

# Design of Loading Speed of Virtual Reality Software

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**Abstract.** The present situation, which has the danger of destroying and damaging the ruins and cultural assets by mistake or trial and error in maintaining them, has become a serious problem in preserving the ruins and cultural assets. Therefore, we can resolve these problems, by means of the technology of 3D virtual reality digital restoration. This technology provides a very effective method in preserving cultural asset data semi-permanently as well as utilizing them. Besides, when excellent quality is required in loading virtual reality software, execution speed gets slower due to excessive traffic, and even the normal operation is not done.

**Keywords:** Virtual Reality, Digital Restoration, Preserving Cultural Asset, 3D Modeling, Virtual Experience.

## 1 Introduction

Recently Virtual Reality Technology gets developed, which helps the real life very much and is utilized in many places. Virtual reality has been widely used in various fields, such as experiment for investing much money, dangerous training for helicopter pilot, design of automobile or plane, health care and restoration of cultural assets. Among them, the fields utilizing virtual reality technology have been studied enthusiastically and developed rapidly. In addition, many advanced countries have used virtual reality technology in restoring cultural assets, and obtained great results while they introduce their own culture and history to the world.

Accordingly, this paper has a goal of realizing appearance of Hanyang in old Chosun Dynasty around Gyeongbok Palace by virtual reality, and a goal of enhancing virtual reality execution speed and graphic effect quality, by using unit division & Resource Manager Discard Bytes channel, in order to improve speed problem. Also, if we restore the ruins and cultural assets by 3D virtual reality digital restoration, we can provide a convenient view to the ruins and easy access to the information on cultural assets anytime, anywhere, through multi-media like Internet.

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## **2 Related Works**

### **2.1 Method of Realizing Cyber Folk Theme Park by Virtual Experience Skill**

It is about the method that realizes a cyber folk theme park by virtual experience skill. And it has a goal of telling Korean traditional technology, art and plays, and providing the method that realizes a cyber folk theme park by virtual experience skill, and offers various vivid virtual experiences in accordance with user's demand within web images, and recording media that can read the program with computer.

In addition, regarding the method that realizes business contents on the Internet, it is about the method that tells Korean traditional technology, art and plays and realizes the cyber folk theme park by virtual experience skill, and provides various vivid virtual experiences in accordance with the user's demand within the web images.

### **2.2 Environment Avatar Operating System by Avatar Item Linked with Environmental Index**

It is the research about the method that makes an environment avatar by environment avatar operating system, which utilizes DB of environment information and the above operating system. And environment avatar operating system on the internet is made up of : user server which manages the information of environment avatar user who makes user registration and gets access to the program through web browser, environment avatar user server which manages the environment avatar made by each avatar user, environment avatar item server which provides environment avatar items used to decorate environment avatar, environment index server which is linked with environment avatar item and calculate each item's environment index and store it, and environment avatar operating system which has a characteristic of environment information DB, which is linked with environment index server for calculating environment index.

## **3 Conclusion**

Now, the digitalization of original shape from cultural assets has been developed over Now, the digitalization for original shapes of cultural assets has been developed over and over by various methods and technologies, and it is a trend that much attention is paid to realizing 3D graphic data technology and virtual reality, as a way of digitalization, thanks to its development.

This paper resolved the problem of virtual reality effect and processing speed. Therefore, we could process a large-scale 3D digital experience project more practically and more fast, through this research, and it is thought that we can improve and develop 3D experience project more, based on this research. This research can be used as learning material for environment education, by reproducing the original appearance of natural environment and city, which have been transformed due to

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human development, in the cyber space, using 3D technology, and it can be practically helpful in environmental education provided by social education institutions or Ministry of Environment, and also it can be used as education material appropriate for environment conservation.

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