Research on the Development Trend of Digital Media Art from the Perspective of 5g Technology Development

Yu Wang[*], Fei Yan

School of Art, Dianchi College of Yunnan University, Kunming, Yunnan, 650228, China

*Corresponding Author

Abstract: The advent of the Internet era has promoted the innovation and progress of Internet technology. The advent of 5G technology has increased the speed of network operation and significantly improved the user experience, thereby further improving the economic benefits of operators and promoting the development and progress of China's Internet cause. With the development of digital technology, "0" and "1" have become the basic codes of social communication, and human beings have entered a "immaterial bit society". At the same time, art forms based on digital media platforms are becoming more and more abundant, and the creative practices of digital media art are in full swing. Digital media has huge advantages in artistic performance, which is closely related to its technical characteristics and artistic performance characteristics. This paper discusses the development trend of digital media art from the perspective of 5G technology development.

1. Introduction

The comprehensive progress and development of 5G technology has attracted extensive attention from all walks of life in society, effectively improving the ultra-high data rate management work and ultra-low-latency project network system management capabilities, which will become the future development direction of China Communications. 5G technology can effectively establish a more comprehensive data supervision model, and can create a good development space and platform for the full implementation of scenario-based management functions. In the future, 5G technology will be fully popularized, and people will truly achieve high-speed Internet access anytime, anywhere.

With the advent of the network information age, the Internet economy is constantly changing people's lifestyles and life concepts along with the use of mobile phones and other mobile terminals. The great development of digital technology has enhanced the enthusiasm of artists to participate in art activities, and revolutionized the definition of art criticism and art concepts. The explosive development of digital media has completely changed the nature of art production and art criticism, provided a more complex market for art creation, and increased the public's access to art. But the face of digital media art has become blurred. So understanding digital media art first distinguishes this term from related art forms, including new media art, electronic art, computer art, internet, virtual and unstable media art.

2. Definition of Digital Media Art

Judging from the basic meaning, the current research points to these words with almost the same discourse-"digital information technology", "creation platform" and more core "interaction" characteristics. In general, due to the lack of in-depth understanding of technical characteristics and communication advantages, the current theoretical world's definition of digital media art is still relatively vague, and the ambiguity in understanding will adversely affect the development of digital media art in China.

This study believes that digital media art refers not only to a certain type of traditional art, but

also to a variety of media art styles based on computer digital platforms. It adopts unified digital tools and technical language, flexibly uses various digital communication carriers, unlimited copying, and widespread dissemination, and has become a new art field where digital technology, artistic expression and mass communication characteristics are highly integrated.

2.1 G Key Technologies

In the process of comprehensive analysis of 5G, we must understand and master the concept of 5G. According to related white papers, 5G is a communication application structure composed of a large-scale antenna array and an ultra-dense networking system. It involves new multiple-access technologies internally, which can establish a new network architecture system and improve communication efficiency and quality to a certain extent. In addition, the ultra-dense networking system can fundamentally increase the deployment density of base stations and create a good platform for increasing system capacity. At the same time, it has the ability to connect 100 billion devices to achieve more intelligent and efficient communication network management goals.

5G is a new network technology system, the key of which is SDN and NFV. SDN can establish a function control module and a function forwarding module, and the two modules are independent of each other. The software-based method adopts the network control extraction and aggregation method. With the corresponding communication platform and information interaction mechanism, the data is released from a global perspective to a certain extent. Resource scheduling instructions to build a programming system within the network platform. NFV refers to the establishment of a more complete control and reconstruction system with the help of component network basic modules, and can exert the effectiveness of network functions.

In the 5G air interface technology system, its overall application instructions and application requirements are the evolution of 4G technology. It mainly integrates new multiple-access, large-scale antennas and ultra-dense networking technologies, and systematically upgrades the traditional frame structure to establish a more complete Continuous wide-area coverage project, maintaining the application value of air interface solutions, improving reliability and low power consumption development level. In the 5G air interface technology system, sparse code multiple access technology modules, non-orthogonal access basic waveform modules with variable subcarriers, etc. have become effective measures to optimize the efficiency of spectrum application, and to a certain extent, meet the needs of adaptive service management. The basic requirements for air and air interface transmission are of great significance for upgrading and optimizing the 5G technology system.

In addition, the sparse code multiple access technology module and the non-orthogonal access basic waveform module of variable subcarriers all upgrade the technology system from the perspective of a virtual radio access network. They bid farewell to the traditional cellular structure and established a user-oriented architecture. For the management and control system and the problem of signal fading and interference is reduced. The sparse code multiple access technology module fully implements the multiple access technology. Whether it is time domain control or spectrum efficiency management, it shows a comprehensive optimization trend.

3. The Development Trend of Digital Media Art

The display designer must understand the trend of the times, and use the most novel means to design the subject that needs to be displayed. In the future display, the display designer should design from multiple aspects, and the displayed works meet the needs of the audience. However, in the process of design, the factor of the crowd needs to be taken into account. The displayed works must meet the psychological and spiritual needs of the audience. At the same time, the factor of the special crowd must be taken into account. Their special visits Method and special display method and special service, all the display should be designed based on people, so as to realize the humanized display effect.

Under the wide application of digital media technology, the display method will also change with great improvement. The current method is more inclined to actively participate in the display

instead of the static display under the traditional mode. The current display adds modern technology, the display effect becomes more colorful and the game interactive link has been added to the display design, making the display effect more like experiencing a game, both visually. A new breakthrough can basically satisfy the curiosity of the audience.

The biggest advantage of using the network display is that it can be free from the constraints of time and space. Everyone can have a network at home, in the office, etc. As long as there is a demand for knowledge, just open the page through a computer. By using the online display method, the display becomes ubiquitous, and the audience only needs to tap the mouse and keyboard in front of the computer. This powerful advantage of the online display will also be an inevitable trend of future display design. The online display makes full use of the wide coverage and fast dissemination of the Internet. At the same time, the online display is not limited by time and space. Online display is gradually adopted by display designers in a form that is convenient for people to contact and more vivid. At the same time, it can also meet people's new requirements for display in the new era.

4. The Dilemma of Digital Media Art

With the continuous development of digital media technology in China, it has been widely used in implementation, and more and more display designs have digital media technology. The development of digital media technology has had several impacts on the traditional single display design, refreshing people's understanding of display design. Especially in recent years, the virtual reality technology (VR), which has been booming in recent years, has brought a new 3D immersive experience to people. People can get a full range of experience in virtual scenes and understand the content displayed. This new digital technology opens up a whole new neighborhood for display design. In the digital media art environment, the display design is more unique, integrating multiple functions such as entertainment, and also has high commercial value. In order to achieve this goal, there are still many problems to be solved.

Display technology is greater than display art. In the environment of digital media art, display design has become increasingly complex. It not only depends on the overall grasp and creativity of the display designer, but also requires the cooperation of relevant professionals. Only two of them The cooperation between them is close, and a consensus can be reached between the two, so that the display design can show its wonderfulness. On the contrary, if the two are not well integrated and reach consensus, then there will be a situation where there is more technology than beauty. For example, in some display design guidance systems, desktop touch screens, LCD monitors, etc., the appearance of display equipment is awkward and difficult to integrate with the display theme, resulting in some counterproductive results, which cannot be recognized by people, and it also affects aesthetics. At some small and medium-sized exhibitions in China, many exhibition designs often only pay attention to the display of technology and neglect art. Technical personnel often have multiple roles. When using conventional methods on the market, different display products are like It is exactly the same, but when new technologies and new methods are adopted, it can not give people a bright feeling. Therefore, in the future, it is necessary to add more art elements to the display design.

Technology and form cannot be well integrated. Among them, the typical example is the case of e-books. According to relevant investigations, after 5 to 8 years of use, e-books will have reduced sensitivity and screen clarity, and The speed of obtaining information by reading is also slow. From a design perspective, placing a very concrete book in a highly modern display space is very inconsistent and lacks a sense of design. It is suggested that in future designs, technology companies should avoid similar inconsistencies, and should work harder on the appearance of products to make them more artistic. Through the perfect combination of technology and art, it is more ornamental and gives people a pleasing feeling.

The data is huge and the transmission is slow. When using virtual reality technology for display design, a huge problem that must be faced is to control the size of the final generated file and the network transmission speed. Many display designers have good ideas and ideas, but they cannot be achieved. The main reason is that the network transmission is slow due to the large file data. For

example, the scene designed by the designer is very ambitious, and the details are very detailed. Although the effect obtained is very shocking, the number of models and the quality of the texture must be increased to achieve this effect. The file data generated in this way The volume is also necessarily large, and the transmission speed will also be slow, which causes the original design effect to not be displayed in actual application. Such a problem is also an urgent problem for the display design industry in China.

The design concept is outdated and lacks humanity. The single knowledge structure is a common problem for many display designers at present. Instead of receiving new knowledge and new technologies, the design basically adopts several inherent methods. The design concept lags behind and has no innovative spirit. The design only focused on technology, lacked attention to people's use needs, lacked interaction with the audience, and information was difficult to spread. China's digital media art education is in its infancy, with a serious shortage of teaching staff.

The funds used to demonstrate the serious shortage of design, the shortage of technical staff, limited technical staff, resource development and update maintenance rely on foreign power, many new ideas and new designs cannot be achieved, and it is difficult to ensure the continuity of resource development in the future.

5. Analysis of Dilemma Countermeasures

Nowadays, the use of digital media art in display design has become the mainstream, and even under such an inevitable trend in society, the speed of information dissemination and update of display design still cannot keep up with the development needs of the times. In many of today's exhibition centers and exhibition halls, although they have also paid enough attention to information construction, most digital media technologies and equipment are still in a relatively backward stage. Under the trend of digital information technology, the audience 's demand for interaction and personalization is also growing. As a display designer, we should continuously draw information through the network to lay the foundation for market adjustment and strive to maintain customer and stakeholder relationships. Integrate and collect previous display data to form a display database. By drawing on foreign advanced experience, accelerating the construction of a domestic display research system, and striving to cultivate the spirit of independent innovation, make the exhibition hall more intelligent, provide certain guidance for the development of China's display design, and attract more audiences.

At present, one of the most important problems in China's display design is the lack of professional talents. In order to solve this problem, the joint efforts of the government, universities and display industries are needed. The government, as a state organ, should play a leading role. By increasing financial support and macro adjustments, the government should open a digital media arts specialty in some universities. Curriculum should be set according to the actual needs of display design, and the number of students should be reasonably planned. Only through these efforts can the training of display design talents in China be carried out and solve the problem of talent shortage for the digital media art display design industry in China.

6. Conclusion

With the development of science and technology, digital media art is difficult to be separated from our daily life, and digital media art is constantly updated, which has also made changes in the field of art design. Digital media art from concept description to overall design, from the theoretical framework to the application level, every link must store and filter reasonable data and build a complex data management framework. Media art is no longer a visual art category in a broad sense. It is based on big data, a discipline that studies people's thinking and extends people's behavior. Therefore, digital media art is analyzed by several keywords; interactive, dynamic design, and user-defined can better understand the development trend of digital media art.

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