Application of vr Technology in the Innovation of Art Design

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ABSTRACT. *With the development of human society, the aesthetic concept of human beings is gradually innovating, and the level of artistic design is gradually increasing. In order to meet the higher aesthetic requirements put forward by people, this paper studies the application of VR technology in the artistic design innovation performance. Briefly describe digital painting and virtual VR technology, and analyze the advantages and innovations of VR technology applied in art design.*

KEYWORDS: *VR technology; Art design; Innovative performance*

1. Introduction

Digital painting is the computer painting that people often say. Artists usually use drawing tools and corresponding drawing software to create. Photoshop, Painter, etc. are well-known software. As the software continues to develop and update[1], the form of creation is constantly enriched. Through the use of special effects brushes in digital painting and the superposition of various techniques, the works created are often rich in color and have a brushy texture effect. Digital painting covers a wide range of areas, such as commercials, animation, and more. VR technology is a virtual world that uses computer simulation to generate a three-dimensional space, providing users with simulations of visual, auditory, tactile and other senses, allowing users to observe things in three dimensions in a timely and unrestricted manner. .

2. VR technology applied to artistic design advantages

2.1 Artistic Advantage

There are many advantages to applying VR technology to art design. The application of VR technology in image design has high requirements in art design[2]. It requires application of Flash, panorama and 3D modeling to process images. The image is better presented, which greatly enhances the artistic value of art design.

2.2 Improve the Efficiency of Art Design

Applying VR technology to art design can effectively change this situation and simplify complex original design. It can solve the problem of design cost and design time in simulation prototype and sand table design. The art design model is displayed in front of the users, giving full play to the advantages of high efficiency and convenience of the network, greatly improving the efficiency and quality of art design.

2.3 Users Have a Sense of Substitution

Applying VR technology to art design can also bring a good sense of bringing in the user, and introduce the user's psychology and senses to create a very realistic scene. With some computer equipment and technology, the virtual world can be carried out[3]. Self-touch, as if immersive, gives users a very real feeling. The application of VR technology can bring users a multi-sensory experience, not only can see very realistic scenes, but also can actually touch and hear, fully mobilize the user's senses, so that people can get information through different layers. Strengthen deeper and more comprehensive understanding of art design programs.

3. VR technology applied to artistic design innovation performance

3.1 Artistic Performance is Intuitive and Complete

By applying VR technology to art design, you can make full use of computers and networks to generate virtual 3D environments. With relevant computer virtual devices and technologies, people's senses can be fully mobilized to interact and experience in virtual contexts. , bringing people a very real feeling. Through the application of VR technology[4], it is also possible to show the dynamic changes of the art design program to the user and enhance the user's understanding and feeling of art design. Tilt Brush is a HTC VIVE-based VR application. When painting, the creator takes a VR helmet and creates it in a dark three-dimensional space. The entire virtual space is a drawing board. The creator can use the position tracking function of the helmet to adjust the angle, or move the entire painting plane for artistic creation with depth of field. From this moment on, artists can capture instant inspiration and complete creations at any time. Tilt Brush is easy to use and easy to use. Both artists and children can learn to use it in a short time. VR technology allows people to experience three-dimensional space art design solutions, let people experience the display program in a first-person way, realize human-computer interaction, people can move freely in virtual situations, and people are not only Viewers can enjoy the results of art design, and can participate in the art design program to perform real-time manipulation to better understand the overall design. The development of computers has transformed the expression of information from the simple expression of their images to the multimedia expressions of pictures. The content delivered has become more and more abundant, and the content displayed is

more self-contained and vivid. Full application of VR technology in art design has turned the two-dimensional picture into a three-dimensional space, which greatly enhances the information carrying capacity of art design, and the results are more self-contained, complete and vivid.

3.2 On-Site Immersion

Under the background of the continuous development of modern technology, people put forward higher requirements for the results of external information processing. They hope that they can fully mobilize the receptors while receiving information, and can participate in information from multiple angles and multiple layers. Processing environment. The application of VR technology in art design can realize human-computer interaction, enhance the interaction between users and art design, and embody the human-oriented art design, showing a good sense of on-site immersion. The application of VR technology enables users to experience the immersive state of the art design. Through the creation of a three-dimensional virtual art design plan by computer, the user is guided to fully engage in it[5]. In this virtual environment, you can see it. And touch, just like in the real world, the art design that people feel is not a one-sided information, it also eliminates the sense of distance and selectivity, allowing people to get a more authentic and reliable experience, through a variety of Perceived ways to get a comprehensive experience. When a designer creates an artistic creation in virtual reality, it is not created by a layer of screen, but actually enters into the real situation to create, and the works can interact and communicate better, so that he can also become an art design. As part of this, the creators will have a very strong sense of immersion and the easiest time to capture inspiration and creativity. Make full use of VR technology to create, you can enter the space you imagined to create. Applying VR technology to art design, you can shuttle freely in your creations, perfect your artistic design from different angles and different ways, and feel the fluidity of the lines and the richness of colors. In short, applying VR technology to art design can bring more possibilities to people, and everyone can become a creator. VR for art creation, let more people see the possibility of application. Everyone can be a creator. Under the influence of this environment, people's five senses will be newly developed. At the same time, while constantly creating, they will continue to enhance their aesthetics, and then drive the cultural development of the whole society.

3.3 New Way of Exhibition

Full application of VR technology in art design, users can operate on the objects in the solution in the virtual environment, and get real feedback from the virtual environment, and this feedback has real-time, VR technology can provide people with virtual world In an immersive interactive environment, users can introduce their own will into the virtual world to interact and talk with virtual objects, and gain the experience and feelings that can be obtained in the real environment, and this is also a tremendous force that can promote art design. Interactive media is about

experience. Compared with other ways and means of information display, VR technology has its own unique characteristics, can provide people with very rich information[6], and has interactive features, making art design more Personalized and self-contained. In a virtual environment, you can choose your own angle or side to browse or participate in the virtual world to experience or experience the scenes or objects in art design, and will not really affect the art design works, and will not affect others. . The virtual digital environment breaks the traditional real material world. People need to feel the shackles of the material world in the real world. They can feel and experience from the mountains in the virtual art design environment, making the display of art design richer and more self-sufficient. It is very much in line with the personalization pursued by modern people. It can be said that VR technology makes the scope of artistic space more open[7], transcending the time and space between works and creators and works and visitors, fully reflecting the value of art design. Applying VR technology to exhibitions, you can use virtual devices to curate and manage more scientifically. People don't have to gather together to see the description of the work, and they don't have to push the work to look at the work. In-depth communication and dialogue with the works in the works, providing a new way of viewing and achieving human-computer interaction.In addition, every exhibition means a lot of manpower, material resources and financial resources, so the emergence of VR means that all of this can be improved. Space construction can be achieved by 3D modeling and rendering, which greatly reduces the cost of the construction environment. VR provides a new form of creation for the layout and spatial reconstruction of the work.

4. Conclusion

The development of VR technology not only opens up a new field of art, but also shows people a new and more attractive art form. It reinterprets art and produces a new artistic language. It is the fusion, reorganization and reconstruction of various art forms. VR has already been created. What we have to do is adapt to development and enhance our creative ability.

References

[1] Yao J G, Wu L (2014). Application of Jiangxi Ancient Buildings Carved Window Shape in the Contemporary Design. Advanced Materials Research, vol. 33, no. 2, pp. 1527-1530.
[2] Jiang J, Xu J (2018). Research on Design and Innovation of Milk Fiber in the Building Space Decoration. Applied Mechanics and Materials, vol. 16, no. 2, pp. 468-470.
[3] Thompson-Whiteside, Scott (2016). Zen and the Art of University Rankings in Art and Design. She Ji: The Journal of Design, Economics, and Innovation, vol. 12, no.3, pp. 243-255.
[4] Luo J, Mao A, Au J S, et al (2019). Fusion of Art and Technology in Professional Cycling Sportswear Design. Leonardo, vol. 47, no. 2, pp. 176-179.

[5] Qian Z (2017). Discussion on innovation of contemporay architectural design:considerations based on in the innovation of art nouveau. Industrial Construction, vol. 41, no. 7, pp. 143-148.

[6] Lehtonen M, Page T (2017). Thorsteinsson G , et al. An application of a virtual learning environment in support of teaching and learning for design and technology education. International Journal of Learning Technology, vol. 23, no.2, pp. 133-135.