Analysis of Digital Image Representation in Public Art Creation in the New Period

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Abstract. The concept of public art was first proposed by American scholars. Compared with other forms of art, the form of public art appears later. It has a very distinctive artistic nature and artistic beauty. With the application of public art more and more widely, it has attracted many people's attention and love. Computer Graphics Technology is also a popular in recent years a new form of artistic expression. Some artists have proposed a combination of public art and computer-based digital image technology. The technique is unique. In this paper, the details of the study and explore the computer-based digital image of the public art forms of expression, and finally come to a corresponding conclusion.

Keywords: Public Art, Computer, Digital Image

1. Introduction

In recent years, public art is a special concept often put forward by scholars in the field of art. Although it appears relatively late, much is known about it. The public art refers to the artistic creation form and the artistic design idea in the public space. Public space refers to the open and free public creative space. The emergence of the concept of public space has also laid a foundation for the emergence of computer-based digital image art.

With the continuous updating of computer technology, people gradually find the advantages of computer image processing technology. It can handle different graphics or models in a variety of environments. Because of this, people think that the computer graphics processing technology and public art characteristics are similar. Some experts have proposed the use of a combination of digital image representations and public art creation.

2. A brief summary of digital image technology

Digital image technology is a main expression form of digital media. Digital media refers to the form
of media that is transmitted in binary numerical values. Media formats include text, images, audio and video[1]. The appearance of Digital Image Technology predates the appearance of video technology. We may think that the video technology foundation is the image technology.

With the advent of the media age and continuous progress, the computer image technology has been gradually discovered and used. All aspects of human life have the shadow of computer image technology. Digital image technology has the characteristics of diversified communication and diversified interaction. In the early days of image technology, people used computer image technology to process photos and various stereotypes animation. After this, people began to use digital image technology to produce a variety of advertisements and posters. Only after the appearance of public art did people discover the artistic characteristics of computer image technology[2].

3. The main features of digital image design

Before it was discovered its artistic characteristics, people discovered the main characteristics of image expression. It is the use of such features can make the image technology is widely used in people's life in various fields.

3.1. A vivid and concrete form of artistic expression

Before the discovery of computer image technology, people used the image technology is the technology of artificial drawing[3]. At that time, the emergence of a large number of painters is also a lot of reasons. After the appearance of computer image technology, people have found that its form of expression is very realistic and special. The concrete expression of the image can make people feel that they are in the scene.

3.2. The form of expression is scientific and accurate

The image processing is not imaginary. Computer 3D modeling techniques have real physical engines. It creates three-dimensional shapes as if they were real. In the process of setting various parameters, the computer graphics processing follows the scientific nature and authenticity. It's a trait that people admire[3].

3.3. The design has low loss and low cost

In the absence of Graphics Processing Technology, People's graphics design mainly rely on practice. Practice is indeed a friendlier approach. However, graphic design at the time required a great deal of material. The cost of these materials is high. People can't afford it. The computer graphics processing technology solves this problem very well (see Table 1).

| Table 1. The expression characteristics of computer image technology and public art based on computer image technology |
|---------------------------------------------------------------|
| Computer Graphics | Public Art of computer graphics |
|-------------------|-------------------------------|
| Vivid and visual  | Good design environment       |
4. Computer digital image representation in public art creation in the new period

After the researchers proposed the use of a combination of public art and computer graphics, people began to try to combine the two. Through the unremitting efforts of people, a new art form came into being. It's called CG. The essence of this technology is the emerging expression of public art through digital image technology\(^4\). Unlike the traditional form of hand-painted art, its limitations are not limited.

People can express imaginary things through computer technology as a special form of art. In addition, CG technology has the public art of interaction and publicity. The mode of man-machine interaction can help users express their creative ideas better. The concept of public space still applies to this form of technology. It can be said that the combination of digital image representation and public art is perfect\(^5\).

5. The main features of the new CG art

We have learned the main features of computer image technology. We also know the main features of public art. The combination of the two features makes us full of expectations.

5.1. Good design environment

In fact, the concept of public space of public art is abstract. The design environment of public art depends on the user's living environment. It has a lot of limitations. CG's new art form clearly has no spatial limitations\(^6\). The quality of its design environment depends mainly on the configuration of computer equipment.

5.2. Powerful interactivity and freedom

The human mind is free and powerful. The artistic nature of human invention is also a form of freedom. In order to adapt to the activity of the human mind, the computer can work like the human brain. The simple human-computer interaction ability can enable the creator to exert the creative thinking.

5.3. The construction of four-dimensional space

For Humans, four-dimensional space is abstract. No one has actually seen four dimensions. No one can describe the four dimensions of space. However, computer image processing techniques create abstract four-dimensional spaces. It enables the creation and sharing of public spaces. The environment in which computers are designed is infinite. It was designed in what we think of as a four-dimensional space.

6. Conclusion
We can think that the computer digital image representation in the public art creation in the new period is the inevitable trend and requirement of the public art information development. I believe that one day its application will be widely noticed.

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