

The Relationship between Metaverse and Design

-- Take the Relationship between Metaverse and Interaction Design as an Example

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Abstract: With the development of science and technology in modern society, all walks of life are developing towards intelligence and information technology, and the meta-universe is still an immature concept at present, which is very general and summative. It has five characteristics: immersive experience, virtual clone, stable economic system, strong social attribute and open creation. In the construction of the virtual world of the meta-universe, immersive experience is the first to bear the brunt, which is closely related to interaction design. The progress of technology will inevitably change the way of art presentation and information reception, thus driving the comprehensive development and update of visual art from form to method and content. The Earth-scale, seamless integration with the real world, and constantly evolving digital world is the goal of scientific and technological development.

Keywords: Meta-universe; Interaction Design; Immersive Experience.

1. The Past and Present Lives of the Metaverse

As a new thing, there is no clear and accepted definition of the meta-universe. Today, the mainstream definition of the metaverse is that it is a collection of virtual time Spaces, consisting of a series of augmented reality (AR), virtual reality (VR), and the Internet. Through AR, VR, 5G, artificial intelligence, and wearable supporting hardware facilities, people can create new universes and civilizations in the meta-universe. In the future, the meta-universe will be a huge public network space, and digital virtual and physical reality will usher in an unprecedented integration. According to the existing data, the meta-universe can be divided into traditional and open meta-universes. The unified metauniverse generally refers to the offline life directly mapped into the metauniverse, and finally the offline and online integration, in fact, this thing is also a repetition in our lives. Especially in the era of the epidemic, we now move offline to online through different devices, and finally return to offline life. The traditional meta-universe is a more perfect and immersive experience than the current network environment, with a virtual digital world of life, social, work and entertainment, and it is possible that one day, our better experience in the virtual world will become a booster to promote our real world, and will land in real life. The opposite of the traditional meta-universe is the open meta-universe, which has nothing to do with the real physical world. It is an independent and virtual digital world, separate from the real world. Even some advocates of the open meta-universe think that after the open meta-universe is developed, the body in the physical world does not need to exist. Human consciousness as a code character or program to live in the generalized meta-universe, personal sense of honor, social, happiness all from the open meta-universe, of course, this is some very extreme advocates.

However, according to the existing material analysis, the meta-universe is not a separate world, but a world that is closely connected and complementary to the real world. People in the virtual world with complete infrastructure can

realize the same personal and social needs as the real world, such as identity, currency transactions, and career development. It can be said that the meta-universe is a very general and summative simple word. It not only contains human imagination of the future scientific and technological society to some extent, but also integrates many popular technologies and industries at present. In the view of many in the industry, this is the reason why the concept of the meta-universe has spread exponentially and is always mentioned in various fields. Shenyang, a professor at the School of Journalism and Communication of Tsinghua University, believes that the meta-universe is a new virtual-real Internet application and social form generated by integrating a variety of new technologies. It provides immersive experience based on extended reality technology, and digital twin technology generates a mirror image of the real world, and builds an economic system through blockchain technology. The virtual world and the real world are closely integrated in the economic system, social system, identity system, and allow each user to produce and edit content.

The metaverse is actually not unfamiliar, and Mark Zuckerberg has given his imagination of the metaverse. Break the "mechanical feeling" brought by the screen and create a real sense of presence through immersive online communication. The meta-universe brings the virtual and the real close together, and the boundary between the virtual and the real is becoming more and more blurred.

2. Interaction Design

The development of interaction design can be divided into three stages, command line interface (CLI), graphical User interface (GUI), and natural User interface (NUI).

In the 1960s and 1970s, when the computer was opened, what you could see was a section of code. The interactive equipment at this stage evolved from the typewriter. Compared with the operation of the computer, only corresponding commands could be input, and the computer could feedback the results according to the received commands to the display. This is called the Command line interface (CLI), but it is not dead and still has a strong life in

niche areas. Then "graphical user interface (GUI)" stepped on the stage of history, the pioneer of GUI can be traced back to Jobs released in 1983 with a mouse LISA computer, and the launch of the Macintosh the following year, the launch of GUI, the learning cost is lower than CLI, computers began to enter the field of mass consumption. It's the kind of interaction that we have on a daily basis right now.

Today, interaction has developed into a "natural user interface (NUI)", which does not require users to learn any pre-set patterns, only requires users to rely on body movements to communicate with the computer, and has begun to get rid of the mouse and keyboard. For example, in Apple's IOS, MAC system, you can wake it up by: "Hey siri" and interact with it to get the information you need and can use. With the development of science and technology, the cooperation between man and machine will become better and better.

The interactive design of the product itself has a human nature, can provide people with a variety of services, so that people's dependence on the product to improve the design value of the product, so the value of the interaction design product reflected in many fields in the future, will have excellent performance.

3. The Relationship between Interaction Design and Metaverse

Both interaction design and meta-universe are updated and iterated and designed based on user experience. From the development of interaction design CLI-GUI-NUI, which itself has certain high-tech design concepts, the most important change is that there are less and less places for users to use their brains and hands, the intelligence of the system reduces the burden of human operation, and the development of interaction design to artificial intelligence, virtual reality, augmented reality, and action recognition have become hot concepts. Putting them together creates what the meta-universe needs to create: an "immersive experience." This means that the existing interaction technology can play a "foundation" role in the construction of the meta-universe.

One of the characteristics of the meta-universe is immersive real experience. In the field of positive psychology, immersive experience means that when people are engaged in an activity, if they are completely immersed in the situation, pay attention to it, and filter out all irrelevant perceptions, they enter the state of immersion. Immersion experience is a kind of positive and positive psychological experience, which will give individuals a great sense of pleasure when participating in activities, so as to encourage individuals to repeat the same activities without getting tired. For example, when an online meeting is held, the participants enter the virtual space through the software, each person creates a virtual character matching their personal image, and interact in the virtual meeting room through the "network avatar", which eliminates the distraction of our current regular online meetings. Similar to the game "Animal Forest Friends Club" developed by the Switch company, the game world is a virtual world, and your ip is your own avatar in the network world, in which you can meet new friends and conduct new social interactions, such virtual reality games are not rare on the market now, which is more like the traditional meta-universe. In the game, the phone can respond to our fingers with sounds, images, or vibrations. But in the metacomes, where the user's eyes, expressions, body movements, and even heart beats

require feedback from the metacomes, interaction designers will face new challenges in the future.

The construction of the meta-universe includes, but is not limited to, interaction design. Roblox believes that a true meta-universe product should have eight elements: identity, friends, immersion, low latency, diversity, location, economic system, civilization. From this point of view, the meta-universe is more focused on creating a parallel world that is the same as the real world, in this parallel world can accomplish many difficult things that are not allowed in the real world, and the meta-universe is the beginning of giving technology the ability to life. As with interaction design, the consumer experience is at the center of the design. However, with the development of modern scientific research and the progress of technology, many humanized designs have been reflected. Interaction design is the integration of humanized design and high-tech concepts, which can integrate interaction design into product design and make the operation of the whole product more convenient and simpler. It can bring users a new experience and truly achieve consumer-centered operation. In other words, the interaction design makes the functions and operations more unified, so that the overall effect across the user's age, so that all users can get a good experience and feeling. Especially in the process of comparing with traditional science and technology products, the technology products presented by this interactive design method are more abundant in functions, more excellent in effect, and can achieve the goal of humanization. But it's limited to the interaction between people and things. On this basis, the meta-universe is more closely linked to space, experience, interaction, and infrastructure construction, and the four are combined to further strengthen the user's experience, and the interaction is more complex, including people and things, people and the environment, and direct issues between people.

4. Conclusion

With the gradual improvement of the global level of science and technology and people's spiritual material, the threshold of people's spiritual level and entertainment level has been continuously raised. The meta-universe and interaction design are integrated with each other, and the existing interaction technology can provide technical support for the construction of the meta-universe, but the meta-universe is a multidisciplinary multi-technology discipline, and its realization and application still need multi-party efforts.

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