesis, I have closely examined the topic of user interaction in virtual worlds. The research questions addressed include: How have historical events influenced virtual worlds and metaverses, and what implications does this hold for the future experience economy? How do users collaborate, interact, and communicate within virtual worlds, and how do these interactions shape their experiences and behavior? How do individuals use virtual worlds for self-expression, and what impact does this have on identity formation and social dynamics? I have traced the technical developments historically and related them to what is commonly known as the metaverse. Additionally, I have employed a qualitative research method and conducted interviews with nine individuals from five distinct virtual worlds.

The theoretical framework used to analyze the empirical findings is based on symbolic interactionism, particularly the theories of Goffman and Blumer, which explain interaction. The social processes I have focused on and analyzed include communication, cooperation, interaction, societal and group dynamics, and self-expression.

The findings from the analysis show that users treat their avatars differently, from an extension of themselves, to an alternate character with their own characteristics and personality. The findings also show that as the intensity and demands of virtual worlds increase, so does the user's likelihood of moving from the in-built text chat of virtual worlds, towards external voice-chats.

The thesis concludes that while the previous development of virtual worlds up to today has been marked by a somewhat clear evolution alongside computers and networking itself, the future for the technology is rather unclear, with promising technologies like AI, AR and the emerging metaverses all having shortcomings that make them risky to take in to use right now, but could have significant potential in the future when the technology matures.

Sammendrag

I denne masteroppgaven har jeg sett nærmere på temaet brukerinteraksjon i virtuelle verdener. Oppgaven tar for seg følgende forskningsspørsmål: Hvordan har historiske hendelser formet virtuelle verdener og metaverser, og hvilke implikasjoner har dette for fremtidens opplevelsesøkonomi? Hvordan samarbeider, samhandler og kommuniserer brukere innenfor virtuelle verdener, og hvordan former disse interaksjonene deres opplevelser og atferd? Hvordan bruker individer virtuelle verdener for å uttrykke seg, og hvilken innvirkning har dette på identitetsdannelse og sosial dynamikk? Jeg har gått tilbake i historien for å se på den tekniske utviklinga og relatert den til det som betegnes som metaverset. I tillegg har jeg har brukt kvalitativ forskningsmetode og intervjuet 9 personer som representerer fem, ulike virtuelle verdener.

Det teoretiske rammeverket som er benyttet for å analysere de empiriske funnene består av symbolsk interaksjonisme med Goffmann og Blumer sine teorier som forklarer samhandling. De sosiale prosessene jeg har fokusert og analysert dekker følgende områder: kommunikasjon, samarbeid og interaksjon, samfunn og grupper og selvuttrykk.

Funnene fra analysen viser at brukere behandler avataren sin forskjellig, fra å vere en utvidelse av seg selv, til å være en unik karakter, med sine egne personlighetstrekk. Funnene viser også at etter som intensiteten og kravene til virtuelle verdener øker, så øker også sannsynligheten for at brukere vil gå fra å bruke tekstchatten som er innebygd, og over til å bruke ekstern voice-chat.

Oppgaven konkluderer med at der tidligere utvikling av digital verdener har gått i trinn med utviklingen av datamaskiner og nettverk, så er den fremtidige utviklingen ganske uklar. Lovende teknologier som AI, AR og metaverser har alle problemer som gjør dem risikable å benytte akkurat nå, men kan ha stort potensiale i fremtiden når teknologien er mer voksen.

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Definitions

AI: Artificial Intelligence, a technology that tries to recreate human level decision making a creativity through algorithms and technology.

AR: Augmented Reality, a technology that overlays a virtual world, or elements of it, on top of the real world, often to facilitate services or games.

Avatar: the character the player takes control of in a digital world

Discord: A VOIP service and social media platform oriented towards gaming.

Guild: a group of players organized together for some common purpose

MMO: Massively Multiplayer Online

MMORPG: Massively Multiplayer Online Role-Playing Game

Player: a person controlling an in-world character

Playing: engaging in an MMO

Raid: a form of usually high-end difficult content that players have to band together in groups to be able to clear/complete.

VOIP: Voice Over Internet Protocol, a form of voice communication that uses the internet instead of phone lines or other technology to connect the 2 or more participants.

VR: Virtual Reality

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1 Introduction

New technology solutions and platforms like metaverses, are said to have the potential to dramatically change the landscape regarding to solutions for digital events and location. Even big names like Facebook, now *Meta* having invested significantly into the concept with the hope of being early adopters of the technology and thus becoming the primary platform for metaverses. So far this has failed to materialize, with many so-called metaverses struggling to catch much attention over more traditional solutions, and with mostly early speculators showing enthusiasm for the concept. This is all in addition to confusion, both from potential users and creators of content, on what a metaverse is, and what it offers compared to current platforms. In short, the definition of what a metaverse is is currently unclear, and with several definitions being used this is unlikely to change soon.

What metaverses so far want to be offering, is a platform for future content and experiences. This is what we see in some of the biggest platforms, like meta's metaverse and the more open Decentraland¹. Regarding experiences this is not new technologies, and the platforms have struggled to find a niche.

Polyviou & Pappas (2023) define metaverse "as an immersive virtual world in which people, places, and things of the physical world are represented by their digital representations (e.g., people are represented by avatars) and are able to meet, communicate, interact, and collaborate."

Games play a significant role in the context of the metaverse; environments like MMORPGs and other online platforms can be fundamental in its development. Games like this are microverses where players co-operate, interact and communicate. These games create social and immersive spaces that can provide insights into how the metaverse might function as a virtual environment where people socialize, interact, and collaborate. Players feel a connection and a sense of community with the culture they are part of. Games engage physical senses and enhance the player's experience. (Evans, 2022).

Alternative online hangouts and event platforms like Second life ² have already proved the model metaverses are aiming for to work, but have done so vastly ahead of the term gaining popularity in recent years. Even games like Fortnite, mostly just popular Battle Royal Shooter game has offered experiences beyond what most metaverses manage, having served as both host to a digital museum, a live concert venue, and served as the platform for big reveals for IP's like Star Wars.

"These games do not just represent the kind of online community as identified by Howard Rheingold (1993): a social network of individuals that interact through online platforms around shared interests.» (Evans, 2022).

In short, the experience economy already exists in virtual worlds and metaverses; however, the new players on the scene, the metaverses, have so far struggled to properly break into it. In that regard, In this thesis, I will explore five different virtual worlds, examining how they are developed and how users utilize these worlds to express

¹ <https://decentraland.org/>

² <https://secondlife.com/>

themselves and communicate in ways that the real world cannot. Additionally, I will investigate the unique values that metaverses can add compared to what video games and other virtual worlds currently offer.

1.1 Choice of topic and background for thesis

This thesis has been written for the Norwegian University of Science and Technology (NTNU) with the goal of expanding knowledge about interactions within virtual game worlds. The focus of the master's thesis is "User Collaboration and Self-Expression in Virtual Worlds." I will provide a historical overview of the development of the virtual worlds I have chosen to study, and then delve deeper into how players in these worlds express themselves, interact, communicate, and engage with each other.

The reason for choosing this theme stems from my long-standing personal interest in MMO/MMORPG games, which provides me with deeper insights into the subject and allows me to incorporate some of my own experiences into my research. Virtual worlds are becoming increasingly prevalent, making this field fascinating to study. Previous research on this topic has largely been conducted on a broad scale, focusing on quantitative data often collected through large surveys distributed on Internet user forums. This approach can overlook the nuances and specific experiences of individual users across different virtual worlds, whether they are players of MMORPGs or users of less traditional virtual worlds like Second Life, Roblox³, or Fortnite⁴.

Several studies have focused on social interaction within virtual worlds. For instance, CASAÑ-PITARCH (2021) analyzed participants' social communication habits using the classification system by Guntermann and Phillips (1982). Their methodology was quantitative, and participants in the study were given a questionnaire consisting of closed-ended questions. The findings highlighted that factors such as age, extroversion, experience, dedication, and language proficiency are significant in fostering social connections within MMORPG games.

Research by Kaye et al. (2017) has demonstrated the psychological benefits of engaging in MMO games, particularly the social value of identifying with and connecting to other players in the game.

Boughzala et al. (2012) explores virtual worlds and their impact on teamwork. It emphasizes virtual environments where 3D spaces allow users to interact through avatars, and how these sophisticated social systems enable millions to engage across geographical and temporal boundaries. In virtual worlds like Second Life and MMORPGs (e.g., World of Warcraft⁵), users can tailor their experiences and interactions, which in turn influences team dynamics and outcomes. Although cooperative challenges in MMORPGs (e.g., WoW) may mirror those in the real world, the virtual context and technological mediation introduce unique differences. The researchers suggest a collaborative practice model encompassing technology, people, information, processes, and leadership to better understand and enhance virtual collaboration.

When studying MMO games, the link between player and avatar is crucial; here, avatars are a key tool (Banks et al., 2019). Avatars are often utilized by players to express

³ <https://www.roblox.com/>

⁴ <https://www.fortnite.com/>

⁵ <https://worldofwarcraft.blizzard.com/en-us/>

themselves in virtual worlds. The personal attributes and capacities of an avatar reflect what a player can achieve on multiple psychological levels. Avatars play a central role in discussions about identity, diversity, and inclusion within gaming contexts, as evidenced by debates surrounding gender, race, and identity in gaming cultures (Isbister, 2016 as referred in Banks et al., 2019).

Amato et al. (2012) discusses an experiment conducted as "artistic action research" at the "Futur en Seine festival" in Paris. In this experiment, the physical world and an online 3D space were linked via a communication device, enabling real-time interactions between people and 3D avatars from various online universes. A key feature of the "Inter Screen" installation was that it displayed real-time video streams of visitors within the 3D space of the Second Life platform, making them visible to its digital inhabitants. The project aimed to blur the lines between fiction and reality, challenging visitors' perceptions of digital and physical identities. It explored how interactions between avatars and people resembled a performative act, allowing both parties to reflect on their identities and the dualities of experiences mediated by screens.

Today, millions of people participate in virtual game worlds, many of whom communicate in English. This facilitates the recruitment of participants for my survey, as there are no geographical barriers and no restrictions based on the nationality of the respondents.

1.2 Research questions

The main goals and research questions of this thesis are as follows:

1. How have historical events shaped virtual worlds and metaverses, and what implications does this hold for the future of the experience economy?
2. How do users collaborate, interact and communicate within virtual worlds, and how do these interactions shape their experiences and behaviour?
3. How do individuals use virtual worlds to express themselves, and what impact does this have on identity formation and social dynamics?

Through answering these questions, I hope to further our understanding of the impact virtual worlds have on social aspects of interaction and communication.

1.3 Research method

To address the research questions, I will first outline the historical development related to the assignment to provide context for the digital world and metaverse.

Then, I have conducted 9 semi-structured interviews. The informants were chosen based on the gaming platform they represent. Their insights and experiences form the foundation for this thesis.

1.4 Thesis structure

This Thesis is constructed as such:

- Chapter 1: Introduction with background and motivation, research questions and delimitation.
- Chapter 2: Background with historic review and definition of the platforms explored
- Chapter 3: Theoretical framework and previous research
- Chapter 4: The study's reserachdesign and methods
- Chapter 5: Analysis and presentation of results
- Chapter 6: Discussion
- Chapter 7: Conclusion, summary and future work

2 Background and definitions

This chapter is divided into three different parts. The first part gives a definition of what is meant by virtual world. Then I go back in history to look at what historical and societal changes have made the virtual worlds what they are today, with the main focus being open platforms.

The open platforms I have chosen to go into in more detail are: Final Fantasy XIV⁶, World of Warcraft, Second life, Fortnite and Guild wars 2⁷. These games belongs to two main categories, MMO and MMORPG:

MMO is defined as massive multiplayer online, player interacts with a large number of other players. MMORPG, the RPG is a role playing game and the difference between MMO and MMORPG is that all MMORPGs are MMOs, but not all MMOs are MMORPGs.

One of the most famous MMORPGs is World of Warcraft. Players in these games often organize themselves into groups known as guilds, usually consisting of players who share common interests. Most MMORPGs are set in a fictional world. (Holm, 2022).

To understand what the future metaverse might look like, it is crucial to examine the evolution of various games. Throughout each developmental phase, games increase in complexity and interactivity. Some games are more engaging than others, serving as testing grounds for what keeps players engaged and active for extended periods. Elements such as goals, missions, and social interactions are pivotal and can serve as a foundation for the future metaverse, alongside advances in technology like graphics, 3D environments, and virtual reality. An understanding of the early development of gaming technology enables developers to anticipate future needs and seize emerging opportunities. Historically, games have facilitated social interaction and community building—elements that will also be central to the development of the metaverse. Games shape cultural dynamics, introducing unique languages, group identities, and social norms, all of which are crucial for the culturally rich and interactive metaverse of the future.

⁶ <https://www.finalfantasyxiv.com/>

⁷ <https://www.guildwars2.com/en/>

2.1 Historical development of gaming worlds

Virtual worlds and video games go back as far as the medium's history goes, with some of the earliest games developed having their own worlds to explore. Examples of this can be seen in old text adventures like Adventure, later renamed Colossal Cave Adventure⁸, which was released all the way back in 1975. It was designed and implemented by Will Crowther, based on the longest underground cave system in the world, Mammoth Cave in Kentucky. Later, the game was further developed into what we know today by Don Woods in 1977.

Adventure's success would lead to several successors and the founding of Sierra Online⁹ by Ken and Roberta Williams who had the idea to add graphics to visually convey the world of these games with Mystery house¹⁰ being the first example of an adventure game with graphical elements.



Figure 1 File:Colossal Cave Adventure on VT100 terminal.jpg. Wikimedia Commons.
https://en.wikipedia.org/wiki/File:Colossal_Cave_Adventure_on_VT100_terminal.jpg

⁸ <https://dosgames.com/game/colossal-cave-adventure/>

⁹ <https://www.sierragames.com/>

¹⁰ <https://boardgamegeek.com/boardgame/269537/mystery-house-adventures-in-a-box>

While video games, and virtual worlds were evolving both graphically and mechanically, role-playing games like Dungeons & Dragons ¹¹were also growing in popularity. With there being significant overlap in the users/players of both, it didn't take long for the rules of such Table-Top Role-Playing Games (TTRPG's) to be adapted to digital media. One of the earliest examples of this being Akalabeth: World of Doom ¹² developed by Richard Garriott and inspired by the worlds of J.R.R Tolkien and Dungeons & Dragons.

During the late 1970s and early 1980s, Roy Trubshaw and Richard Bartle (Bartle, 2016) at Essex University in the UK, created the very first multi-user-dungeon (MUD). The game was originally quite simple and consisted mainly of interconnected locations for player movement and interaction. The game was revised several times and around 1980 became a game with a complex database for game elements and a system that allowed live updating during the game. The popularity of MUD grew, as external players could connect via the ARPANet. Bartle developed several games using the MUD framework and can thus be said to be the pioneer of online gaming.

Here is an example of the text interface MUD from Bartle (2016):

```
Road opposite cottage.
You are standing on a badly paved road with a cemetery to the north and the
home of a grave-digger to the south. An inscription on the cemetery gates
reads, "RESTING PLACE OF LOST SOULS".
*s
Path.
You are standing on a path which leads off a road to the north, to a cottage
south of you. To the west and east are separate gardens.
*w
Flower garden.
You are in a well-kept garden. There is an unexpectedly sweet smell here and
you notice lots of flowers. To the east across a path there is more garden.
A curious herb gives off a sweet odour nearby.
*g herb
Wolfsbane taken.
*
```

As the popularity of these games spread a group of students at Massachusetts Institute of Technology would develop the game Zork¹³, inspired by the earlier mentioned *Adventure* in tribute to the *Dungeon* variant of *Zork*. MUD would spread across various university networks like ARPANet and JANET. This widespread adoption lead to many derivatives such as MIST¹⁴, Mirrorworld¹⁵, SHADES¹⁶, and others. The core concept of

¹¹ <https://dnd.wizards.com/>

¹² <https://online.oldgames.sk/play/apple2/akalabeth-world-of-doom/6039>

¹³ <https://www.lifewire.com/play-zork-online-for-free-1357975>

¹⁴ <https://mist.game/>

¹⁵ <https://www.mirrorworld.fun/>

¹⁶ <https://shadow.tech/fr-FR/game-store>

these all being the same, the digital dungeon crawlers, but with multiple users. The interface would usually be text based, using natural language.

Later developments on MUD's would increase the amount of users, eventually becoming what we today call MMORPG and later *Neverwinter Nights*¹⁷ by Dan Daglow and Cathryn Mataga, would be the first graphical MMORPG when it released in 1991 the term MMORPG would only be coined in 1997, when Richard Garriot used it to refer to the then newest instalment in the Ultima franchise, that being *Ultima Online*¹⁸, which alongside *Everquest* and *Asheron's Call* are often called the Big Three of early MMORPG's.

A brief summary of the evolution of the MMO/MMORPG:

The modern MMO can be traced back to the late 1970s and early 1980s, originating from the text-based MUDs. "Everquest," released in the 1990s, was one of the first modern MMORPGs. "World of Warcraft" later brought MMORPGs to the mainstream audience. In the 2000s, MMORPGs underwent significant technological advancements with the development of the internet, complex graphics, multiple game worlds, and support for numerous players online simultaneously. During this period, the free-to-play model gained popularity in Asia, which later spread worldwide. In the 2010s, games like "Guild Wars 2" introduced dynamic event systems. This era also saw the rise of cross-platform play. The development of MMOs and MMORPGs continues today with improvements in virtual reality and expansions into not only traditional fantasy settings but also sci-fi, superhero-themed, and various hybrid genres.

2.2 Virtual world

A world can mean many things, with movies and radio shows having their own internal world and logic. In this thesis I have chosen to focus on interacting within the world, and I am thus focusing on the virtual worlds of video games and similar platforms.

The concept of virtual worlds has received considerable attention in both academic and practical spheres, evolving into complex digital environments where human interaction is replicated through avatars.

The most commonly used definition of virtual world (Bell, 2008) is:

"A synchronous, persistent network of people, represented as avatars, facilitated by networked computers.»

By this, Bell means that joint activities require synchronous communication. The virtual world does not pause even if a user leaves it; it continues to exist with all other members. This changes the way people interact; you are part of a dynamic society and can interact with each other or the environment. Avatars in the virtual world (textual or graphical) perform actions commanded by users. These avatars act as user-controlled puppets. In virtual worlds, networked computers monitor conversations, social

¹⁷¹⁷ https://www.gog.com/en/game/neverwinter_nights_enhanced_edition_pack

¹⁸ <https://uo.com/>

connections, and networks of people, enabling communication across national and geographic boundaries.

Girvan (2018) introduce a new framework for understanding what constitutes a virtual world, emphasizing user experience and technical aspects. A virtual world must support multiple users logging on simultaneously and sharing space. Communication tools are essential in virtual worlds, as they facilitate interactions among users. These tools can include uploading images, symbols, or designing parts of the space. Through these communication tools, we build a common understanding of the world in which we, through our avatars, reside. A virtual world can be defined as shared, simulated spaces that are inhabited and shaped by their residents, represented as avatars. We see both our own and others' avatars and how they interact. The more realistic the actions, the more they resemble interactions between people in the physical world, in accordance to Yee et al. 2007 as referred in Girvan (2018).

2.3 Platforms focused on in this thesis

The five platforms of virtual worlds I have selected for the research need a more detailed description. These have been selected to show the diversity of games that can be said to be good examples of the future development of the metaverse.

2.3.1 Final Fantasy XIV



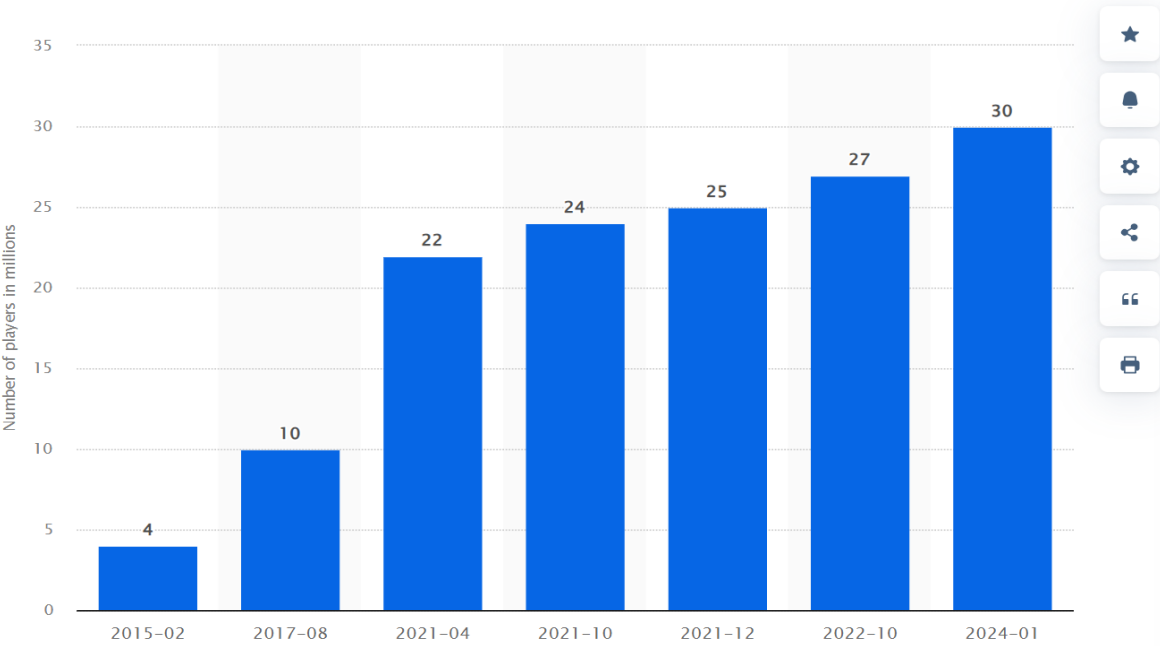
(screenshot by me)

Final Fantasy XIV was launched on September 30, 2010, and was Square Enix's second MMORPG after Final Fantasy XI. Despite the brand's success, FFXIV lasted only about two years before being shut down due to poor reception at its initial launch. This negative reception, tied to a mainline game in such a prestigious series, led Square Enix to

attempt to fix and eventually relaunch the game under the name Final Fantasy XIV: A Realm Reborn in August 2013. This version of the game received a far better reception and has since been followed by four more expansions, with the game still in development today.

Gameplay-wise, FFXIV draws significant inspiration from its contemporaries, chiefly World of Warcraft, which was cited as a source of inspiration during the process of fixing and relaunching the game. It uses a TAB-targeting combat system and features a mostly linear story, with the player assuming the role of a fully customizable character. As of the writing of this article, there are 20 playable classes/jobs, with two more announced for the next expansion scheduled to be released in the summer of 2024. Unlike many similar MMORPGs, the player can freely switch between these classes/jobs without having to create a new character.

As the table below illustrates, the usage of this platform has increased annually. As of January 2024, it had 30 million users and are one of the biggest MMORPG platform in the world.



Details: Worldwide; Square Enix; February 2015 to January 2024

© Statista 2024

Figure 2 Statista, 2024

2.3.2 World of Warcraft



(Screenshot by interview subject 2)

Perhaps the biggest name in the MMORPG genre, World of Warcraft has been defining for the genre, and gaming as a whole, since its launch in 2004. It quickly achieved major critical and commercial success, becoming one of the most popular MMORPGs of all time. Since then, the game has received 9 major expansions, with 3 more announced in 2023. The game's popularity peaked in 2010, amassing over 12 million subscribers, though its popularity has since waned somewhat, with less clear numbers due to different measuring methods employed by Blizzard. The game also relaunched its original version in 2019 under the name World of Warcraft Classic, running in parallel with the base game.

Similar to other games in the genre, players take on the role of a custom character, choosing from a wide selection of races and classes, with some classes being restricted to certain races, and races being tied to one of the game's two factions, either Horde or Alliance. This rivalry between the player factions is the cause behind much of the events of the game and its expansions, with other external threats also playing a significant role, such as the undead Scourge or the demonic Burning Legion. Players also have a choice between several types of realms, or in other words, different types of servers:

- Normal realms, which focus on defeating monsters and completing quests.
- PvP realms, which still feature monsters and quests but have an increased focus on Player vs Player interactions.
- RP or Roleplay realms, which are either normal or PvP servers but with a focus on roleplaying the setting and characters that players assume.

2.3.3 Guild wars 2

Guild Wars 2, launched in August 2012, is another popular MMORPG. The game is a sequel to the original Guild Wars and, as such, continues the story from that game. Unlike many of its contemporaries, Guild Wars 2 does not require a subscription to play and offers a less linear experience in terms of power progression compared to games like FFXIV or WoW. This, combined with a focus on branching stories that react to player decisions, has led to very positive reception and the game remains one of the more popular games in the genre to this day. Like many other MMORPGs, Guild Wars 2 features a fully customizable player character, with the ability to make choices in the story that have tangible effects. This is in addition to the Living World system, introduced in 2013, which features a constantly evolving and changing story for the player to participate in, with certain parts of the world changing and becoming available or unavailable as the story evolves in real time.

2.3.4 Second life

Second Life, released in 2003, is an online virtual world where players can create a custom avatar to represent themselves as they explore the world of Second Life and the myriad of user-generated content that has been developed over the platform's long history. Being more of a platform for user-generated content, Second Life offers little in the way of objectives or goals for players to pursue. Instead, the focus is on user-generated experiences in the form of locations, clothing, and other items. The game allows players to purchase assets made by other players, such as clothes, houses, or even plots of land, featuring a robust economy from which some players have managed to earn money, although these players are in the minority. This cooperative setting means that Second Life is, in many ways, an early example of a metaverse, a term that has recently become popular for describing an online world or platform that allows users to develop, sell, and purchase assets and other digital content. Second Life predates most other such platforms by almost two decades and has long fostered a dedicated player base, proving the viability of such platforms for many, but for others, the small scale of the community isn't encouraging for larger-scale adoption. (Chandra & Leenders, 2012)

2.3.5 Fortnite

Fortnite, originally launched by Epic Games in 2017, has quickly risen to extreme prominence and success, particularly due to its 'battle royale' game mode, which has been chiefly responsible for the game's skyrocketing popularity. At its core, Fortnite is a third-person shooter with crafting and building elements. Players can build structures using in-game resources, primarily for the purpose of defending themselves from other players and enemies, but also for more creative purposes. Fortnite is still in active development and has had numerous crossovers with other IPs, including DC and LEGO. The latter introduced a new game mode in the form of LEGO Fortnite. Common to all

game modes is that they take place in a consistent world, one that in the battle royale mode is reset between each round of the game.

2.4 Virtual world, metaverse and video games

Galanina and Akchelov's study (Akchelov & Galanina, 2016) provides a comprehensive definition and philosophical examination of virtual worlds in games after reviewing 44 peer-review articles. Virtual worlds in video games are cultural constructions that influence behavior and social interactions in real life. The study presents the idea that these worlds are not just technological constructions, but are deeply embedded in cultural, social, and philosophical contexts. This article highlights the complexity of defining and studying virtual worlds and suggests that they are an integral part of modern digital culture, influencing how individuals perceive and interact with their reality.

Bartle (2016) uses the word virtual world as a term covering game worlds (MMOs):

«A world in this context is a self-contained environment, the inhabitants of which treat as if it were whole. It's that notion of self-containment-that the environment is set apart from other environments-that rules out the word "environment" itself.»

Just as in the social world, game worlds have a long and rich history. For game developers, this is a lucrative business, and they rely on players to maintain their presence and engage with the games. This understanding serves as a precursor to designing the metaverse. How games foster a sense of connection, enrich gaming experiences with others, and how gaming culture has evolved are aspects that the metaverse must replicate to be successful. (Evans et al., 2022, p. 33).

"The term metaverse was initially coined by the science fiction writer Neal Stephenson in his 1992 book *Snow Crash* to refer to a computer-generated universe (Stephenson, 1992) – a massive collective virtual environment that simulates the physical world, where users can get together to play games, socialize, and work." (Polyviou & Pappas, 2023).

The game's microworld closely resembles a form of the metaverse; they are active spaces where augmented individuals interact in a digital environment. One of the goals of the metaverse is to capture the attractive and successful aspects of gaming environments and transfer these to a digital lifeworld. (Evans et al., 2022, p. 34).

There are many types of games, and which ones will help shape the metaverse depends on their design and interaction. Good examples of such games include MMORPGs like *World of Warcraft* and *Fortnite*. These are small microverses where players spend a lot of time collaborating towards specific goals and interacting with each other. The player is not just a player, but also contributes to creating the game while playing. (Evans et al. 2022, p. 36). The metaverse must, in the same way as the games, feel real and engaging. E.g. in *Wow* or *Fortnite* where the movements you make correspond to real reality.

"To play a videogame is not simply to act in a virtual world but is to incorporate technologies and audio, visual and haptic feedback that extend, restrict and ultimately augment the player's embodied experience into complex assemblages of capacities and processes" (Ash, 2013, p. 34).

Another important aspect of being able to develop a metaverse is being able to create user-generated content. Ex. from Roblox and Minecraft where users generate content that is then commercialized by the platform itself. (Evans et al., 2022, p. 46)

In Smith's article (Smith, 2020) Digitally evolved: how MMO's demonstrate the advancement of communities in virtual space, the author wants to prove that MMO's are representative communities in online space. He defines community as a constructed group of people who share the same interests and goals. The players in this community have a set of rules and rituals. One of the most fundamental characteristics of virtual worlds is that new technologies have removed the need for proximity (Delanty, 2009 as referred in Smith 2020). "MMO's are a prime example as they are social activities by design and thus require communication to operate" (Frostling-Henningsson, 2015 as referred in Smith 2022).

The use of avatars and screen-names or In Game Names (IGN) in MMOs allows players to construct new identities by using aspects of their personalities, something that adds to the authenticity of the online community. MMOs also represent third spaces where people can come together across vast distances across the globe to interact and communicate. The often weak bonds of communication in MMOs are not only necessary for the functions of the platform, but is also strengthened through gaining new connections. They are not replacements, but symbiotic with local communities, both being necessary in order to create good communities. In the future the virtual communities, and communities in general, will both look closer to the cooperation present in MMOs.

Koster's (2023) article "From Online World to Metaverse" examines the evolution of virtual worlds and their transition into what is currently known as the metaverse. The metaverse has origins in science fiction and the early virtual environments of MUDs and MMOs, which introduced features such as avatars, persistent environments, and virtual economies. These early virtual worlds emulated physical spaces and introduced the concept of digital avatars.

Today, the metaverse is shaped by fictional portrayals and technological advancements, such as virtual reality (VR) and augmented reality (AR), blending virtual realities with elements from the real world. However, the idea of a unified metaverse faces several challenges, including privacy concerns, platform fragmentation, and the distinction between digital and physical realities.

AR technology transforms virtual spaces into real-world landscapes, impacting both real-world activities and gaming. This technology blurs the boundaries between digital and physical realities. Additionally, the economic interactions between virtual and real-world markets are intensifying, with avatars and digital objects having real-world legal implications.

The future metaverse could integrate actual locations into the virtual world alongside traditional gaming elements. This integration raises questions about its effects on behavior and society in the real world. With its novel technologies and focus on entertainment innovation, the metaverse presents significant research opportunities. Key areas of interest include governance of virtual worlds, studies on virtual economies, social interactions, and issues surrounding digital identity.

(Bartle, 2014) explores the historical and technical evolution of virtual environments, focusing on their design and the representation of "space." It traces the progression from early text-based environments to today's complex, multidimensional spaces utilized by

millions. Virtual worlds are more than just games or simulations; they are places where people engage through virtual personas. These environments are sustained by computers and exist within the human imagination.

The journey began with MUD (Multi-User Dungeon) in 1978, where Bartle observed the transition from text-based interfaces to graphical ones, including ASCII, 2 1/2D, and 3D worlds. Each of these presented distinct design challenges and opportunities.

The design of virtual worlds is heavily influenced by their technological foundations. Early text-based worlds permitted imaginative, albeit unlimited, spatial representations, which later evolved into visually constrained but graphically richer environments in graphical virtual worlds. Designers strive to make these virtual environments so realistic that they are believable to users. Bartle discusses the concepts of "shards" (parallel worlds each running on the same static template) and "zones" (specific areas on a server), explaining how these structures help manage player load and content interaction, ensuring a smooth and scalable user experience. Bartle suggests that virtual worlds could benefit from revisiting the old, node-based structures of their textual predecessors while incorporating modern techniques such as sharding and instancing to offer more dynamic and personalized gaming experiences.

The development of virtual worlds reflects broader shifts in computer technology, user expectations, and theoretical approaches to game design and social interaction. Bartle argues that understanding these transformations can assist future designers in creating more engaging and immersive virtual experiences.

Of note in that regard is the virtual world of Second Life and how it has opened new possibilities in the areas of expressing intimacy through its avatar-based presence. This embodied presence in virtual world is going to be a key feature for expressing intimacy in metaverses. Relationships formed in Second Life and maintained on the platform were seen as just as real, possibly even more so, than those formed outside of the virtual world, despite the partners never meeting.

3 Theoretical framework and previous research

This chapter will focus on previous research on interaction, communication and expression within the context of MMOs and MMORPGs.

3.1 Symbolic Interaction theory

In this project, I have utilized symbolic interactionism as a theoretical approach to understand digital interactions among MMO players. Symbolic interactionism, based on the theory of pragmatism, addresses how individuals act through symbols, language, knowledge, and thought (Aakvaag, 2008, p. 65).

"Symbolic interactionism is a way of understanding, a perspective, and a starting point for analyzing social reality." This approach includes two partly separate phenomena: one as the theoretical perspective on how societies and their groups can be analyzed, and the other as a specialized social-psychological theory about the socialization process,

detailing how people become increasingly social and learn to behave in various situations (Levin & Trost, p. 10).

In MMO games, players have the opportunity to create and express various identities through their virtual avatars and interactions with other players. Players often belong to different gaming communities and groups, such as guilds or clans. Through symbolic interactionism, I will explore how these digital communities are formed, maintained, and how they influence players' sense of belonging. Players use a variety of symbolic expressions, such as chat, emojis, and in-game actions, to communicate and express themselves. Studies within this framework can help understand how players use these symbols to convey emotions, intentions, and social norms, and examine player interactions, the formation of alliances, conflict resolution, and the establishment of hierarchies within the gaming environment.

Prominent theorists such as George Herbert Mead, Erving Goffman, and Herbert Blumer are closely associated with this approach. Their theories are significantly influenced by how actors understand and act in the social world.

Herbert Blumer (1900-1987), an American sociologist and student of Mead, is considered the founder of symbolic interactionism. He argued that human action is based on the interpretation and understanding of the situation, not just external stimuli or objective realities. He believed that people continuously negotiate and redefine the meaning of symbols based on their experiences and interactions in society. Symbols such as words, images, or actions are not mere objects but carriers of meaning, interpreted and understood by individuals in social contexts. Blumer also discussed how individuals develop self-awareness through language and linguistically mediated interaction, discovering themselves through interaction with others (Aakvaag, 2008., p. 67).

Blumer's theory explains how MMO players use avatars in their communication. The avatar becomes a symbolic object that players use to represent themselves in the game. The appearance, clothing, and actions of the avatar become symbolic signals conveying the player's identity and intentions to others. These interactions shape players' perceptions of themselves and each other, establishing social norms and roles within the gaming environment. Blumer argues that people shape their self-concept through interaction with others and the interpretation of symbolic signals. In an MMO, avatars' appearances and actions can influence players' self-concepts by affecting how they perceive themselves and how others perceive them in the game. Blumer also emphasizes the dynamic nature of symbolic interaction, where avatars' appearances, actions, and relationships continuously change in response to players' actions and the social context. This makes avatars complex symbolic objects that are constantly evolving and can be interpreted in various ways by different players.

Erving Goffman (1922-1982), a prominent Canadian-American sociologist, played a significant role in the development of modern American sociology. He viewed social life through an interactionist lens, asserting that the self and society are created and recreated through interactions. In his book "The Presentation of Self in Everyday Life" (1959), known as "Vårt rollespill til daglig" in Norwegian (Goffmann, 1992), Goffman outlined his dramaturgical approach (Aakvaag, 2008., p. 75). In this approach, people are actors who perform their carefully constructed roles to maintain a facade. He suggests that we all monitor those we meet and are skilled in the art of impression management. When individuals interact, they aim to present a certain self-image that will be accepted by others. There is a significant chance that the audience may disrupt

the actor's performance, leading the actor to use techniques to maintain certain impressions in the face of challenges, a process called "impression management" (Aakvaag, p. 75).

Today, online communication has become a dominant mode of social interaction, with the internet blurring the distinction between front stage and backstage, prompting questions about the location of the backstage. When someone mistakenly sends a wrong message or comment intended for another recipient, it can threaten the performance. It is crucial to understand that the backstage is the place where individuals prepare for their performance, whether face-to-face or online, embodying a certain identity they wish to present to the audience. The core element of the dramaturgical approach is the creation of the self through social interactions. Thus, whether in face-to-face or online interactions, the dramaturgical approach is incredibly useful for understanding how individual identities are created and recreated through social interactions.

Goffman's theory provides a framework for explaining interactions in MMO games, portraying the interaction as a theatrical play. The stage is the virtual world of the game, inhabited by characters such as monsters, wizards, or warriors, depending on the game's setting. Players, like actors, adapt their roles, communicating and interacting with others based on the role they have adopted. The other MMO players constitute the audience, observing and reacting to each other's actions as in a theatrical play. Goffman introduces the concepts of "front stage" and "back stage" to describe the public and private aspects of human interaction, respectively, where "back stage" is the hidden area where actors prepare before going on stage. In MMO games, a player may have a "back stage" where they can explore the game without being seen by others, such as when they are testing new strategies or exploring new areas alone, or when they communicate with others outside the game in chat groups or other discussion forums. According to Goffman, people play different roles depending on the social situation they are in. Similarly, the avatar in an MMO game can be seen as a role that the player adopts. The player can choose to adopt different personalities, characteristics, and actions through their avatar, depending on the social context of the game. Central to Goffman's perspective is the idea that individuals are actively engaged in shaping and managing their own image in society. This involves choosing what to reveal or hide about oneself, as well as manipulating others' perceptions through language, body language, and other forms of symbolic interaction. "The role of expression is to give an impression of the self" (Goffman, 1992).

3.2 Related work to Goffman's symbolic interactionism

Human interaction on the internet has significantly increased, with over five billion users being social on various networking platforms. The article (Yazidi & Amrani, 2023) explores whether Erving Goffman's dramaturgical analysis can illuminate the nuances of social interactions. His framework views social interaction as a theatrical performance. The transition from physical to digital interaction does not diminish Goffman's theories; rather, the digital can be seen as a new medium through which interaction occurs. Digital platforms expand the stage of everyday life, allowing for a broader audience reach and more nuanced self-presentation. The concepts of "front stage" and "back stage"—public

versus private personas—become even more dynamic online, where the management of digital impressions can be meticulously controlled.

The article discusses what Goffman claims is a fundamental social interaction, the need for self-presentation and recognition. This is intensified as users navigate across different platforms, challenging traditional notions of a fixed self and being shaped by social interactions.

Adapting Goffman's theory to the digital realm presents some challenges, particularly in understanding how digital platforms affect self-perception and social behavior. Nevertheless, the authors argue that the core principles of Goffman's work, such as the importance of symbols, the role of the audience, and the management of impressions, remain relevant. The digital stage offers new tools and strategies for impression management, necessitating a reevaluation of how social presence is constructed and perceived.

The authors conclude that despite the evolution of interaction platforms, the fundamental human behaviors and social strategies outlined by Goffman still apply. The digital world, despite its complexity, continues to mirror the basic human needs to interact, perform and present a curated self to both familiar audiences and strangers. This exploration effectively highlights the enduring relevance of Goffman's insights into the intricacies of social life, which are now manifest on the vast stage of the digital world.

This table designed by EL Yazidi et al. (2022), is designed to apply Goffman's theory to social life, the internet, and social networking sites.

Theatre	Daily life	The internet and SNS
The show	Flow of interaction (social interaction in reality)	The flow of digital interaction
The played character	Social character	The character used on the Internet and SNS
The actor	Individual	Individual (Internet user)
The role	Appearance and behavior in reality	he method of interaction digitally (expression via posts, photos, comments...)
The audience (the cast /acting team)	Social Interaction Parties: interlocutors or observers of an individual during social interaction in daily life.	The user's network on the Internet and various social networking sites: The network of friends or people who monitor/observe an individual during a digital social interaction.
The stage: The actor engages in the characterization of the role when the curtain is raised to mark the beginning of the scene in which the actor's behavior is formed based on the expectations of the	The individual acts consciously or unconsciously according to what is expected of him in the context and the social situation in which he is present with other individuals. The behavior usually takes various forms of	The user presents himself digitally in the form of a show/performance of the various components of the identity, which leads to the construction of the digital identity of the user, which can change according to each site.

viewing audience and the preparation of the character he plays.	daily interaction based on cultural and societal norms such as exchanging greetings and compliments about weekends, waiting in line to enter a store, or boarding the bus.	
Backstage: The actor gets out of the character he plays when he returns to the dressing room or the resting place, where he acts as himself unrestrained by the character he plays in the show. It is an opportunity to evaluate the performance and prepare for reappearing on stage.	Contrary to public places, people interact more comfortably in their homes and private places, where one does not act formally with members of one's family, as is the case at work or in any other social context that calls for some kind of preparation and acting. Private spaces also allow individuals to prepare for re-emergence in everyday public life and the different contexts and behaviors that it requires	When the individual evaluates and directs his actions and behaviors based on what has happened or will happen, that is, modifying the behavior and showing or hiding personality traits, and then the roles in an interactive process between appearance and disguise (online and offline) and the response of the user's network. The user is not always aware of the evaluation and preparation process.

Also in this research (Joshi, 2022), Goffman's theories have also been examined and found relevant for virtual worlds, as they provide insights into how identities are shaped and perceived in digital interactions. The author questions whether the boundary between frontstage and backstage is unclear, and where backstage really is in the digital age. Overall, Goffman's contributions to sociology revolve around understanding how everyday human interactions are framed and conducted, providing a comprehensive lens through which to view the intricate dance of social life.

This approach highlights the balance of social interactions, likening life to a theater with both a front stage and a back stage, where individuals perform their roles. Goffman's work, therefore, continues to be relevant for understanding daily social interactions, both in physical and online environments.

3.3 Social dynamics in the virtual worlds, cooperation and interaction

Milik (2017) introduces a new and methodological concept, persona, which can be used to observe interactions in the virtual world. Milik argues that previous studies of games have either focused on questions of the players' psychological or economic nature, or on in-game characters as social interactions and cultural aspects. Distinguishing between these research approaches becomes limiting when discussing online interactions today. The persona tool can be used to analyze social interaction that lies between the character and the player, instead of treating them separately. In virtual worlds, players often have multiple avatars or characters. This complexity is recognized by the persona framework, which thereby offers a means to study the integration and management of various identities by the user. Milik also uses Goffman's dramaturgical framework, where the

front stage is character-driven interactions, while the back stage is player-driven interactions. On one hand, there is the character—a front stage construction, an identity that can be shared with others and changed. At the same time, it is the player who is sitting in their chair playing the game. The purpose of Milik's project is to present the "Meta Stage," where the persona is the social entity that encompasses the actions of both the character and the player. Researchers can observe how personal background and social behavior can influence decisions and interactions in the game, providing insights into how players choose to present themselves.

Schultze & Brooks (2018) investigates in this article how the participants feel a social presence in virtual worlds, and their environments, both emotionally and psychologically. How is this social presence achieved in virtual environments? The analysis describes two examples of social interaction in Second Life. The authors further claim that social presence should be seen as a dynamic effort that is achieved collectively. For this purpose the article develops a new conceptualisation of how the participants generate the feeling of each other being present. Characterising the development of this sense as an effort that involves the interactants common construction of each other as *real*. When we then look at social presence as conditional of social praxis, we only need to answer the following research question: "How is social presence achieved in virtual environments?" to explain how virtual others are recognized as being socially present, or in other words, emotionally and psychologically *real* for someone who cooperates with them, pulling from Goffmans work, especially his terms on involvement and involvement duty. The analysis describes two examples of social interaction in the virtual world of Second Life, and emphasises the key role that this moral duty, which is inherent to daily social interactions, plays in making virtual others feel *real*. By constructing a model for how our feelings of a virtual other is seen as *real* is achieved through social interactions, the article contributes to our understanding of the material and sociological circumstances that are needed in order to make someone recognize a virtual other as present.

The study by Wadley et al. (2014) investigates how the introduction of voice communication has transformed the user experience in MMOs and virtual worlds. The study examines several aspects of this transformation, focusing on functionality, social dynamics, and the integration of voice chat across different gaming environments. The research includes five detailed case studies:

Xbox Live (XBL): This case explores the early implementation of voice chat in XBL and its social impact, particularly highlighting issues such as the prevalence of verbal abuse and noise.

Voice in MMORPGs: With a focus on games like World of Warcraft, this case examines how voice chat supports complex team strategies and enhances social interactions.

Spatial Voice Chat in a Team Shooter Game: This case shows how spatial voice chat can improve teamwork and make in-game communication more intuitive.

Voice in the Social World (Second Life): This case investigates the integration of voice chat in Second Life, shedding light on the community's resistance due to concerns over privacy, identity exposure, and the disruption of text-based role-playing.

DayZ: This study focuses on the game DayZ, where spatial voice chat introduces unique social dynamics and moral dilemmas that significantly influence player behavior and interactions.

Wadley et al. conclude that voice chat can enhance the social and collaborative aspects of gaming. However, it also presents challenges in managing player behavior and preserving anonymity. The research suggests that the design and implementation of voice communication in virtual environments must carefully consider these dynamics to effectively improve the user experience.

3.3.1 Community & Guilds

Guilds have been a concept, almost for as long as virtual worlds have supported multiple players. The concept has since then become an integral part of many MMORPGs, and expanded beyond that into other genres. The idea is a simple one, being a group of likeminded players/users that have gathered together for common interests. This could be a group dedicated to doing harder content, or a group of people coming together for social gatherings and activities. The size of guilds also vary massively, from a few tight knit friends, to larger groups consisting of tens, if not hundreds of people. Often guilds are an in-built feature of many platforms, featured prominently in both World of Warcraft, being the namesake of Guild Wars, and being present under the name Free Company in Final Fantasy XIV. Even in other games/platform the concept exists as the looser term of Clans.

For most platforms, Guilds serve as one of the social cornerstones, being some of the closer social circles for many players, as such they've taken centre stage for many activities, the concept of a raiding guild being one that quickly appeared to handle the increased difficulty. As the concept of what a community for a virtual platform evolves, guilds have in some ways fallen a bit to the wayside. Early MMORPGs and social hangout platforms were defined by the ability to interact and socialize in these virtual worlds. As external platforms and social media platforms have become widespread in use, the need for a network inside the virtual worlds has lessened somewhat. Perhaps the best example of this is how platforms like discord have created external spaces for many of the same groups that would use guilds in the past. Communication and organizing activities is often made easier through the easier access to these social platforms. For this reason the focus on guilds has lessened over the years, though they're still quite prominent in most virtual worlds.

Guilds and community can be identified as group and people who identify themselves together around ideals and rules. (Smith, 2020)

"Players create guilds and enroll other players as members, while the use of avatars and the virtual and fictional environments in MMORPG guilds are the features which attract our interest. Unlike other online communities" (Fu & Lu, 2020)

This study examines the social dynamic effect of social influence on members' engagement behavior in MMORPG guilds. The guilds are targeted communities where members interact with each other in a fictional, virtual world. In this environment, commitment behavior is of crucial importance for members' continuous participation. The players' social identities in the guilds affect their involvement in the games. In the

games, the guilds are like societies with social norms and personal responsibility, where you help each other and the group you belong to.

Kendall, 2011 (as referenced by Smith, 2020) means that virtual communication is based on authentic personality traits even if the players are hidden behind screen names and avatars. This means that physical characteristics such as gender and race are still important, as well as opinions attached to these characteristics.

Gui (2018) explores the dynamics of players in WoW who are members of a specific forum called "The Darkening Grove Tavern." Using interviews as a method, interactions and expressions among the players of this community were analyzed. The players belonging to the group felt emotionally secure due to shared norms and rules. The players positively influenced each other, creating positive interactions. This mode of collaboration (shared storytelling) creates strong bonds between players. Forums like this are an extension of the game world and social spaces where players can explore identity in a safe and supportive environment. Such platforms are important for further studying community and dynamics in virtual worlds.

3.4 Identity, expression and presentation in virtual worlds

Both in game worlds and in the metaverse, it will be important to know how the avatar allows us to express ourselves.

Fokides (2021) investigates the relationship between avatars in virtual 3D environments and their creators' personality traits, gender, and characteristics. The study involved 268 university students who created avatars and completed a questionnaire about their self-attributes and personality traits using the International Personality Item Pool.

The findings suggest that avatars often represent "better" versions of their creators. Female participants typically created avatars with enhanced intellectual abilities, while male participants emphasized athletic and attractive qualities.

Personality traits significantly influenced the avatars created. For example, extroverts often designed avatars that showcased exaggerated athletic abilities, aligning with their social and energetic personalities. This tendency underscores the use of avatars as a medium for emphasizing certain desirable traits.

Overall, avatars serve as a form of self-presentation, capable of reflecting, enhancing, or altering the creator's perceived self-attributes, driven by personal and social motivations.

The study by Fong & Mar (2014) focuses on how avatars used in online environments can reflect the personalities of their creators and influence social interactions. Avatars can communicate certain personality traits of their creators, such as extraversion, agreeableness, and neuroticism. The signals conveyed through an avatar and how these are perceived by others are crucial; avatars can reflect distinctive personality profiles. Avatars perceived as female may lead to higher attributions of agreeableness and emotional stability, due to gender stereotypes. Furthermore, the researchers believe that avatars are a digital representation that can convey complex personal information. The way these are designed and perceived can significantly affect people's evaluations and

interactions in virtual spaces. The study contributes to understanding the dynamics of online identity expression and its implications for social interactions within virtual communities.

The research supports the view that avatars are a valuable digital representation that can convey complex personal information. The design and perception of avatars significantly influence interpersonal evaluations and interactions in virtual spaces. This highlights the potential of avatars as tools for both self-expression and social interaction in digital environments. Additionally, avatars also play a role in forming social connections.

Weigel & Rudnick (2023) explore identity in role-playing. They interviewed 11 participants from role-playing game communities. The interviews revealed that role-playing can serve as a tool for exploring identity. In the spaces provided by these role-playing environments, players feel safe and free from the pressures typical of social settings. Games such as Dungeons and Dragons allow players to explore their identities through their chosen characters, which helps them navigate the real world. "... video games give their players a greater freedom to create idealized versions of themselves, and to explore identities they may not be comfortable expressing in "real" spaces".

The study refers to "safe spaces," areas where players can engage without fear of harm, facilitated by the game's rules and mutual respect. This environment allows for the exploration of sensitive topics with the support of other players.

The article also explores the community aspect of these games, characterized by shared language and rituals. This sense of community fosters a collective identity and culture, enhancing communication within the group. The researchers emphasize that studying these types of games can be a powerful means for both identity exploration and community building. These communities significantly impact the real-world effects of the virtual experiences provided by role-playing games.

4 Method

In this chapter, I describe the methodological decisions I have made and the reflections that have guided me throughout the process. First, I present the methodological approach and provide justification for the selected method. Next, I will present the type of interviews I chose for the research, how I recruited participants, conducted the interviews, and collected data. I opted for semi-structured interviews to address the research questions. These interviews were conducted from January to Mai 2024. The data, which will be presented later in the thesis, is based on the participants' thoughts, opinions, experiences, cooperation and interaction in virtual worlds.

4.1 Choice of method

Method, which comes from the Greek word *methodos* means: *to follow a path towards a goal*. The social scientific method is thus how to proceed with acquiring data on the social reality, how such data is to be analysed, and what it can tell us about social relations and processes. (Johannessen & Tufte, 2021).

In this thesis I have chosen a qualitative research method using interviews. Quantitative research focuses on numbers and statistics and if I had opted for this method, it would have required gathering a larger number of participants through a survey distributed via various channels, such as online or email. However, since I aim to explore the depth of the phenomenon, the qualitative approach was the natural choice. Using a quantitative method would have yielded more and representative data. In this master's thesis, I want to find out more about how people interact in virtual worlds. The purpose of the study is to find out how people communicate, interact and represent themselves.

I'm looking for a subjective experience of the phenomena, and I'll look into how the informants experience it. Through a qualitative method I seek to identify how the social (society in a broader understanding) is created through action, interaction and the formation of opinions. (Tjora, 2017, s. 29). To accomplish this I'll make use of the phenomenological method, as the goal is to provide a precise description of the informants perspective, experiences and understanding. (Johannessen & Tufte, 2021).

Finding relevant subject matter material for a study revolves around finding relevant literature. There are three basic search methods: chain searches, systemic searches, and deliberately random searches. (Rienecker, 2013). There were a number of articles here that I could use. I started with a systemic search literature search and limited the answers by year to after 2020. This limit was too strict, and I thus had to expand the range considerably. For the first round of searching I picked a few keywords from topics which I considered to be relevant. I started the search using *Google Scholar* and found a couple of relevant articles. After that I checked the references in the scholarly articles could thus add more relevant keywords and articles, thus chain searches became important as I could go deeper into the articles through their references while looking for further topics. In this way I found references both to other articles and to relevant professional journals. I gained access to several of the professional journals via NTNU's oria search. In Oria, I could also search for relevant search terms and in this way gain access to literature that I needed for the assignment. I also used articles from Polyviou & Pappas (2023), they had done a literature review in the context of the metaverse.

4.1.1 Qualitative research method

Based on the problem and research questions, a qualitative method employing semi-structured interviews was selected for this assignment. According to Brinkmann & Tangaard (2012, p. 12), qualitative methods are defined as research methodologies developed to understand human experiences, experiential processes, and social life. They aim to gain insights into specific individuals and social processes, including how people think, act, feel, learn, and develop. The most widespread data generation method for qualitative research is various forms of interview (Tjora, 2017).

Qualitative interviews are well suited if looking for extensive and detailed descriptions of the informants understanding, feelings, perceptions, opinions, attitudes, and experiences of a phenomenon. (Johannessen & Tufte, 2021).

In an interview survey, it is possible to explore individuals' experiences, situations, or phenomena. The number of participants should be determined by the scope of the project, and a general rule is to not have too many participants but rather to conduct a

thorough analysis of those who have been interviewed. (Brinkmann & Tangaard, 2012, p. 21)

4.1.1.1 *Semi-structured interview*

A semi-structured interview is employed to explore daily life topics from the interviewees' perspective. It's neither fully open-ended nor strictly structured like a questionnaire. The aim is to grasp the essence of the central theme by delving into interviewees' thoughts, feelings, and expressions. Interviewers should be inquisitive and responsive, aiming to uncover dimensions crucial to the investigation. These interviews vary depending on the individuals involved. Establishing a positive rapport and fostering interaction are pivotal for a successful interview. While semi-structured interviews follow predefined topics and questions, they allow flexibility to explore beyond the set guide. Interviewers can pose additional questions to clarify or delve deeper into emerging themes. Participants are encouraged to elaborate on relevant topics, enhancing the conversational nature of the interview. Conducting multiple interviews based on the same guide may yield different outcomes, contributing to a comprehensive understanding of the research subject. Unstructured interviews, on the other hand, give participants the freedom to discuss a topic of their choice. Interviewers play a minimal role, allowing participants to steer the conversation in any direction they desire. These interviews offer participants autonomy in shaping the dialogue. (Kvale, 2015)

In this study I've performed 8 semi-structured interviews, or in-depth interviews as they are also called. The goal of in-depth interviews is to create a relatively free conversation which revolves around a couple specific topics. In the interviews there are open questions meant to give the participant the opportunity to go in-depth where they might have a lot to tell. In such interviews there might occur moments that the interviewer didn't anticipate ahead of time. (Tjora, 2017).

Even if there is an interview guide created ahead of time, semi-structured interviews are meant to be a relaxed conversation where the participants is meant to feel open to express personal experiences, think aloud and come with digressions. The interviewer is supposed to drive the process forwards and come with concrete, limited questions. (Tjora, 2017).

4.2 Selection and recruiting of interview subjects

The goal for amount of interview subjects was about 7-15, with the only requirement being to be, or have been an active player/user of any of the targeted virtual worlds, but I had hoped to interview at least two players/users of each MMORPG or digital world. The selected subjects had a decent variety in terms of demographics, with country of origin including Norway, the USA, the UK, France and the Netherlands. Age ranges from 30 to 21, which covers a decent range. Lower ages were not sought out due to the potential ethical problems with interviewing minors.

	World of Warcraft	Final Fantasy XIV	Guild Wars 2	Second Life	Fortnite
Subject 1	x	X			
Subject 2	x	X	x		
Subject 3	x	X			
Subject 4	x	X	X	x	x
Subject 5	x	X			
Subject 6	x	X			
Subject 7	x	X			
Subject 8	x	X			
Subject 9	x	X			

Informants and platforms they use

Selection for qualitative interview studies involves choosing participants for various reasons, a process known as strategic selection (Tjora, 2017, p. 130). Such participants primarily represent themselves but can also exemplify a particular perspective. In this thesis, I have strategically selected participants based on characteristics and experiences relevant to the research questions.

The interview subjects were chosen from players of the relevant MMORPGs and virtual worlds, and often players I had already established rapport with earlier in order to make the interview more comfortable for the subjects. Due to my own experiences with some of the games, FFXIV and WoW in particular, finding suitable subjects for those proved easier than the others. Subjects were either found and contacted in the relevant platforms, or online communities like *discord* servers and online forums. I am hoping my wide selection in terms of subjects can give decent insight into the general opinions and attitudes of the players/users.

4.3 Interview guide and performing the interview

Development of the interview guide – before the thesis work itself, I performed a pilot study. Through this I discovered a couple of holes and weakness in the guide which had to be rectified.

The interview guide was structured in 3 parts:

- An introduction to cover the reasons for the interview and get demographic data on the interview subjects, as well as information on which of the platforms in question the subject has experience with.
- The main part, which consists of 3 main questions about the subjects behaviour and opinions when it comes to the platforms regarding communication, cooperation, user experiences and more. With an additional open question in case the interview subject would like to add anything they might have felt would be relevant.

- And lastly, the ending of the interview, which repeats the purpose of the interview, and providing contact details should the subject wish to have any answers retracted.

The guide is only meant to provide a loose framing for the interview subject, and deviating from it is encouraged as a means to acquire insightful data. Thus, while the plan is for the interviews to take approximately 20 minutes, and testing from the pilot study supports this as a reasonable and suitable timeframe. It can easily be shorter or longer, depending on the subject. Both the general structure and the open ended question towards the end are meant to promote open talks about topics relevant to the interview. This also means that a rather lax and comfortable attitude is preferred, with the idea that comfortable interview subjects are more likely to see the interview as an informal discussion, and thus can simply talk about a topic they are familiar with.

While the main part mostly tackles the relevant questions and topics for the thesis at large, the introduction and ending are in place to ensure that the interview subjects are properly informed about the purpose of the interview, and the manner in which the interview will be used, as well as their ability to retract statements and such, should they want to.

The interviews were conducted in accordance with the previously designed interview guide that was prepared in the pilot study. Using primarily discord as a platform to perform the interviews due to its ubiquitous use among most players/users of virtual worlds. First, an introduction that covered the purpose of the interview and information that the interview was recorded for use for later transcription. Then information about the right to withdraw statements and other details as well as information about the topics and what they can expect in the interview process. After that comes a small question regarding their demographics, age, sex gender and country, and while not mandatory should subject not want to divulge such information, it could be helpful for the thesis. Of primary importance is making the subject feel comfortable and welcome. For this reason it's also important for the interviewer to introduce themselves, as to lessen the gap between interviewer and interview subject (Kvale & Brinkmann, 2015). Interview subjects were also encouraged to go off on tangents, stories or other things they might feel are relevant to the topic. This freeform structure is meant to emulate a more casual conversations, therefore if comfort and freedom can be provided to the subjects, they should be able to more easily and freely discuss things, without thinking too much of it's fitting or relevant, which could reveal some hidden details that might have been missed in more structured approaches (Kvale & Brinkmann, 2015).

For me as the interviewer this was done a lot more easily due to the shared background in some of these games, with WoW and FFXIV being games I personally have experience with and can relate to the interview subject with. This proved mostly successful, with some more subjects being a bit more reluctant to get into the discussion than others, while others were more than happy to talk, going well over the suggested time for the interview. Most responses were somewhere in the middle, happily talking about topics they felt were somewhat related, with none of them going drastically off topic and having to be reined in.

The time between the interviews varied quite a bit, with some having hours or days between them, but others having as little as 10-20 minutes between them. This variance was primarily due to when the subjects were available to be interviewed. This is not the

most optimal way of doing this, as it is considered a good idea to have breaks between the interviews of at least 10 minutes, but preferably more. (Kvale & Brinkmann, 2015).

The interviews themselves were recorded using OBS (Open Broadcaster Software) due to my own experience with it, it's easy availability, and it's features in terms of recording options and quality being well suited to task at hand.

4.3.1 Transcription of data

After the interviews were conducted, the audio files were transcribed to text. Being in text means there is another layer of security and safety for the interview subjects. And as it's still myself doing both the interviews and the analysis, nuances like irony, manners of speaking and other small details shouldn't go missing. Transcription of the conducted interviews was done with the assistance of the AI-tool *Whisper*, which uses AI to generate very accurate interviews. This was chosen due to significantly lowering the workload required for the transcription, and being a better alternative in both costs and accuracy compared to other alternatives such as hiring a transcriber, which would cost far more than I can reasonably spend, or using other tools which have proven to be both less convenient and less accurate.

Whisper functions by feeding the video/audio file to an AI-powered algorithm, which then converts this to a text-file, or other applicable formats. This process takes some time and significant computer power, which is being acquired through the use of Google Colab, a research assistance tool which provides GPU and TPU power for research, and is especially well suited to using AI or other machine learning tools. The resulting text-file can then be used like any other.

4.4 Analysing and coding

After each interview, I noted down some phrases and keywords that I needed to remember and considered relevant for further analysis. Between interviews, I began the actual transcription process. When the interviews were transcribed, text files were used in the NVivo program to condense the data into more manageable codes, which were then utilized in the later analysis of the data. However, these codes did not entirely replace the interviews, as some elements, such as the way things are said and other subtle nuances, do not translate perfectly to text.

The purpose of codes is to closely reflect the participants' statements from interviews or specific situations (Tjora, 2017, p. 197).

In NVivo's I used automatic coding of the transcribed text. The function in NVivo means that all relevant words were set up in separate word blocks. Although several word blocks were generated with words that had the same meaning, it was still useful to structure all the text content. By accessing different text blocks in NVivo, I was able to review various comments from the participants. Although the program identified several similar terms, it was still useful for organizing the data in a straightforward manner. These word blocks together with the interview guide and some remarks I had noted down from the interviews themselves, made the analysis work easier.

The codes are generated from pure text data, and there are therefore quite a few codes. It was therefore very useful to be able to use a computer program that takes care of the links to the transcribed interviews. (Tjora, 2017, s. 199). According to Tjora, 2017, p. 230, qualitative research has every reason to exploit the potential of good computer programs.

Here is an example of the text-block output for NVivo transcribed interview:



The codes are generated from pure text data, and there are therefore quite a few codes. It was therefore very useful to be able to use a computer program that takes care of the links to the transcribed interviews. (Tjora, 2017, s. 199)

4.5 Ethical issues

4.5.1 Informed consent and confidentiality

The requirement for ethics is formulated by De nasjonale forskningsetiske komiteene (NESH, 2019):

“Consent is the main rule for research on people or on information and material that can be linked to individuals. Consent must be informed, express, voluntary and documentable. Consent requires consent competence.»

“Those who are made the subject of research basically have a right to personal information being treated confidentially.”

One of the first and most important matters in regards to ethics, it's important to inform the interview subjects in such a way that they know precisely what the interviews will be used for, and how they will be used. This was done thrice, first when potential subjects were first approached. Second, at the very start of the interview, and thirdly at the end of the interview. Through this the subjects should have more than a good enough idea as to what they are consenting to in accordance with the requirements of respect and integrity for the interview subjects.

In order to both ensure that interview subjects aren't inconvenienced by their choice to help out, and to ensure that the earlier mentioned anonymity is maintained, no questions were asked that could be used to reasonably identify the interview subjects. Demographic data was limited to country, age and gender, with all of them even being optional should the subject not want to divulge such for any reason. Further personal info that was either divulged by accident or reveal more than intended would also be censored during the transcription process later on. The subjects are also informed as to the purpose of the interviews, such as to allow them to keep quiet about things that they wouldn't want to reveal to the world, and should they want to retract anything that was said, I have maintained open communication channels and would retract any statement by request. These acts should ensure that confidentiality is preserved to the utmost that I am capable of, in accordance with the respect and integrity that they are owed (Tjora, 2017, s. 46).

4.6 Reliability

In this section I will assess the reliability of my research project. Reliability is linked to data that has been obtained, how it has been collected and how this has again been processed. (Johannessen et al., 2021, p. 256). As a researcher, I have to reflect on the data I have collected. By using the questions from the interview guide and linking these to the research questions, the answers from the informants will be relevant.

The reliability of this study is primarily based the interviews themselves, and the analysis that follows. The interviews are by their very nature subjective experiences, and thus doing the same study with the same people, could result in different answers based on how the subjects could be feeling at the time. There are also biases to keep mindful of. Such as biases in the selection of interview subjects. Biases in how I interpret and analyse the data.

Although the researcher's involvement can be regarded as noise, it is essentially an absolutely necessary resource. It is almost a prerequisite for knowledge of what is being studied. It is therefore important to account for one's own position and commitment, which may affect the research work. (Tjora, 2017, p. 235). As I am a player/user of several relevant virtual worlds, particularly FFXIV, which is one of my most frequently played games, this could influence both my preconceived notions and how I conduct the interviews and analyze the data.

As mentioned earlier, owing to my experience with FFXIV, a significant number of the chosen interview subjects were people I met and interacted with through that platform.

This doesn't imply that other platforms were overlooked, but it may mean that the data from FFXIV is more abundant and detailed.

The data I collected is based on the relationship between the informants and myself. The objective of the interviews was to foster meaningful dialogue, which the semi-structured format facilitated by providing both flexibility and opportunities for in-depth discussion.

By detailing the entire research process, including the research strategies and analysis methods, the study becomes transparent. Additionally, I have included direct quotations from the informants to give readers insight into the raw data I utilized. Repeating the method should be easy enough, though the selection of subjects will provide a vastly different set of responses, both due to the subjects and the interviewer. Due to using semi-structured interviews, every time an interview is performed it could give different answers, even with the same set of interviewer and subject. The daily routine and experiences can also change from day to day, so it will be challenging to carry out the same method again and get the same result. In qualitative research, it is the researcher's way of arguing that is decisive for the research's reliability.

4.7 Validity

"Validity in qualitative research concerns the extent to which the researcher's methods and findings correctly reflect the purpose of the study and represent reality". (Johannesen et al., 2021, s. 256).

Validity can also be enhanced if informants are allowed to review the research results to confirm their accurate interpretation, or if different researchers analyze the data to see if they reach the same conclusions (Johannesen et al., 2021, p. 257).

To enhance the validity of my thesis, outlining the theoretical framework that supports my research was essential. I spent significant time gathering relevant background materials and examining previous studies. Importantly, there was a lack of prior qualitative research in the specific area I intended to explore; most existing studies were quantitative and involved surveys with many informants.

In my pilot study, I conducted preliminary interviews with several informants. This led to adjustments in the original interview guide and provided me with the opportunity to practice conducting semi-structured interviews before starting the main project.

The only aspects of this study that are not completely transparent are the interviews and transcriptions, due to the need to maintain the confidentiality of the interview subjects. Therefore, I believe the transparency of this study is top-notch, given the limitations imposed by confidentiality requirements.

The generalizability of this study may be limited due to the relatively small sample size. A larger sample size would likely provide a more accurate representation of a broader population. Currently, the interview subjects reflect their personal views more than those of the community or user/player base of the game or platform they utilize. Instead of increasing the sample size, I'm hoping that the demographic diversity of the participants will compensate for this limitation.

4.8 Limitations

The primary limitations of this study stem from the chosen methodology, specifically the use of semi-structured interviews. These limitations include the selection of interview subjects and the sample size. The interviewees were selected from among those I contacted in various communities, and thus they tend to represent the more vocally active players/users rather than the possibly equally significant, but less vocal, user base. However, given the focus of this study, I do not believe this to be a major concern, though it is worth noting as a limitation. Additionally, many subjects were players/users with whom I have had prior interactions, which introduces potential bias from both myself and the subjects. Ideally, this could be mitigated by a stricter selection process, but that would limit access to subjects who are most comfortable with this interview format and thus provide the most readily accessible data. For this reason, I have largely disregarded this limitation. More problematic is the relatively small sample size of the interview subjects. This is likely to affect the study's findings, but I am hopeful that the diversity of the subjects may compensate somewhat for the limited selection. Nonetheless, this is a limitation that should be considered in further analysis of the findings. Another limitation is the potential for human error on my part during the conduct of the interviews and subsequent data analysis. My own biases and preconceived notions could impact both these aspects of the study.

4.9 Use of AI

In this thesis, I have used AI for several purposes. One is that I have used Whisper to generate speech to text, which proved to be a very useful aid when transcribing 9 long interviews. The result turned out to be very good, this because the interviews were held in English and Whisper is primarily trained in the English language.

I chose to write my thesis in English, because I myself am a keen MMO/MMORPG player who primarily communicates in English in the virtual environments. As proofreading/language cleaning, I have mostly used CHATgpt as a check on myself that the words/sentences I had written were understandable and well structured. Another area in which CHATgpt also proved useful is generating summaries of large research articles. Although all research articles have summaries, there were several nuances that emerged in the CHATgpt-generated summaries. By using this way of controlling the content, it was easier to pick out research articles that I considered relevant to the task.

5 Analysis

In this chapter I will present findings from the interview analysis, these will later be discussed in the discussion chapter of this paper.

Based on the analysis I've found 4 major findings relating to communication, cooperation and interaction, communities such as guilds, and self-expression. These directly relate to my research questions...

5.1 Communication in virtual worlds

Communication functions differently across various platforms, primarily based on the different needs of the users. Players of MMORPGs like Final Fantasy XIV, WoW, and Guild Wars 2 usually prefer text chat for casual and everyday communication, but switch to Voice Over IP (VOIP) when the demands of the content or gameplay require it. This is often the case during raids or other high-end content that requires greater player skill and faster reaction times. In contrast, social hangouts like Second Life typically do not require more efficient forms of communication and are often content with text-based forms. Similarly, Fortnite, which is usually more hectic, is poorly suited to text-based communication; thus, most players default to VOIP from the start. The game's demand for quick reaction times and the necessity to keep hands and fingers on the relevant game controls make text communication impractical at best.

"The only time I really use in game communication is a talk with my FC or my random parties." – subject 2 in regards to their FC (free company, guild)

"I know our raid group uses Discord quite extensively for communication." – subject 1

"Generally, I would say that whenever it comes to high-end content in XIV, whenever it comes to communication, it is either generalized strategies that are really easily communicated in a few words with markers and macros and stuff inside of the game. But otherwise, nothing other than Discord." – subject 3

There is also an interplay between text-based communication and the use of in-game avatars to emote and present oneself. This aspect is mostly prevalent in the more casual areas of MMORPGs and social hangouts like Second Life. When VOIP-based communication methods are introduced, they tend to supplant other forms of communication. Consequently, the roleplaying elements of MMORPGs can often be significantly diminished by the adoption of VOIP-based communication. People are less likely to fully engage in a role when voice is the primary method of communication. This could be due to various reasons, such as a mismatch between the character/avatar and the player, or a weaker separation between the game world and real life. Ultimately, people are more inclined to express themselves as a role or character when using less direct methods of communication, such as text or emotes. In terms of Erving Goffman's theory, you could describe the act of communicating through text and with your character/avatar's emotes as being 'onstage,' while switching to VOIP-based communication might be considered 'backstage,' or perhaps a different scene altogether.

5.2 Cooperation and interaction

For all of the informants, cooperation forms an important part of many of their experiences with virtual worlds, with MMORPGs and Fortnite heavily emphasizing it as a big part of the design of the gameplay and world. For players, grouping up with likeminded players allows them to do more than they would be able to alone. The interactions that lead to this sort of cooperation vary between platforms, with modern platforms often featuring some sort of matchmaking system, be that WoW's LFG, FFXIV's duty/party finder or Fortnite's battle royale matchmaking. These systems allow players to cooperate without having to have know each other beforehand, but beyond that, most of these platforms often reward players who perform better, and thus, having a consistent group can often be preferable.

"...For high-end content, like... Savage, ultimate. I do think it's easy enough to find other people who wants to do it. Like if we're talking about just random people, if you're pugging, for example, or you're just picking up random people and trying your best. It's very easy to find. Yeah. I mean, you just join a group and you go." – subject 1

The appeal of a consistent group of players is both social, and reward based, as doing difficult things are often easier if you have more consistent teamwork, and constructive criticism is then often way more beneficial, compared to the random matchmaking, or "pugs", short for Public groups. The skills needed can vary quite a bit, but the higher levels of difficulty can be somewhat demanding.

"being able to deliver complex information in a concise way. You have to get out a lot of words and communicate a lot of different aspects of any given mechanic without overwhelming the comments or having enough time to say something. Some mechanics happen real fast and you have to explain that fast." – subject 3

This example of cooperation focus interaction is pretty exemplary of most informants attitudes towards the concept, in the context of higher levels of play. At lower levels, where the demands for cooperation aren't so strenuous, the interactions are often more relaxed, with jokes or simple chatting being more common.

"If it's a premade group then I'll go vc. If not like in PF it's chat.... But I have no trouble going in like that even tho callouts are good." – subject 9

Based on several statements from informants, cooperation, and the level of which it is performed, as well as the type of interactions, all heavily depend on what type of activity is being done. More difficult activities are more likely to result in the interactions being over VOIP or being constrained to pre-planned text prompts. Activities that are less

demanding on the users/players skill are often less demanding on the interactions that are done. Thus the interactions can be more casual, friendly and humor-filled.

5.3 Communities in virtual worlds

An interesting finding in regards to the aspect of communication, roleplay, and cooperation in MMORPGs is how the environment influences them. In areas like social hangout spots—often large cities or inns within these worlds—many of the interview subjects mentioned being much more likely to participate in social activities, whether it's joking around in chat or engaging in more structured or deeper roleplay. An example from Final Fantasy XIV is that players have constructed many elaborate in-game social venues, ranging from inns and taverns to nightclubs and more.

"You have social hangout spots that just kind of naturally form. You do have group chats and stuff you can use, and guilds." – subject 1

"I mean I'm clearly in a sort of subgroup as I play Hrothgar, and that kind of just naturally brings those people together," – subject 1

These different scenes often shape the social activities that occur within them, as people usually visit these venues for a specific type of socialization. Consequently, others in these venues naturally participate to feel included. Whether social spaces are player-created or naturally formed, they tend to influence the social dynamics that unfold within them. In contrast, more objective-oriented spaces, such as raids, typically focus players on the communicative aspects of cooperation in order to effectively complete the task or objective at hand. These spaces are designed by the game developers to foster a more focused and goal-oriented experience, where communication is less about social interaction and more about cooperation and problem-solving.

One type community that's pretty common in MMORPGs is that of the Guild. Though sometimes going by other names, the concept is nonetheless present and many of the informants referred to interactions had in these types of groups/communities.

"The only time I really use in game communication is a talk with my FC or my random parties." – subject – 2

Guilds, called Free Companies or FC's for short in the context of FFXIV, form for a variety of reasons, but they are usually created for the express purposes of having a community. These communities can be focused on specific activities or be more generic, but they are all a way to connect people

together. For most of the informants, guilds are primarily a way for increased social activities, with the other aspects, such as grouping for raids being relegated to other areas, such as discord servers.

5.4 Self-expression and avatars

Within the realm of MMORPGs, player avatars can generally be divided into two categories: those that represent an idealized version of the player, and those that portray a character separate from the player. This distinction is not rigid, but it is one I have observed among several interview subjects.

“But of course there is overlap and there are people who make a silly little goblin because they want to play a silly little goblin .” – subject 2

Among the subjects I interviewed, there was considerable variation. Many created characters simply because they liked their appearance, with no deeper intention for roleplaying beyond that. Others crafted detailed backstories and events for their characters to make them feel more alive and integrated into the game's established world. However, my findings indicate that this does not directly correlate with active roleplaying. There was little connection between players who enjoyed roleplaying and those who enjoyed integrating their characters into the world. Instead, the tendency toward active roleplaying, communication, and cooperation was more closely linked to the subjects' willingness to engage with people outside their circle of friends or acquaintances.

How people represent themselves in MMORPGs can vary widely. As mentioned earlier, players often create either an idealized version of themselves or a character that is distinctly different from their real selves. However, it is still quite common for players to incorporate aspects of their own identity into their characters, such as maintaining the same gender. While this is not universal, it is more common than not.

“So I before starting playing 14, I identified as female I didn't realize I was trans at that time but through 14, I so this was in Final Fantasy 14, I started off as a female character. I stayed as a female character for quite a while. I think almost a year into my playtime. About eight months. And then eventually someone told me, this is an experience that unironically, someone told me, you don't have to play your gender. You can play whatever makes you happy. And it was almost as if I'd been given permission to play something different because like my entire life, I'm like, oh, no, you have to play your gender. So I had only played female characters because like, that's what I thought you had to do.” – subject 2

The divergence between a player's gender and their character's gender is becoming less expected over time as people grow more accepting of the idea of not playing as

themselves but as a distinct character. In one case from an interview, what was intended to be a distinct character gradually morphed into a more idealized version of the player themselves because the player admired the traits that the character exhibited.

"And then I switched to male Aura, which is one of the races. And after I think it was like a month, I was like, huh, something feels wrong. And then not too long, I was like, oh, yeah, I'm probably just gender fluid. That's it. And then about a month later, I'm like, no, I think I'm just trans. Wait a second. And that's how I realized I was trans, is by changing my model in game. I was like, wait a second. No, this makes me feel a way that I, it's different. I didn't expect this. Like, why is it making me feel this way? And then just connecting the dots..." – subject 2

While the experience of this subject might be somewhat unique, it highlights MMORPGs' ability to serve as a form of self-expression, and how the experiences players have in these virtual worlds can reflect back on them in real life. Furthermore, the ability to express oneself through an avatar's appearance is a notable strength of the genre. This significance is amplified by the emphasis these games place on armor, weapons, and clothing. The best armor and weapons, often having distinctive and flashy appearances, are highly sought after by players, not just for their utility in gameplay but also for the bragging rights associated with acquiring such gear. These bragging rights are a major driving force for many players, as they are one of the primary methods of gaining status and social capital in these games.

"The sense of mastery of just seeing it all pull off is very fun. Also a big thing is bragging rights. I love bragging to people. And like I love showing off" – subject 2

There is significant status to be gained from completing the harder content offered by these games, with the flashy weapons, armor, mounts, and titles serving as proof of the accomplishment. This contrasts with another method of gaining status, which involves building a community around oneself, whether through guilds or other community groups, or by creating online content about the game. Both methods require effort, but one showcases one's skill in the game, while the other highlights one's significance within the broader community.

6 Discussion

One of the key findings from the interviews is the varied ways players engage with their avatars and how this relates to their preferred types of content. Although role-playing is a significant attraction in the MMORPG genre, as mentioned by Weigel & Rudnick (2023), and influences many other virtual worlds, its implications are not as straightforward as one might expect. While all MMORPGs discussed in this thesis incorporate role-playing within their narrative and experience, it often does not extend to interactions with other players. This discrepancy mainly stems from the diverse attitudes players have towards

role-playing—from those who show no interest and simply enjoy the gameplay with others, to those who deeply immerse themselves in their characters' personalities to guide their interactions. As a result, most interactions are non-role-playing, making it challenging to engage in role-playing without the cooperation of other participants.

This phenomenon is further highlighted by how players use voice chat, either in-game or through external platforms like Discord or Teamspeak. Players are generally more reluctant to role-play over voice compared to text, with the default mode being non-role-playing. This perception makes role-playing seem less common and restricts it to specific dedicated areas. In many MMORPGs, this would mean role-playing servers; however, for games without such servers, certain locations often become known role-playing hubs. For instance, the American server Balmung in FFXIV is renowned for its role-playing community, centered around the in-game location of the Quicksands in Ul'dah. FFXIV also hosts various player-created venues on numerous servers, ranging from cozy inns and hangouts to nightclubs and brothels. These venues attract different players, and the role-playing within them is primarily text and emote-based, contrasting with the narrative-driven role-playing involving cutscenes and dialogue choices in the game's story. This division has led to the formation of various subcommunities within role-playing, each tailored to specific player interests.

These two findings relate both to the ideas of Symbolic Interaction Theory (Aakvaag, 2008) and to the concept behind Goffman's dramaturgical approach (Goffman, 1992), with the different roles and how people interact being influenced by where on the proverbial stage the player finds themselves. Though Goffman's theory hits a snag when considered alongside Milik's idea of player personas. With a single player/user able to have multiple characters, all exhibiting some aspects of the player. Thus, you end up with multiple layers of stages, as Goffman would put it, with it being increasingly unclear where the divide between "backstage" and "frontstage" lies (Milik, 2017).

Another interesting aspect is how an avatar can influence the player, as mentioned by Fokides (2020). One informant discussed using their avatar as a tool for self-discovery. Initially creating idealized versions of themselves, they experimented with a different type of avatar, which led them to embrace traits they preferred in their avatar over their own, particularly concerning gender identity. This experience of portraying a different gender through their avatar was transformative, culminating in their coming out as transgender. This case underscores how avatars can serve as a powerful medium for expression beyond traditional player boundaries, enabling exploration of different genders, personalities, or physical traits.

Furthermore, the interviews revealed insights into communication dynamics, especially concerning the requirements of different play levels. For casual content, in-game text chat suffices for communication and socialization. However, at higher levels of play, such as raids, text chat becomes inefficient, making voice chat a more effective communication tool. Voice chat offers quicker response times and frees players from multitasking with the keyboard, which is crucial as most MMORPGs rely on keyboard and mouse controls. This shift from text to voice chat alleviates the burden on players, allowing them to focus more on gameplay. This aligns closely with Wadley's findings (Wadley et al., 2014) regarding the challenges of using voice communications, with the added caveat that most of this is organized by the players, rather than the game designers, and is therefore more or less self-regulated by the player base.

While guilds were not directly asked about during the interview process, several informants mentioned them as being directly related to social interactions and cooperation, which aligns with the findings of Smith (2020) and Fu & Lu (2020). Cooperation is essential in many virtual worlds, particularly MMORPGs. Games like Fortnite also promote teamwork in player-versus-player modes. MMORPGs have long employed matchmaking systems, like World of Warcraft's LFG or FFXIV's duty finder, to assemble like-minded players for various activities. These systems have evolved over time, moving from manual group formation, which was often cumbersome and time-consuming, to automated matchmaking that significantly lowers barriers to cooperative play, facilitating easier and more efficient player collaboration. Guilds are another method by which MMORPG players can find like-minded players and interact in a space that's more comfortable compared to public chats, as mentioned by Gui (2018).

The definition of what constitutes a virtual world has evolved significantly throughout the history of the medium, from Bell's definition of "a synchronous, persistent network of people, represented as avatars, facilitated by networked computers" (Bell, 2008) to Girvan's later, more elaborate descriptions (Girvan, 2018). From the earliest text-based worlds of the early computer games that described characters, environments, and entire worlds solely through text, to the 2-dimensional worlds that combined graphics with the existing text-based worlds to visualize what the text described, to the modern 3-dimensional worlds that you can walk and experience as almost an entirely separate reality, as seen in modern video games, MMORPGs, and even metaverses. While the existing technology has led to impressive displays of worlds both realistic and fantastical, it can still be very difficult to tell where the future lies for virtual worlds. Today's virtual worlds can be enormous, detailed, and still very malleable and customizable for users/players, and procedural generation of them has enabled users to create their own with almost endless possibilities in terms of different configurations and options. In addition, the capabilities of these worlds to house numerous players have increased as technology becomes more and more capable. More users, more functionality, bigger and more expansive worlds, and more. While one can see how past technology and its evolution led to the current state, it's more unclear how the future of virtual worlds is going to look. One promising technology that has gotten a lot of attention in the last couple of years is the concept of metaverses, and their capabilities as shared environments capable of almost anything the users could want to do, be that create assets, share them, or use any other asset created by other users. While this all sounds very promising, the current state of metaverses leaves a lot to be desired. With the biggest investment, Meta's Metaverse still not being public, and other offerings like Decentraland showing significant issues in performance and the capabilities of these worlds. In other words, the current metaverses offer little that more conventional virtual worlds such as MMORPGs or online platforms such as Second Life don't already do. Second Life, in particular, seems to be a far more realized version of many of the same attributes that metaverses claim to introduce to the market, such as the creation and sale of assets, and the capabilities of users to create and customize the experience they want. That is not to say that the technology doesn't have a future, but it's going to take some time for it to be developed to a point where the performance and capabilities of the platforms reach a point where it becomes an attractive offering to end users over the existing worlds.

As highlighted in Koster's (2023) article, metaverses represent an evolving aspect of virtual worlds, yet their current state has largely failed to captivate. Despite substantial investments from companies like Meta (formerly Facebook), which have promoted their significant potential, the outcomes have been somewhat disappointing. For instance, Meta's own metaverse project has been criticized for the overly simplistic appearance of its avatars, which notably lack legs, and there are rumors that employees are compelled to work in this unconventional and less comfortable coding environment. Similarly, other metaverses such as Decentraland have struggled to gain traction; the technology often experiences lag and is unresponsive, falling short of fulfilling its ambitious promises. Generally, the adoption of metaverse technology is nearly exclusive to those already engaged in the cryptocurrency scene, causing its progress to be heavily intertwined with cryptocurrency issues and suffering from technological limitations as a result. Decentraland, for example, has largely become just another platform for investing in or speculating on cryptocurrencies, rather than the groundbreaking platform for player-driven game development and evolution it aspired to be.

In summary, while metaverses may hold some future potential as a technology, they have not yet reached a compelling level of maturity or functionality. However, there are notable exceptions, such as Roblox and Second Life, which, using the definition of a metaverse provided by Polyviou & Pappas (2023), could be considered successful examples of metaverses. Neither platform markets itself explicitly as a metaverse; Roblox is known as a game development platform and a space for playing these games, while Second Life functions more as an online social space. Both platforms enable users to create and customize content that others can utilize, sometimes even for monetary gain. Although they lack the decentralized aspects that many modern metaverses emphasize, they arguably represent a more effective application of the technology than other metaverse projects currently on the market.

New technologies continue to be explored and tested, with AI, AR, and VR emerging as some of the newer technologies with the potential to reshape how we perceive, utilize, and understand virtual worlds. VR, in particular, stands out, demonstrated by the immersive single-player worlds in games like "The Elder Scrolls V: Skyrim" and more integrated experiences in dedicated VR games. However, for many games and platforms discussed in this research, which are predominantly played from a third-person perspective, VR can be disorienting. For instance, "Fortnite" also uses third-person view and faces similar challenges. "Second Life," with its emphasis on player interaction, shows more promise but its aging platform may struggle to support advanced VR technology effectively. This does not imply that VR is unsuitable for virtual worlds; for example, "VR Chat" thrives as a VR-optimized platform focused on social interaction. The main hurdle for VR currently is not the technology itself but its low adoption rate due to the high cost of VR headsets, which limits consumer interest and developer investment until the technology becomes more accessible.

Augmented Reality (AR) is another significant technology in the context of virtual worlds. It enhances real-world environments with digital elements via cameras or GPS. While successful on smartphones with applications like "Pokémon GO," AR has seen limited interest in other areas. Because AR augments the real world rather than creating entirely new environments, it aligns poorly with virtual worlds, which are fully designed by developers or users. There might be innovative applications for AR within traditional virtual worlds, but its integration into MMORPGs and similar platforms remains limited.

Artificial Intelligence (AI), particularly in video games, has long been utilized for programming enemy behavior but has recently expanded into areas such as

programming, writing, image generation, and more. This thesis has employed AI for various tasks, including transcription, coding, and summarizing articles. It is important to differentiate AI used in enemy behavior from modern generative AI, which has broader applications but whose future is more uncertain. While developers might employ generative AI for diverse tasks ranging from programming to asset creation, its practical utility for players remains limited due to the significant computational resources required. Players may need to access substantial computing power externally or use less powerful, less functional models. The applications of generative AI might be too specialized for average players, and ideally, its use by developers should be seamless and unobtrusive, although it could influence the development process significantly.

The popularity of role-playing games, social media, and virtual communities reflects broader cultural shifts towards virtual interaction and the desire for customizable experiences. Moreover, the evolution of virtual worlds is increasingly influenced by legal and ethical considerations concerning data privacy, cybersecurity, user identity, and content moderation. Changes in legislation and public discourse around these issues have impacted how these platforms are developed and regulated.

7 Conclusion

The overarching theme of this study is "User Collaboration and Self-Expression in Virtual Worlds." The research questions focus on the impact of historical events on the development of virtual worlds and metaverses, the nature of user collaboration within these environments, and their broader implications for the experience economy. Specifically, the questions are: How have historical events shaped virtual worlds and metaverses, and what implications does this have for the future of the experience economy? How do users collaborate, interact, and communicate within virtual worlds, and how do these interactions shape their experiences and behavior? How do individuals use virtual worlds to express themselves, and what impact does this have on identity formation and social dynamics?

By addressing these questions, I have explored several facets of virtual worlds. The use of Erving Goffman's theory of symbolic interactionism proved instrumental in analyzing the interactions between users and the game. This theoretical framework helped illuminate how individuals construct their identities and social realities within digital spaces. Furthermore, the study delved into the mechanisms of user collaboration, examining the ways in which these virtual interactions influence real-world behaviors and societal trends. This research contributes to a deeper understanding of the complex dynamics that govern digital worlds and offers insights into how these virtual environments might evolve in the future, thereby influencing the broader contours of the experience economy.

7.1 The evolution of virtual worlds

The concept of virtual worlds has evolved significantly since the earliest instances of the technology, starting with games like *Colossal Cave Adventure* and *Akalabeth*, and progressing to the later development of multiplayer games with MUDs and the introduction of graphics in *Sierra's Mystery House*. The underlying technology has continuously advanced, expanding both the scope of the worlds and the number of

players within them, eventually leading to the concept of MMOs with games like Ultima: Underworld, Asheron's Call, and Everquest. This evolution further continued into the modern MMO, exemplified by World of Warcraft.

Today's virtual worlds are often a far cry from the simple two-dimensional realms of the past, featuring fully three-dimensional environments that are both fantastical and realistic. Some platforms even allow players to significantly influence and modify their appearance and functionality, either through in-game actions or by modding and creating their own content, as seen in Second Life, Roblox, and emerging metaverses like Decentraland. The impact of players extends beyond the mere physical aspects, with many creating their own cultures and social hierarchies within these worlds. In many ways, virtual worlds are increasingly living up to their name, becoming closer to alternate realities that one can step into.

Predicting the future development of these environments is challenging. Metaverses, augmented reality (AR), and artificial intelligence (AI) all hold promise as groundbreaking technologies for the future of virtual worlds. However, so far, none have proven to be more than speculative, with metaverses struggling to find a niche and performance issues, AR being difficult to implement and seemingly outside the interest of virtual world enthusiasts, and AI primarily serving as a tool for developers to reduce workload.

7.2 Communication and cooperation

The acts of cooperation and communication are fundamental to the experience of many virtual worlds. Unlike contemporary video games of their time, early MMOs marketed themselves as both social spaces and games. This remains an important aspect in modern virtual worlds, as evidenced by the significant emphasis on multiplayer features in many current platforms and how social interactions within these worlds can shape a person's experience just as much as the worlds themselves. Cooperation in these worlds often revolves around content planned by the developers, such as dungeons and raids in MMORPGs, which are highly cooperative experiences. These can range from relaxing activities that foster bonding to intense and demanding tasks that require players to work together and strategize their next moves. As the need for player cooperation increases, so too does the need for effective communication. Many players transition from the built-in text chat and emotes to external voice communications such as Discord or Teamspeak. While this shift to voice-based communication isn't universal among players, with many preferring to stick with earlier methods, it does offer advantages in terms of speed and clarity.

7.3 Social dynamics and self expression

While the designed cooperative experiences of digital worlds is one thing, the social dynamics are often far more difficult to predict, with the users/players developing this outside the designs the developers of these virtual worlds might have intended. Guilds, social hangout spots, coming up with new activities for the community, guild or other group to enjoy, creating places for purposes such as roleplaying and more. The community aspects of virtual worlds is for many a good reason to get involved in virtual worlds in the first place. An important factor in this, is how the players treat their avatars/characters. Avatars don't only serve as a vehicle to explore and inhabit virtual

worlds, but also as a way to express the user through the avatar's looks, clothing, acts and manner of communicating, with there being two main lines of thinking, treating their avatar as an idealized or alternate version of themselves, or treating their avatar as a separate character. This isn't necessarily a strict split, but more of a scale, and there are always outliers, but it's mostly true based on my findings. This is especially relevant to the areas of roleplaying in virtual worlds, as who a player/user is playing as can impact said roleplaying in a big way. While roleplaying has diminished somewhat in its importance for virtual worlds as said worlds have gotten more open to a general audience, it still holds quite a bit of importance, with roleplaying communities existing in most virtual worlds, and some, like the worlds of Second Life, being having roleplaying be an integral part of most players experiences. These communities exist in a variety of ways, from dedicated servers or realms that has it as a focus, to guilds and other communities that has such a focus internally. Of note for the perspective of roleplaying in virtual worlds is the often inverse relationship it has when compared to communication, with a lot of roleplay focused groups focusing on the simpler methods of communication like text chat and emotes, with communication methods like voice chat often being unused due to the strain it can place on roleplaying characters different from the player/user. This form of self expression has been a big appeal for many users. The social dynamics of the roleplaying community being quite different from those of the average user for many of these virtual worlds has lead to the communities often not being easily noticeable, unless one actively searches such communities out, either at venues or places dedicated to them, or finds servers/realms that have it as a focus.

7.4 Future research

The work on this master's thesis has highlighted numerous research opportunities and areas of interest related to virtual worlds, the metaverse, and interactions within them. The MMO genre, in particular, offers a rich field for social research that can be approached from both qualitative and quantitative perspectives. While most of the existing research on virtual worlds tends to be quantitative, involving large-scale surveys with many users, there is substantial potential to expand into qualitative methods. Interviews and observational studies, for instance, can provide deeper insights into player interactions and communication. These methods allow researchers to capture detailed nuances and the dynamics among players. Observing players over time could be particularly revealing, allowing researchers to track changes in behavior and engagement. This is one of the limitations of writing a master's thesis over a short period of time. It could also be worth it to watch the platforms themselves over this same amount of time, as the platforms themselves can change over time. Additionally, the ever-increasing number of people engaging with computer games makes this a relevant area for studying broader societal trends. Analyzing how people choose to play and interact in these virtual environments can offer valuable insights into changing social patterns and preferences, further enriching our understanding of digital cultures and their impact on society at large.

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Attachment

Attachment 1- Information for participation in research project

Information for participation in research project

Background and purpose

This master's thesis is the final part of Digital transformation, master's program at the Norwegian University of Science and Technology (NTNU). The issue in the thesis focuses particularly on communication, interaction and interaction in digital worlds (MMO games).

In this interview, I will investigate the behavior of users of digital worlds. I will try to find out how they interact and how communication takes place.

What does participation in the study entail?

The interview will last about 30 minutes, and will be done digitally over Discord. The interviews will take place in March-April. No personal information will be stored in the thesis and no person will be recognized in the publication of the thesis. The project is to end on 06.06.2024.

Voluntary participation

Participation in the study is voluntary, and you can withdraw your consent at any time without giving any reason. If you have any questions related to conducting the interview, you can reach me by e-mail 8magnus8@hotmail.no or on Discord.

Thank you in advance for your help.

Sincerely, Magnus Ingebrigtsen

Attachment 2 – Interview guide

Introduction:

Legal disclaimer & purpose of interview

- Master's thesis for NTNU studying behaviour among users of digital worlds and similar platforms
- The interview will be recorded for the purpose of transcription.
- Information provided will be used for the thesis, but remain anonymous.
- Information will be retracted if subject would prefer so

Subject details

- Would you like to take a short introduction of yourself?
- Age
- Sex
- Sexual orientation
- Nationality/place of residence?
- Other relevant details?

Platform(s) & activities

- Which activities?
- Which platform/game/digital world?
- How long have they been active/playing?
- How often do you play?

Main questions:

- Elaborate on the activities of the game/platform you enjoy. How did you get introduced to them? What is it you enjoy about them? How does the platform/game enable and/or support it?
- How are these experiences delivered? Are they intrinsic to the platform/game? Do they need to be searched out?
- Communication: methods? Importance? External vs internal? Impacts on your private life?
- Any other additions?

Ending:

- Thanks and appreciation
- Repeat certain legality details
- Contact details and polite goodbye



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