

Research on Application of Virtual Reality Technology in Environmental Art Design

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Abstract: With the continuous development of the trend of social informatization, more and more scientific and technological methods have been applied in the daily lives of residents. The emergence of computer technology has provided more convenient working methods for all walks of life. For environmental art design work, in the process of environmental art design, the application of virtual reality technology to create design content can effectively improve the design efficiency of the design work and the quality of the design plan. The quality of life of residents is constantly improving, and the requirements for environmental art design are also constantly improving. In order to meet these requirements, workers in the environmental art design industry need to continuously improve their professional capabilities and use various methods to make environmental design work as it should be. This research will explore the current status of the application of virtual reality technology in the current environmental art design work, and analyze the significance of the application of virtual reality technology to the environmental art design industry.

1. Introduction

With the continuous development of information technology today, more and more science and technology are gradually being applied to the development process of society, and the development of information technology has promoted the process of my country's economic development. The living standards of residents are improving day by day, and the competitiveness of the environmental art design market is gradually increasing. If environmental art design companies want to develop further, they need to continuously improve their creative ability. The emergence of virtual reality technology is the work of environmental art design. Provides a more convenient and effective design approach. In the process of environmental design, design staff can use virtual space technology to complete the design plan. The use of this design method can not only speed up the design work, but also ensure that the design results can meet the requirements of the construction site, fully conforming to the construction site, play a very important role in the improvement of the quality of environmental art design results and the improvement of economic benefits ^[1].

2. Concept of Virtual Reality Technology

Virtual reality technology is actually a kind of computer simulation technology. Through this technology, technicians can construct a virtual world with interactive capabilities in a digital system ^[2]. Virtual reality interactive technology ^[2] is actually through the establishment of a virtual simulation environment very close to the real environment. The virtual environment that needs to be constructed is different, and the technical means that need to be used in the process of making the virtual environment are also different. Normally, the foundation of virtual reality needs the support of the information input module. In the process of constructing the virtual reality environment, technicians need to input relevant data in the information module, and complete the construction of the virtual environment on this basis. In addition, the virtual reality environment technology also needs the support of the virtual technology mutual inductance characteristic module, through this module, the user can interact with the virtual reality environment. The characteristics of the virtual

reality environment technology are mainly as follows. First, the virtual reality environment technology is multi-perceptual. The related research of the virtual reality environment points out that after the virtual reality technology reaches the idealization, all the user's perception capabilities can be used by the virtual reality technology. However, the current virtual reality technology in my country is still in the state of capturing basic perception capabilities. To achieve the purpose of multi-sensory capturing, further research efforts are still needed. Secondly, the virtual reality environment technology is interactive. Inside the virtual reality environment, users can interact with the content in the virtual scene. Finally, the virtual reality technology environment has the feature of conception. Through the virtual reality environment technology, people's ideas can be directly transferred. Show it off.

3. The Impact of Virtual Reality Technology on Environmental Art Design

Nowadays, my country's social economy is developing rapidly, and the environmental art design industry has also obtained a better and broader development space with the development of social economy. Residents' requirements for the quality of living environment are increasing day by day. In order to meet the needs of residents, environmental art design has been significantly developed. Environmental art design can improve the living environment of residents and create a more suitable living environment for residents. The content of environmental art design work is the space design work of the exterior and interior of the building, such as the design of the road environment, the space design in the building, etc., all belong to the category of environmental art design. Environmental art design is more comprehensive and more systematic than other design work. The design staff needs to design the real environment. In this way, the real environment can be improved. In the early days, due to the influence of technology, in the process of environmental art design, design staff could only rely on their own environmental imagination and professional ability to complete the design work. This design method cannot achieve the purpose of environmental design work application. The application of virtual reality technology provides a more effective and convenient design method for environmental art design work^[3]. This technology has changed the design method of environmental art design work and transformed the traditional manual design method into a more specific design method. During the design process, the environmental art design staff can design the environment in the system according to the needs. Construct a real virtual environment, and then complete the subsequent environmental art design work. The application of virtual environment technology has also improved the purchase experience of environmental art design enterprise customers. Through virtual reality technology, customers can have a very direct understanding of environmental design solutions, which effectively improves customer satisfaction. During the construction of environmental art design work, through virtual reality technology, relevant technical personnel can calculate various construction materials and construction requirements, and reasonably control the construction cost of art design.

4. Specific Application of Virtual Reality Technology in Environmental Art Design Work

4.1 Intuitive Art Design

The development of real estate and residential areas is an important expression of urban development. In the process of urban development of real estate, other industrial chains can also be developed accordingly. For environmental art design, virtual reality technology can help environmental design staff to transfer the design content of environmental technical design work from traditional paper to computer equipment, and make environmental art design work more three-dimensional through information software., A more direct way to show to the design workers. Through virtual environment information technology, designers can effectively combine virtual and reality. After the design work is completed, customers can also watch the results of the art design work more intuitively. Virtual reality technology provides the most intuitive environment presentation method for environmental art design work and subsequent sales work.

4.2 Precision Art Design

In the process of applying virtual reality technology, the design staff need the relevant data of the environment in the computer system and ensure the accuracy of these data. Only in this way can the virtual space constructed by the virtual reality technology meet the needs of the design work. In the process of constructing the virtual space, the computer system needs to go through logical operations and confirmation work to complete the construction work. Due to the particularity of the virtual space technology itself, in the application process, designers can carry out simulated enlargement and reduction of virtual scenes. This method can help environmental art design staff develop a macroscopic view of the target area of environmental design work. In addition to the layout work, it can also ensure the integration between the various contents of the design work. Virtual reality technology is an effective way to improve the accuracy of environmental design work for environmental design work.

4.3 Interactive Art Design

In the early days, before the popularization of information technology, environmental art design staff could only rely on paper to complete the environmental design work. The application of the virtual reality platform provided environmental designers and customers with a simulation communication platform to watch the environment. In the process of design results, if there are any problems or undesirable findings in the environmental design work, they can immediately give feedback to the designer, and the designer can promptly modify the problems existing in the environmental art design work based on the opinions of the client. The use of virtual environment technology has effectively improved the communication between designers and customers, and effectively improved the design quality and design efficiency of environmental design work.

4.4 Design Budget Control

In the process of developing environmental art design work, through virtual reality technology, technicians can have a more intuitive understanding of the construction content of environmental design work, and calculate the materials, equipment, labor and other data in the design plan, which is environmental technology Design work provides a clearer basis for budget data and reduces the incidence of adverse events caused by budget problems. At the same time, virtual reality technology can help designers determine the environment and conditions of the design area from multiple perspectives to ensure the accuracy of material budgeting It can effectively control the construction cost of art design work, and maximize the benefits of environmental art design work on the basis of ensuring quality.

5. Conclusion

For environmental art design work, the application of virtual reality technology can help environmental art designers design better design works and ensure that environmental art design works can meet the living requirements of residents. The application of this technology has also laid a good foundation for the further development of China's environmental art design industry, and is of great significance to the stable development of my country's environmental art design industry.

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