Research on the Application of Environmental Art Design Based on Digital Media Technology

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Abstract. Environmental art design is a more delicate and emotional art than other design arts. In short, it is a combination of rationality and sensibility. In addition, good spatial feeling is needed. Digital media technology will make all this more clear and impressive. As an open platform, it can provide better expression for environmental art design, better post-processing, and better expression and realization of many creative ideas. In this thesis, we will discuss the application of digital media technology in environmental art design.

Keywords: Digital Media Technology, Environmental Art Design, Application

1. Introduction
In today's era, there are deep or shallow interactions between different industries. With the development of computer science, digital media technology arises at the right moment. It perfectly meets the requirements of various design industries, environmental art design is no exception. Until today, digital media technology has been deeply developed in the field of environmental art design, and has been applied more and more widely. With the help of digital media technology, environmental art design becomes more vivid and specific. In the process of mutual application also promoted the common development of the two, let us have more expectations for the combination of the two.

2. The Meaning and Characteristics of Digital Media Technology
Digital media technology is a kind of abstract technology which takes computer graphics technology as the medium, synthetically carries on the scientific processing to the text, the figure, the color and so on information, makes it become ornamental, interactive, perceptible abstract technology. Guided by science and technology and pursuing to meet the aesthetic and needs of the public, modern art design works are spread to all fields [1] people's lives. The combination of digital media technology and art design, in other words, the integration of modern science and technology into art design, opens up a new way for the development of art. Digital media technology has the following characteristics:

2.1. Equality
The threshold of traditional art design creation is high, and artists with strong skills are needed to design good art products. The continuous development of science and technology provides better technical
support for people's life. Taking photography art as an example, the old photographer needs continuous training to master the dark room technology, and it is difficult to grasp the light and shadow, so the birth of good photographic works needs long-term artistic creation. Now, with the continuous progress of digital software to deal with photos, the software can easily deal with the series of problems encountered in photography before, photography is less and less mysterious, gradually into the life of the public. People can use various mobile phone software to take photos as they like. As can be seen, through digital media technology, art design has become more and more popular, is no longer the stage [2] of a few artists.

2.2. High efficiency
Digital media technology and computer technology are inseparable, the use of digital media technology for art design, can improve the efficiency of design. For example, the use of digital media technology can make drawing more convenient and fast, applied in all aspects of modern design, graphic design, product design, interior design, landscape design, clothing design and so on, and can also communicate and communicate with Party A at any time through the computer. All in all, the application of digital media technology to modern art design greatly reduces the intensity of art workers and improves the efficiency [3] art design.

2.3. Interactivity
The development of digital media technology not only provides a good platform for the development of art design, facilitates consumers to obtain resources from it and communicate and communicate on the platform, but also enables designers to understand the deficiencies. Better improvement of design works. Development of digital media technology, make people to achieve deeper communication, across the field, level, to achieve the [4] of resource sharing.

3. Digital Media Performance Strategy and Realization Process of Interior Environment Design

3.1. Virtual Implementation Technology
With the continuous development and progress of digital media technology, it is more and more widely used in all aspects of people's life, and its overall availability has achieved great innovation. At present, the highest requirement for digital media technology is to simulate the scene and picture in virtual reality life as far as possible, and to reflect the reality to the greatest extent. In recent years, with the development of visualization technology and the continuous upgrading of computer technology, computer software system can virtual more and more real reality situation and picture, among which the artistic special effects are more and more intense. Among them, high-definition is the necessary technology of situational lifelike in virtual reality technology. Virtual reality technology uses enhanced interaction, using specific devices such as induction helmets, gloves, etc., by placing the sensor device in a virtual situation, and then letting the sensor use the instrument in the virtual situation to perceive everything in the virtual environment. After friendly interaction, the most simulated virtual scene in the real world is obtained. Virtual reality technology is more and more widely used in environmental art design because of its ability to use 3D perception to present realistic real scene and the sense of reality that can be operated personally. The continuous innovative development of virtual reality technology and the continuous promotion of real-time interaction provide great technical support for the progress of environmental art design. Designers use state-of-the-art digital technology to virtualize realistic scenarios to obtain the most realistic and visual expected design environments, such as buildings under construction, unfinished statues, and so on, while also virtualizing the conceptualization of non-realistic things in the designer's mind.

3.2. Digital Media Performance Software for Interior Design
At present, the software commonly used in interior environment design is AUTOCAD software, which can greatly improve the design level of designers, significantly reduce the design cost and effectively
reduce the design cycle. Of course AUTOCAD software updates and upgrades are also relatively fast, and have now been upgraded from AUTOCAD R14 to AUTOCAD2014 versions, where the down-compatible system, that is, advanced versions, can open low-level versions, but low-level versions can not open high-level versions. Reference to advanced versions is unstable, so the current AUTOCAD software version is AUTOCAD2014 version. During the process of interior environment design, designers can use 3D studio Max to design based on image and model, and use texture mapping and model segmentation to meet the real-time needs of virtual space. What needs to be explained is that the v Ray 3dmax provides an important rendering function for 3dmax software, which is developed and designed Chaossoftware a professional rendering company. The software has global lighting rendering function and ray tracing rendering function. And replace 3 software original linear scanning rendering function. v Ray renderer is mainly divided into basic package (i.e. Basic Package) and advanced package (i.e. Advanced Package), in which the basic package is cheaper and more suitable for home and amateur designers; the advanced package can provide a variety of advanced functions. More suitable for professional designers. Of course v a renderer Ray almost the most comprehensive third-party plug-in software for 3 software, which can help render special effects, such as global lighting, ray tracing and surface scattering [7]. v Ray renderer combines light energy transmission and light tracking technology, which can provide light effect by using real light calculation formula, so it is widely used in indoor and outdoor design and architectural design.

3.3. Logical Architecture under Digital Media for Interior Design

Obviously, the primary purpose of interior environment design is to meet the material needs and spiritual pursuit of users, and to creatively transform the living environment, working environment and learning environment of users, so that users can achieve material and spiritual enjoyment. The high quality interior environment design can improve the user's space environment and the user's psychological environment, which is to create the high quality spiritual environment under the limited material premise. In the creative design, the designer should first analyze the logical framework of the indoor environment in detail, and the logical framework diagram of the specific indoor environment design is shown in figure 1.

![Figure 1. Logical Framework of Indoor Environment](image)

It is not difficult to see from figure 1 above that if we want to plan the logical architecture diagram, we must obtain the information of the structure form, space size and user requirements of the indoor environment, which all provide important data parameters for the design work.

3.4. Digital realization process

Designers need to gradually implement the program design, program analysis, design performance and effect evaluation steps, the specific design process is shown in figure 2.
According to the necessary project requirements, the designer should first carry out the scheme analysis, which is actually a kind of reverse operation. The target position of the stage uses limited material as far as possible to obtain the design information. Then the designer analyzes, induces and summarizes the information data, and finally becomes the important reference object of his own design conception. Designers can also analyze and compare a variety of design schemes horizontally and vertically, and optimize the design scheme with reference to previous design experience. The specific design concept flow chart is shown in Table 1.

**Table 1.** Digital Media Analysis Process for Interior Design Products

| Establishment of Digital Model Analysis Structure | Analysis Model Structure Record Analysis Information | Product induction and evaluation |
|--------------------------------------------------|-----------------------------------------------------|---------------------------------|

It is not difficult to see from figure 3 that designers also need to refer to the spatial characteristics, spatial environment, design purpose and positioning parameters, according to the previous design methods to determine the design process and scheme, and use computer assistance to design, and finally provide accurate information for the implementation of the whole design project. Designers should also consider the space streamline of indoor buildings, make rational use of the arrangement and combination of space in function, construct the living room as the center of the whole activity, arrange the location of the living room reasonably, and keep the public space, basic space and private space in good relationship.

4. **Analysis on the Application of Digital Media Technology in Environmental Art Design**

Nowadays, digital media technology has been applied in the field of environmental art design in all directions, which can not only make the art expression form become comprehensive and rich, but also give designers to expand their thinking, create inspiration, and improve the overall aesthetic of the public. The application of digital media technology is more intuitive, more concrete, more accurate and more propagating than the traditional image graphics. However, the application of digital media
technology will also erase the originality and richness of design works. The traditional environmental art design creation can see the designer's design process from sketch to final, and can feel the innovation of design. However, the excessive application of digital media technology will make the design more and more like the assembly line produced in the factory. Digital media technology, as an integral part of environmental art design, plays a great auxiliary role in artistic creation. However, relying too much on digital media technology will make art design too patterned, lacking uniqueness and artistry. Therefore, the application of digital media technology in art design has two sides, both advantages and disadvantages. The operation of the design software is convenient and flexible, which has a profound influence on the way of artistic creation. When the traditional excellent artists carry on the art design, they need the mature thinking and inspiration after the artists think over and over again, and the design of the effect map is only the last link of the artistic creation. In the era of digital media technology, different from traditional art creation, it is through computer to create art. While using computer to collect data, while using software composition to obtain design inspiration, excessive reliance on software to design, will make designers lose the ability to create independently, independent thinking, works of art become the product of the development of the computer age, so that the design works blindly pattern and stiff hardening, lack of uniqueness, creativity. With the development of the times, the more powerful the computer is, the less creative the art design is. In the face of this situation, we should return to the origin of art design and not use modern technology to bind our creativity and inspiration. Computer software can not be used to limit our ability to create and think independently. Designers should become the dominant technology software, use technology reasonably, give full play to people's subjective initiative and people's subjective thinking, and design works with emotion and new ideas.

5. Modern Art Design Based on Digital Media Technology
In recent years, with the wide application of digital media technology, art design methods and forms of expression have been greatly changed, but also promoted the improvement of public aesthetics. Modern art design based on digital media is manifested in the following aspects:

5.1. New aesthetic features have been created
Digital media technology makes modern art design have new aesthetic characteristics and can enhance the form beauty of art design. These new art forms exceed the real form in life. Digital media technology can be used to create new elements and integrate space by using new design elements. Digital media technology breaks the space limitation in the traditional design, makes the designer not limited to the traditional plane space, extends the design space to the three-dimensional or even four-dimensional space, enhances the artistic design space beauty.

5.2. A new design language
Under the application of digital media technology, the art design has a new design language, enhances the reality of the design language, and the realistic design makes the design works clear and the combination of reality and reality. To the art and design works added emotion, make the work more complete. Digital media technology can also make art design work become standardized, standardized, balanced. Compared with the previous paper drawing, the computer drawing is faster and more accurate. Compared with the repeated changes of the previous hand drawing scheme, the computer drawing greatly saves time and improves the working efficiency.

6. Conclusion
Digital media technology for environmental art design has reached the degree of mutually external and internal, the two are closely related. The application of digital media technology makes environmental art design more expressive and faster in propagation. Although there are some bad points, but the merits cannot be overshadowed, and it will be applied more widely in the future.
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