

# Socializing in the Metaverse: The Innovation and Challenge of Interpersonal Communication

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## ABSTRACT

2021 is called the first year of the "metaverse", and the "metaverse" has quickly become a hot topic of discussion and has attracted the attention of the academic community. Social is one of the main innovation channels of the metaverse. However, what kind of future, what kind of challenges, and what kind of social impacts will social interaction in the metaverse form need to be considered. In order to provide thinking for social development under the metaverse, this research analyzes the concept of the metaverse, the era background and existing cases of social interaction in the metaverse. The study found that social interaction is also entering the fourth era—metaverse social interaction, which is gradually revealed to people with the development of Internet technology. But metaverse social interaction still faces technical and ethical challenges, and there is still a long way to go to achieve a true metaverse.

**Keywords:** *Metaverse, Social interaction, Virtual reality, Interpersonal communication.*

## 1. INTRODUCTION

With the continuous penetration of the Internet into the field of life, people's dependence on the Internet has become stronger and stronger, and various social application have emerged one after another. At the beginning of 2020, with the outbreak of the new crown pneumonia epidemic, measures such as telecommuting and remote teaching made the whole society show the characteristics of "virtualization". The communication between people is presented through the Internet, and an "online world" has been recreated. For example, people can use a second identity on the Internet to communicate with others, or they can manage their self-image on the Internet by creating a virtual online presence.<sup>[1]</sup> Video games are a replica of the real world.

The development of information technology in the real world drives the continuous development of the virtual world. The update of media technology makes the virtual world gradually mature and evolve into a real "parallel universe", which is called "metaverse". 2021 is known as the "Year of the Metaverse", especially after Facebook CEO Mark Zuckerberg announced that the platform's brand would be partially renamed "Meta", and stated that he planned to transform it into "Meta" within five years. The metaverse has become a focus of attention

in the entire society. But for now, there are still relatively few academic studies on the metaverse, and the research on the concept and origin of the metaverse is still in its infancy.

## 2. THE ORIGIN AND CONCEPT OF THE METAVERSE

### 2.1. Origin of the metaverse

The concept of the metaverse originally originated from the science fiction novel "Avalanche" written by the famous American science fiction writer Neil Stephenson in 1992. Through the promotion of "Avalanche", a virtual online world parallel to the real world is gradually accepted by science fiction writers, namely metaverse.<sup>[2]</sup>

And the metaverse is gradually taking shape in many sci-fi movies. "Electronic World Warfare" in 1982 may be the first movie to appear the concept of parallel virtual world. 1999's "The Matrix" described a "brain in a vat" virtual world. The concept of the metaverse really began to be known to the public through the sci-fi movie "Ready Player One" directed by Spielberg. Among the number one player, the metaverse became part of the future human society, and the distance in real life was further narrowed by the metaverse. Those who are unwilling in reality use the metaverse to vent and express themselves.

## 2.2. Concept definition of the metaverse

Exactly what the metaverse is, there is still no relatively unified definition. Wikipedia believes that the metaverse, or hypersensory space, and virtual space, is used to describe a persistent and decentralized online three-dimensional virtual environment in the future. As the metaverse has been paid attention to by domestic scholars, its concept has also been constantly mentioned. At present, domestic academic circles have not yet formed a unified and clear concept of the metaverse. Nie Huihua and Li Jing believe that the Metaverse is a virtual world parallel to the real world, which is the third generation Internet after the computer Internet and the mobile Internet.<sup>[3]</sup> Yu Guoming and Geng Xiaomeng proposed from the perspective of communication that the metaverse is the ultimate digital medium that integrates and integrates all digital technologies now and in the future. It will realize the connection revolution between the real world and the virtual world, and then become a new world with a higher dimension beyond the real world.<sup>[4]</sup> Yuan Yuan and Yang Yongzhong believe that the Metaverse started as a game platform. It is based on digital currency and is supported by the simultaneous emergence of a series of collective digital technologies and hardware technologies. It is deeply involved in the virtual world.

The concept and meaning of the metaverse have been widely discussed in academic circles. The metaverse is not a term fabricated in recent years, but a future form of human life that has appeared in science fiction works very early and gradually revealed to people with the development of Internet technology. Through the analysis of the source of the metaverse, it can be seen that although Neil Stephenson accurately described the metaverse, what he did not expect was to create a metaverse world that communicates with each other. Now the metaverse is gradually maturing, from quasi-metaverse applications to basic metaverse applications, this is a long-term process. Along the way, we should think more deeply about the metaverse from multiple perspectives.<sup>[5]</sup>

## 3. THE INNOVATION OF INTERPERSONAL COMMUNICATION

### 3.1. Social application for metaverse social concept

Jelly application, a social application featuring the social concept of the metaverse, once rushed to the top of the Apple App Store list. According to user introductions, Jelly application is mainly for acquaintance social networking, only 50 close friends are allowed to be invited, there is no grouping, no blocking, and no three-day visibility. Users can create their own avatars and interact with friends by "pinching their faces". In addition,

this application allows users to share their life with their friends, and also supports opening a real-time map. Friends can check each other's location, status, and mobile phone battery, and they can also take pictures with friends around them. But at the same time, it has encountered a lot of criticism. Since the beginning of February, there have been claims that Jelly steals user privacy on multiple social platforms. Some people claim to have been harassed by strange numbers and stolen WeChat. On February 14, the application was actively removed from the shelves of application platforms.

Soul, a social software for strangers launched at the end of 2016, also held high the banner of "social metaverse for young people" in 2021. Users can create their own digital identities for social activities. For example, the "social metaverse" built by the social application Soul, relies on the design of products such as virtual avatars to bring users an immersive social experience. In the social process, digital identity gives users a stronger sense of immersion and reduces social barriers.

In November 2021, Li Meng, chairman of Tianxia Show, introduced the Honnerves Rainbow Universe, which is still in the testing stage. This is a 3D virtual social product based on blockchain technology, which is intended to run into the social 4.0 era. Subsequently, Rainbow Universe in the closed beta attracted attention through a series of marketing activities.

In September 2021, Xiaoice launched its first application Little Iceland. In addition, Baidu launched its own metaverse product Xirong application in October 2021. In the same month, NetEase's Yaotai system was unveiled. There are also several applications under ByteDance.

However, many experiencers have reported on social media that the functions of metaverse-related applications emerging on the market are still relatively rough. They are mostly experimental pathfinding tests. But unlike the real world, users can have multiple different digital identities in the metaverse. After securing the identity, the most important aspect of social interaction in the metaverse is the richness of body sensation. Due to the immersive characteristics of virtual reality, users can have a richer sensory experience when socializing in the metaverse.

### 3.2. Advantages of metaverse social interaction

Although "metaverse" is a new hot concept, it is essentially an upgrade of AR, VR and other technologies. Unlike these technological concepts, the "metaverse" opens up a new space for mankind, which enters a higher stage of "virtual". This includes human interaction. This kind of interpersonal communication will be a new deep immersive virtual communication space, making virtual communication an important form and content of human communication.<sup>[6]</sup>

Since the development of the Internet, from handwritten letters to WeChat chat and video, people's pursuit of more convenient, intimate and direct social relationships has never stopped. People have been pursuing online social forms with higher content and greater immersion. After experiencing PC social networks, mobile social networks, and algorithmic interest platforms, social networks are entering the fourth era—metaverse social interaction. Metaverse social networking creates a world comparable to real life for users. Users can move their real life to the virtual world, where they can sing, watch movies, play games, go shopping, and travel, and achieve "presence" social interaction in the virtual world. With the support of metaverse social interaction, the methods and media of social interaction will undergo subversive changes. A world where virtual and reality merge and unify through the metaverse.

## 4. THE CHALLENGES OF METEVERSE SOCIAL INTERACTION

### 4.1. Technical level

Now we have entered the 5G era, VR social networking has been proposed. This is a higher-level need, which satisfies people more comprehensively, but also has higher requirements. Even if the arrival of 5G can solve the problem of data transmission, there are still hardware, algorithm and other problems to be solved one by one. Specific to the realization of the metaverse scenario, it depends on the following three issues. First, how to shorten the distance between terminal VR hardware devices and public consumption; secondly, how to integrate software technologies such as blockchain, digital human, cryptocurrency, and natural language to the metaverse scene; thirdly, how to integrate the metaverse scene. Currently, these are still being explored. In other words, at the technology and product level, the metaverse is still an idea.

### 4.2. Ethical dimension

For online social networking, the biggest ethical risk lies in the unfairness of the platform's acquisition of user data. The data traces left by users on the platform can be divided into active data and passive data. Active data is the data left when users take the initiative to click, comment and forward on the platform. They are the traces that users know and voluntarily leave when they use a certain platform. Different from active data is passive data. When users use platform products, they leave personal information such as geographic location, social relationship, voice and face without knowing it. Although various platforms will also display "user informed consent" and provide channels to close the platform to access personal information, there are still a lot of data acquisition methods and uncertainties in data

privacy processing. This is still the case with current Internet platforms.<sup>[7]</sup> In this case, the cost, risk and harm of a platform-dominated metaverse will be much more serious than we imagine.

### 4.3. Summary

What we cannot deny is that there is no privacy in the metaverse. The Metaverse is like an "electronic prison," even if the people in it are voluntarily imprisoned. In the movie "Virtual Revolution", people are addicted to the metaverse and completely abandon the real world. There is a group of revolutionaries who destroy the metaverse fantasy and want people to truly be free and return to the real world. Fundamentally, people in the metaverse are prisoners of their own sensual desires.

In any case, in the metaverse, nothingness will loom over everything, and the crisis of modernity will be placed in front of the world abruptly. Therefore, it is necessary to carry out academic research on the metaverse. The society cannot turn a blind eye, but should prevent it in advance, avoid the technical risks of the application of the metaverse, and strive to control the development of the metaverse within a trustworthy threshold.

## 5. CONCLUSION

Judging from the current state of development of the virtual world, the emergence of the metaverse is only a matter of time. The development of Internet technology is constantly changing the operation mode of the entire human society. The proposal of the metaverse is the most typical example.<sup>[8]</sup> Although, judging from the current technical conditions, there is still a long way to go to realize the true metaverse, but it can be seen that the emergence of the metaverse conforms to the development trend of the Internet and is the "end game" of the Internet.

But at the same time, we need to think about whether people's construction of the metaverse is really autonomous and self-directed? French scholar Jean Baudrillard once pointed out that the ultimate direction of reality and simulation is chaos. But it seems that many people's expectations for the metaverse are still trying to separate this chaos without thinking. And in the "metaverse", people are more likely to have a stronger demand and depend on virtual communication, and then ignore the importance of real communication to people, which needs to arouse people's reflection. Now, the creation and development of the "metaverse" is still in its infancy. As a parallel space in the future real world, its commercial value is of course immeasurable, but people should keep scrutiny and vigilance against the interpersonal traps that it may bring.

Therefore, starting from the existing research on the metaverse, this paper discusses the definition of the

concept of the metaverse, and then discusses the challenges and social impacts that social interaction in the metaverse will face, and provides further thinking. However, due to my limited professional research ability, this paper still has some shortcomings. Regarding the challenges faced by metaverse social interaction, we have not discussed this in depth due to space and time constraints, which will be further explored in future research.

## AUTHORS' CONTRIBUTIONS

Li Jiaxin conceived of the study, designed the study and collected the data. All authors analysed the data and were involved in writing the manuscript.

## ACKNOWLEDGMENTS

First of all, I would like to thank my supervisor, Professor Gao Gongjing, who gave me a lot of valuable suggestions during the writing of my thesis, helped me to adjust my thinking, reviewed and revised, and this article was formed. Secondly, I would like to thank my roommates for their help and support. I would like to take this opportunity to express my special thanks to my parents who have worked so hard to raise me. The road to my studies is inseparable from their silent support.

## PROJECT FUND

This paper is a research result of the 2017 National Social Science Foundation Project the Construction of Children's Development Account for Poor Families in China under the Theory of Asset Construction.

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