

Design of Realizing Virtual Experience Contents

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Abstract. The relics and cultural assets are an important property which shows a spirit of the time and has historical, academic value. However, in protecting the relics and cultural assets, due to the lack of recognition and deficiency of expertise, a problem in preserving and managing the relics and cultural assets has appeared. This paper has studied design of digital restoration skills for original shape of cultural assets and would propose digital restoration skill for realizing virtual experience contents

Keywords: Digital Restoration, Virtual Experience, Virtual Reality, 3D Technology, Environmental Education.

1 Introduction

Environment is a base of life and groundwork on which human beings live. Human beings are born in the nature and live together with the environment, giving and taking much effect each other. For human beings to lead a life, environment is an essential condition, and the comfortable environment is necessary for all human races to pursue a human life. For the environment, our country has accomplished rapid industrialization and urbanization by economic development starting from 1960s', and the economic situation has become better, but due to it, the natural environment has been destroyed rapidly, and now every problem for environmental deterioration has appeared as the most urgent task.

The work to implant the mind, which cherishes and loves environment, from childhood, is very important to solve current environmental problems, and to prevent later environmental deterioration in advance. In particular, by making children understand the importance of environment through the various virtual experiences in environmental education and the methods to find out the reasons of environmental problems, and at the same time, by letting children know them naturally, the work of making all the people ultimately hold proper value and attitude can be a shortcut for conserving the environment. The environmental education is regarded as a desirable education which civilized times demand. The person, who takes such an environment education, will know the problem of deteriorated environment, and how to keep

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beautiful and clean nature. Thinking over and cherishing the nature is a basic thought which a human being, who lives in the nature, should have. It may be most efficient that such an idea is accomplished through continuous education.

This paper developed the educational material, which can improve the recognition of environment through systematic environmental education, and suggest the practical direction of environmental education. The purpose of educational material is to provide teaching and learning material, appropriate for recent education information, to the people, for the application of virtual experience program. It is necessary to develop a substantially helpful program and virtual experience 3D animation program, for environmental education as specific teaching & learning material, so that people can easily apply the environmental education program.

2 Related Works

2.1 Method to Operate History and Culture Tourism Site on the Internet and System

It is the technology that realizes history and culture as virtual reality, and makes users select character, affair, tradition and culture in the period of the Three States, Korean Dynasty and Chosun Dynasty in the virtual space on the internet, and experience them. And the method has an effect that a user can experience tourism commodity, through a virtual experience, and then easily select a tourism commodity, appropriate for each user.

2.2 Internet Based Virtual Regional Culture Experience Service

It is the technology which has a characteristic to broadcast virtual experience on cultural assets or each regional cultural event on-line through internet in real time and, if a user wants an experience in person during broadcasting, he/she clicks the screen, and the broadcasting is skipped, and streaming is stopped, and the site is realized to pass a series of certification process, and he/she experiences virtual reality space. It is the technology which enables a user to communicate by video with the staff in the region through a broadcasting server during the experience, reserve his/her participation in the cultural experience, and make an on-line shopping. In addition, it can output or record the content of virtual experience of a user through video media.

The former studies make the traditional culture experienced through virtual reality or provide it, after the data for environment education by means of avatar is made simple DB. The differentiation in this study is not simply a traditional culture experience learning by means of virtual reality, but realizes the shape of natural environment and residential environment in Chosun Dynasty into a virtual reality, and makes users themselves compare the current one with the one of Chosun Dynasty, learn environmental change, and find out the reason of deterioration and the method to solve it.

3 Conclusion

Now, the digitalization of original shape from cultural assets has been developed over and over by various methods and technologies, and it has become common to realize technology for the 3D graphic data and virtual reality as a way of digitalization, thanks to its development.

This paper studied the current technologies to restore original shape of cultural asset by digital, and digitally restored the residential environment and natural environment of Hanyang, by means of digital restoration technology of 3D virtual reality, which has many merits in various functions such as interaction, navigation, file size and restoration of ruins which does not exist now. By means of the technology of Vray and Rendering to texture, we could make lighting effect by virtual reality demonstrate the effect similar to real world, and could experience the virtual reality project with aesthetic effect, which is more vivid. When we compared the methods of 3D virtual reality digital restoration with the use of other restoration methods into historical education, we could know that it has many merits in various aspects such as navigation, interaction, restoration of ruins which does not exist.

The technology of 3D virtual reality digital restoration is a new style of preserving and displaying ruins and cultural assets. By changing original shape of ruins and cultural assets into web in the future, this study may make anyone easily get access to information on cultural assets, anytime, anywhere.

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