

The Development of Virtual Reality Technology Enlightens the New Way of Creation of New Media Animation

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Abstract: With the rapid development of China's economy and the continuous progress of science and technology, the development of China's animation industry has also been greatly promoted. Especially in the context of the rapid development of information technology, it provides a new way of thinking for the creation of animation industry and creative technology. At present, as the product of the development of information technology, virtual reality technology has a far-reaching impact on the development of China's animation industry. From this point of view, this study briefly introduces the impact of virtual reality technology on animation, and will focus on the main characteristics of animation creation under virtual reality technology, as well as the production process and module analysis of virtual reality new media animation.

1. Introduction

China's animation industry has a long history. In recent years, animation technology has gained vigorous development. At present, science and technology in our country is developing very fast, and has been widely applied to various fields of development. Therefore, it is a general trend to apply science and technology to the development of animation industry. As an important product of the development of science and technology, virtual reality technology is closely related to the development of animation industry, which promotes the historical process of animation creation to a great extent and realizes the innovation of animation creation.

2. The influence of virtual reality technology on animation

At present, virtual reality technology as an important branch of information technology is developing vigorously, which greatly promotes the research of animation creation in China. With the improvement of people's living standard and personal appreciation level, people's requirements for animation creation are becoming higher and higher. In the process of enjoying animation, people hope to interact and communicate with animated characters, and experience the charm of animation by wandering in realistic animation situations. The emergence of virtual reality technology promotes the development of animation in this area. Virtual reality technology helps people immerse themselves in the virtual animation environment according to people's emotional appeal for animation, and enables people to enhance their experience through interactive experience. Different from the previous way of viewing experience, virtual reality technology meets people's realistic demands for animation creation[1].

The development of virtual reality technology originated in the 1970s, when Morton Heilig put forward the idea of "simulating the environment of an environmental block". He wanted to use this model to enable people to feel the grass, trees, pictures, tastes, sounds and feelings of a block without having to go to the real environment personally. Later, the scholar Ivan Sutherland mentioned in his book that people have all kinds of perception abilities, such as touch, hearing, taste, and so on. They can feel the color, taste and shape of nature. But people's perception ability is limited, and they can not accurately perceive the subtle things, such as the size of molecules. Therefore, he believes that virtual reality can expand people's perception and help people feel scenes that their physical organs cannot perceive[2].

3. Main Characteristics of Animation Creation under Virtual Reality Technology

3.1 Conceived

Conceptuality is one of the main characteristics of virtual reality technology in animation creation. Based on the basic experience of the real world, the concept of virtual reality technology in animation creation emphasizes the expansion of the real scene, realizes the virtual situation beyond the real world, and enables people to get more wonderful emotional experience from it. As the support of animation creation, virtual reality technology effectively integrates the real natural environment and virtual things, enabling people to perceive real life activities from the virtual world. At present, the application of virtual reality technology in animation creation has made great progress, but there are still some shortcomings. Therefore, it needs continuous research and exploration by relevant scientific researchers to further promote the innovation of virtual reality technology in the development of animation industry[3].

3.2 Interactivity

Another main feature of animation creation under virtual reality technology is interaction. The so-called interactivity refers to the interaction between users and virtual objects and virtual scenes. Users experience the virtual environment on the basis of external devices, and virtual objects respond accordingly according to user's operation instructions. Through this interactive way, users can realize the experience of virtual scene. Through the interaction of virtual reality technology, people can immerse themselves in virtual animation stories and participate in the development of story plots[4].

3.3 Immersion

In addition to the above two points, immersion is also the main feature of animation creation under virtual reality technology. The so-called immersion is that the audience through virtual reality technology can integrate their own thoughts and feelings into the animation creation, feel the feeling of immersion, so as to obtain real emotional experience in the virtual environment. Immersion is the foundation of virtual reality technology in animation creation[5]. It emphasizes that people's perception ability can be extended in the virtual world through the corresponding devices.

For example, in the virtual reality animation scene, a block appears. Through the virtual reality system, audiences can feel themselves in this block, watching street vendors selling hot breakfast, young children carrying schoolbags to school, busy workers walking in a hurry, sanitation workers cleaning carefully, and the traffic lights constantly changing at the intersection of the block. Fantasy, the trees on both sides of the street are waving branches under the breeze, and the sun is rising slowly. When the device is turned off, the virtual animation will end and people will change from the virtual world to the real world. The relationship between the three main characteristics of animation creation under virtual reality technology is shown in Fig. 1.

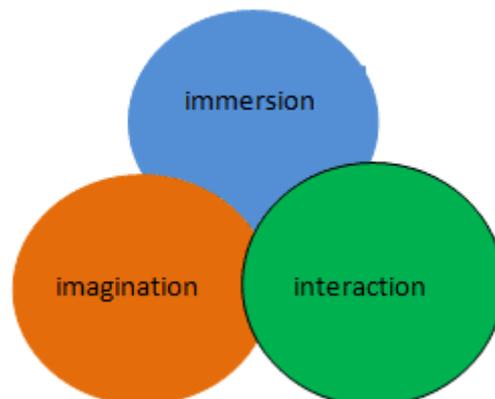


Fig.1 Three “I” Charts of Virtual Reality Characteristics

4. The Production Process and Module Analysis of Virtual Reality New Media Animation

4.1 Model establishment

Creating model is the first step of virtual reality technology in new media animation production[6]. At present, many virtual reality software have been used as production platform, but this software can not achieve the function of model making. For model making, we need to use various external software to do it. At present, the model making software commonly used in our country is 3Ds Max, which is the product of Autodesk Company. It not only has a very powerful model making function, but also has a high cost-effective ratio. At present, the use of 3Ds Max software can achieve the creation of anything in the real world, and it can achieve fine carving of any details in animation creation.

4.2 Model import

Because of the limitation of the virtual software format recognition system, the files generated by the external software can not be directly recognized by the virtual software[7]. It is necessary to convert the format of the files into the format required by the virtual software before they can be imported into the system model. At present, virtual software can basically realize the recognition of conventional animation models. Because animation creation is a complex and huge project, it needs many staff to complete it together, which requires the establishment of a unified animation production norms and standards, and then the workload of animation production is refined and decomposed.

4.3 Physical Property Settings

After the model import is completed, the next step is to set the physical attributes of the model. In this link, vritools attribute settings can be used to configure model attributes quickly. For example, when setting physical attributes for the aircraft model, we can quickly configure the take-off, descent, taxiing and other attributes of the aircraft through vritools[8].

4.4 Attribute testing

After the physical property setting of new media animation production is completed, it is necessary to configure the properties[9]. First of all, we need to test the physical attributes one by one, analyze the rationality of the physical attributes through experiments, record the configuration of the attributes in detail, and test the specific reasons for the problems, and find out the effective solutions. For example, the characters pass through the door directly when boarding the car, which indicates that there are problems in the setting of the car door attributes, and the creator needs to add the door control attributes.

4.5 Camera creation

The main function of creating cameras is to show the plot of a story from multiple perspectives. Some stories can better show the content of the story through the way of sub-lens, so that people can better integrate into the story situation, so it is necessary to create a camera. This way of camera creation is also an indispensable part of the current creation of new media animation, which has an important impact on the development of new media animation.

4.6 Multi-environment construction and rendering output

The last step of virtual reality technology in the production of new media animation is to achieve multi-environment construction and rendering output[10]. In order to make the audience experience real emotions in the virtual environment, it is necessary to carefully depict the details of the scene in the virtual environment, such as the sound system, tactile system and visual system in the scene. In the process of animation scene rendering, the leaves and flowers in the scene are simulated, and the overall environment is rendered and output. Based on this, this study briefly introduces the impact of virtual reality technology on animation, and focuses on the main characteristics of animation creation under virtual reality technology, as well as the production process and module analysis of

virtual reality new media animation, hoping to benefit the further application of virtual reality technology in animation creation.

5. Conclusion

As a product of the development of information technology in the new era, virtual reality technology has greatly promoted the development of animation creation in China and realized the innovation of animation creation in China. Virtual reality technology has changed the traditional development mode of animation creation, through experiential interaction to enhance people's intuitive feelings, thus injecting new vitality into the development of animation creation.

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