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The VR Digital Media Visual Design System Based on the Ecological Environment Characteristics of Yanyu in the South of the Yangtze River

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ABSTRACT

Virtual reality technology can simulate more images and bring people a certain degree of visual enjoyment. VR technology and AR technology are emerging technologies that connect the real and virtual information worlds. Their application has brought people a richer information experience, greatly improving their sensory experience, and has very high practical application significance. This article mainly analyzes the value and methods of using computer virtualization technology, as well as its development and practical application effects, and interprets the current development status. This article combines machine learning methods with VR digital media technology to study a visual design system in the misty rain rising environment of Jiangnan, and demonstrates the superiority of this method through examples.

KEYWORDS

Misty Rain in the South of The Yangtze River, Ecological Environment, VR Digital Media, Visual Design

INTRODUCTION

Improving the quality of teaching content and adopting innovative teaching methods are crucial in the educational process of VR technology. This can not only effectively promote the development of computer virtualization technology, but also accelerate the process of the digital industry, improve transmission and developmental efficiency, and enhance its own innovative value. Therefore, it is necessary to clarify the developmental direction of VR technology and widely apply this technology. At the same time, we should strengthen the teaching and popularization of relevant technologies to cultivate more VR technology talents, expand the market, and promote more professional talents to participate in the application of VR digital media, enriching their career development. At present, ecological restoration has indeed reached a point where it requires high attention from all mankind and active measures to save it. The current environmental legislation in China, which is oriented toward preventing damage to the ecological environment, has significant shortcomings. We need to urge humans to actively intervene in ecological degradation, actively promote the formulation of relevant laws, urge relevant entities to fulfill their obligations to restore the ecological environment, restore

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the ecological structure of damaged ecological systems as much as possible, and help them restore basic ecological functions. Utilizing VR digital media technology, a visual design system based on the characteristics of the ecological environment of Jiangnan Yanyu was created. ML algorithms were used to analyze the ecological elements of Jiangnan Yanyu, and its good effect was verified through experiments. This paper aims to explore the application of VR technology in governance of the ecological environment, analyze its potential impact on enhancing ecological, civilizational construction, and propose corresponding strategies and suggestions. The visual characteristics of the misty rain in Jiangnan are of great significance to the culture and tourism industries. By using VR technology to recreate the natural scenery of Jiangnan, it can provide tourists with an immersive experience and promote the development of the local tourism industry. VR can serve as a tool for tourism promotion, attracting more tourists and investments.

This article can be mainly divided into five parts. The introduction introduces the main content of this article. The literature review section reviews the research progress in related fields. The materials and methods section introduces the techniques and methods used in the research institute. In the results and analysis section, the application effect of VR technology is demonstrated through specific cases, and the significance of the research results and their implications for future research are analyzed. The conclusion section summarizes the research findings and proposes future research directions.

LITERATURE REVIEW

VR technology is mainly for the creation of virtual content. By integrating it into digital media, it can provide the audience with richer virtual world content (Zou, 2020). The immersive picture and sound content can allow the audience to experience a real feeling in the virtual world and satisfy their daily needs (Cui, 2024). In addition to meeting the daily needs of the audience, the use of VR technology in the production of movies and TV programs has also made the current development of film and television more intelligent, which not only meets the use of media creators, but also enriches people's daily lives (Liu et al., 2021). In the use of VR technology, effective integration with digital media technology also creates more imaginative content, produces better user effects, and enriches the audience's vision (Shao et al., 2022).

The relationship between traditional art and science and technology is increasingly close. The progress of science is often closely linked with the development of art (Cai & Su, 2022). The most representative integration of technology and art is VR and AR technology . In recent years, with the rapid development of human society, science is getting closer and closer to people's lives and needs (Li & Wenjie, 2021). VR technology and AR technology are the products of the rapid development of science (Gong, 2021). In terms of technology application, VR technology and AR technology can be well used when applied to the field of digital media art (Zhang et al., 2022). With the help of VR technology and AR technology, digital media art can have richer display methods and achieve higher quality display effects, which has a very broad developmental prospect (Mills & Brown, 2022). The content of digital media art mainly includes knowledge of plastic art, interactive design, art design, digital image processing technology, computer software, computer graphics, informatics, communication technology, among others (Wu, 2022). Digital media art mainly refers to its dependence on emerging sciences such as information technology and technology to achieve artistic creation (Jiang, 2021). Therefore, the development of digital media art requires not only artistic talents, but also technical talents. Only by combining art and technology can we better promote the long-term development of digital media art (Kruzan & Won, 2019).

The natural productive capacity of the ecological environment is limited, but with the uncontrolled exploitation and utilization of materials and energy by human beings, the ecological environment itself has suffered serious damage (Hamad & Jia, 2022). Since human beings entered the industrialized society, in pursuit of the satisfaction of material life, people have used the environment far beyond the extent that they can recover, and when people overused the environment, they did not consider