

# Application of Virtual Reality Technology in Digital Media Design

Guodong Gong , Zeyu Zhang

Qingdao City University Shandong Qingdao 266106

---

**Abstract:** The most important feature of virtual reality technology is beyond reality, which will form a good stereo visual effect, provide help for digital media design and improve the overall visual expression. The use of virtual reality technology in digital media design can improve the shortcomings of previous design work, provide new ideas and directions for design work, and design more novel and distinctive digital works. In this regard, it is necessary to skillfully complete the use of virtual reality technology and constantly optimize and update the design of digital media, so as to make digital media works more attractive to the public and bring people different feelings. Based on this, this paper mainly analyzes the virtual reality technology used in digital media design, and then discusses the application strategy of virtual reality technology in digital media design, hoping to bring some reference for everyone.

**Keywords:** Virtual reality technology; Digital media; Design

---

With the continuous development of science and technology, various new technologies have been developed. Virtual reality technology is one of them. Integrating it with digital media design will achieve the goal of interactive design, provide help for work and life, and promote social economic development. In this regard, it is necessary to give full play to the role of virtual reality technology, master the technical essentials in the digital media design work, and show the characteristics of technical interest, digitalization and interactivity. Moreover, the continuous development of virtual reality technology will provide more ideas for digital media design and create novel and diversified digital media design works.

## 1. Virtual Reality Technology in Digital Media Design

### 1.1 Tilt Brush VR platform

Tilt Brush VR is widely used in virtual reality technology, which not only achieves good design results, but also creates a large number of digital media resources, applies digital painting to virtual environment, and provides various tools for creators. Digital media designers can combine their own ideas to complete the creation in a virtual environment and appropriately adjust the use of equipment and tools. Through the use of the above technology, the modification and appreciation of the design works can be completed at any time, which will help the design work, improve the overall artistic level, and build an excellent design environment <sup>[1]</sup>.

### 1.2 Quick Time VR technology

This technology is superior to virtual reality technology in performance, and can complete a full range of three-dimensional image observation, so that the staff can get a better experience, as if they are in a real scene. Technology will not only present three-dimensional images, but also enhance the overall interaction effect, bring people a good visual experience, and complete basic work editing. With the help of virtual reality technology, the interaction of various groups can be improved. It can not only be added to the work editing link, but also adjust the content of the work to meet the needs of users. Quick Time VR technology can be used with input devices, such as SLR cameras, and the use phase will transfer the picture to the virtual software to complete the cutting and color mixing of the picture at any time.

### 1.3 Oculus Quill

The use of the above tools will satisfy the creative requirements of digital media design, not only providing three-dimensional sculpture materials, but also directly using three-dimensional sculpture. Since the material is similar to soil in use, the creator's carving requirements can be met. In this regard, we can make full use of Tilt Brush VR platform to provide tool support for digital media

design and achieve the creation of various contents. In addition to the above, other virtual reality technologies will also allow creators to build corresponding scenes in the virtual environment and adjust the size and specifications of the required works.

## **2. Application Strategy of Virtual Reality Technology in Digital Media Design**

### **2.1 Digital Scene Design**

In scenes such as museums or cultural centers, if virtual reality technology can design simulated digital scenes, so that visitors can form a better viewing experience<sup>[2]</sup>. For example, in a certain scene section of the Expo Park, VR technology can be used to reproduce the real scene, presenting the artistic characteristics of a region and region, and presenting the famous scenery of each region to the public. In the specific design link, VR technology and sound can be connected together to build a beautiful scene. In addition, an empty video hall can be designed to connect electronic products and multimedia works through VR technology. Visitors only need to wear virtual equipment to observe scenic spots in various regions and have a clear understanding of cultural customs in various regions.

### **2.2 Digital Architecture Design**

When designing three-dimensional space, the overall effect of virtual reality technology is better than that of graphic design. Therefore, it is suggested to adopt virtual reality technology in the architectural design stage to turn the original design scheme into a three-dimensional building model and restore all scenes of the building. For example, the width and height of the building enable designers to clearly view their own design scheme, find out the defects, and complete the improvement and adjustment in time. For example, designing digital buildings through Holo Studio programs will not only build virtual building space, but also flexibly complete the modification of building models. Whether it is the construction of the house building, or the choice of building materials, colors, and properties, it will be truly presented under the use of the program.

### **2.3 Digital Game Design**

Digital game design in digital media design is one of the key contents and needs attention. With the continuous development of the times, my country's game industry has also derived various excellent works, and virtual reality technology is more or less adopted in the design stage. To put it simply, the use of virtual reality technology in digital game design not only promotes the development of the industry, but also enhances the level of digital media design in my country<sup>[3]</sup>. For example, the game "Onmyoji" developed by Netease Company uses VR technology and LBS technology. When the card is drawn, the current calling mode can be selected, and the drawn card characters will be truly displayed in front of the game users. For example, some games require users to wear holographic glasses, then connect PP GUN with the display and open the virtual scene, so that they can feel the real game operation in the virtual environment.

### **2.4 Design Digital Movies**

With the rapid development of the film industry, today's films are not only limited to 2D films and 3D films, but also 4D films and 5D films have been developed, which will allow the audience to enter into more real scenes and provide the public with a rich viewing experience. In the above-mentioned movie design and production, many virtual reality technologies will be used to realize the formation of movie special effects through technology. For example, the American ILM company uses virtual reality technology in the design of film works, which not only improves the visual effect of the film, but also presents various scenes in front of the audience through the way of scene reproduction, triggering the audience's creativity and The development of imagination presents the artistic value of virtual reality technology. When designing digital movies, we should not pay attention to technology and ignore art. Only by skillfully combining art and technology can we create valuable and innovative movies.

### **2.5 Design Digital Classroom**

The use of virtual reality technology in the education industry is particularly critical. It can not only build a rich digital classroom, but also truly present the boring knowledge in the textbook, turning it into an interesting and life-oriented scene, thereby igniting students Interest in learning strengthens students' learning experience<sup>[4]</sup>. For example, in the history digital classroom, teachers can let students wear VR equipment, feel the broad historical knowledge in the textbook, immerse themselves in the relevant scenes, and actively think about the knowledge points in the textbook. Form different learning feelings. The use of virtual reality technology in modern teaching will also show the key and difficult points of the textbook, so that students can intuitively learn knowledge, feel the diversification of knowledge learning, and will not be limited by previous thinking, and then use their own brains to solve problems. It can be seen that the use of virtual reality technology in digital media design can not only help art design, but also play its own value in the field of education.

## Concluding remarks:

All in all, the use of virtual reality technology in digital media design can provide channels for the dissemination of digital media, accelerate the speed of digital media information dissemination, and make digital media design have more inspiration, so as to improve the efficiency and quality of design. In the fields of digital scene design, digital architectural design, mathematical game design, etc., virtual reality technology is often found, which also provides help for the implementation of work in various fields, so that external information will not interfere with the public. Let people experience the charm of the virtual world, so as to receive the information of the virtual world efficiently and comprehensively, and help the two-way development of virtual reality technology and digital media design.

## References:

- [1] Zhou Haohua. Research on the Integration and Development of Digital Media Technology and Virtual Reality Technology [J]. Television Technology, 2021,45(4):4-6.
- [2] Jiao Jian. Research on VR Virtual Reality Talent Training Mode for Digital Media Technology Major [J]. Information Recording Materials, 2021,22(4):232-233.
- [3] Zhu Jianhua. Application of Virtual Reality Technology in Digital Media Design [J]. Wireless Internet Technology, 2021,18(19):77-78.
- [4] Lin Yu. Application and Innovation of Virtual Reality Technology in Digital Media Talent Cultivation [J]. Software, 2021,42(5):181-183.

## About the Author:

Guodong Gong (1983), male, Han, bachelor's degree (bachelor's degree), lecturer (intermediate title), research direction: digital image Zeyu Zhang (1992), female, Han, postgraduate (master's degree), teaching assistant, research direction: animation and visual effects