

Virtual Reconstruction of a New Model of Cultural Heritage Dissemination

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Abstract: According to China's 'cultural heritage dissemination strategy', China has always had a small scope of cultural heritage dissemination and low awareness of cultural heritage, and it is believed that cultural heritage dissemination is facing a huge dilemma. Based on the Chinese chair, the researchers study the impact of the evolution of Chinese history and technology on the chair, and propose a new way of cultural heritage dissemination of the chair with virtual reality VR technology as the core, realising virtual reconstruction based on the chair, virtual scene reconstruction, increasing the immersive cultural experience, and improving the efficiency of dissemination. The study finds a new model of virtual watch collection, handheld virtual museum dissemination. Using qualitative research, combined with user experience analysis, the user experience of the developed new mode of communication is evaluated through actual sample surveys, and the results of the evaluation obtained positive feedback on the immersion and presence of this new mode, which confirms that this research chair-based virtual reconstruction, virtual watch collection handheld gaming museums can be a new approach to improve the cultural heritage communication service alternatives.

Keywords: cultural heritage, virtual reality, virtual reconstruction, virtual watch museum.

1. Introduction

Chinese history records that the Paleolithic period was the origin of human tools and the beginning of mankind learning to make tools. [1] With tools, human beings were able to obtain food better and strive for an easier existence. The creation of tools during the Neolithic period established the general style and types of primitive tools in China. The Xia Dynasty was the earliest dynasty recorded in Chinese ancient texts, and a specialised tool system had not yet been formed. The Shang Dynasty was a highly developed dynasty following the Xia Dynasty, and the emergence of fine agricultural tools was one of the hallmarks of agricultural development in the Shang Dynasty, thus promoting the

progress of Chinese hand tools at that time. The status of bronze tools gradually rose during the Western Shang period. Beginning in the mid- to late Spring and Autumn period, iron smelting technology was developed, and a small number of iron agricultural tools began to appear. During the Warring States period the tool system was established, but the proportion of bronze agricultural tools was small. In the Qin State, iron tools were popularised to a small extent.

At the beginning, people's daily life was carried out on the ground. In order to prevent moisture and comfort will take some leaves and bark, animal fur on the ground to use, and later appeared specially laid on the ground mat, mat is the earliest ancient Chinese chair. Chinese cultural heritage chair evolution has experienced from the short type chair to high type chair, experienced from the seat, bed, couch, chair of thousands of years of history process. According to the appearance of chairs, there are mainly mats, beds, beds, couches, rope beds, beds, beds, beds, beds, chairs, chairs, and so on, with a history of thousands of years.[2]

China's 'cultural heritage dissemination strategy' points out that China's cultural heritage dissemination is facing great difficulties, limited scope of dissemination, single cultural heritage database, low usage rate, single dissemination method, which is due to the fact that China's cultural heritage dissemination pays more attention to the excavation of cultural relics, physical museums, and physical cultural relics exhibition dissemination. So the researcher proposes whether the virtual technology reconstruction can propose and improve the new mode of cultural heritage chair dissemination.

2. Significance of the study

Studying the evolution of technological tools in Chinese history unites digital technologies such as virtual augmentation and mixed reality, which bring new modes of interaction for the public display of cultural heritage chairs, which is the main significance and purpose of this study. Interactive themed virtual environments, in particular, offer the possibility of placing visitors in a world that, due to its immersive three-dimensional nature, captures the imagination and understanding of visitors more than traditional static museum displays. Single presentations of cultural heritage do not have the mobility to represent cultural heritage and tend to confine cultural heritage to a fixed time and area. Increase the number of participants in cultural heritage through virtual technology tools.

3. Research status

This study selected 'virtual reality technology for cultural tangible and intangible heritage to enhance the heritage Corsano Castle case study' [3] this research idea, through the virtual technology of cultural heritage reconstruction function, as a researcher on the chair reconstruction research new direction.

The research results on the chair, 'Intelligent chair using capacitive fabric sensors to monitor sitting posture' [4] shows that the latest research heat of the chair is focused on the direction of intelligent, medical chair, through intelligent technology tools, to solve the medical problems in people's lives.

The current results show that the chair is mainly focused on future topics, and the research results on the chair as a topic of the past, as the dissemination of cultural heritage in this direction are not obvious. The researcher realises the reconstruction of the cultural heritage chair through the heritage chair combined with the current virtual technology tools, and proposes a new model of cultural heritage chair dissemination.

4. Materials and Methods

The study conducted an actual survey, the actual survey participants selected the northern inland areas, southern inland, central inland, northern coastal areas, southern coastal areas within China 100571 participants.

The number of participants to take the value of reference from the Chinese consumer newspaper on 19 March 2001, page 001 'ask the people, hospital service quality satisfaction, the national hospital service quality readers questionnaire survey results overview' of the Chinese consumer newspaper, Guangming Daily Newspaper, Science and Technology Department and the Economic Daily Newspaper, 'Medicine and Health' editorial board co-sponsored a national hospital service quality questionnaire survey activities. A total of 10,057 questionnaires were collected, of which 6,558 were valid, and the validity rate of the questionnaires was 65.2%.

Since this questionnaire comes from China, from China's official website: China Consumer News, with China's information authority and authenticity, the value of the participants in this study will refer to the number of China Consumer News to take the value of 10057 people.

The new youth group (18-44) was selected according to the latest age division standard announced by China in 2023. According to the report of China Crowley Young People Series: 18 to 44 years old new young people group, this group has the label of consumption main force, important role in consumption, etc., and become the largest consumer in the market will also become the largest market spreader.

The following are the actual investigation steps:

The researcher through the above research on Chinese cultural heritage chair

Selected ancient Chinese paintings refer to Figure 1 Famous Chinese Paintings. Reconstructed the heritage chair with the help of virtual technology VR with reference to Figure 2 Reconstructed virtual cultural heritage chair. Demonstrated the changes in the chair over time.

Proceed with the question release:

Is virtual reconstruction of non-heritage chairs of interest? The researcher reconstructs the virtual non-heritage chair through virtual technology refer to Figure 1. joint virtual technology tools to create virtual scenes to realise the virtual chair under the virtual scene refer to Figure 2. enhance the immersive experience of reconstructing the virtual chair through the virtual scene.

How satisfied are you with the immersive experience of the reconstructed virtual chair using the virtual technology tool to create the virtual scene? Refer to Figure 3 Virtual Scene.

Is it possible to improve the dissemination of the cultural heritage chair using virtual technology? Refer to Figure 4 Virtual Wall, Figure 5 Virtual Chair Zoom, and Figure 6 Virtual Watch Museum.



Figure 1: Famous Chinese painting

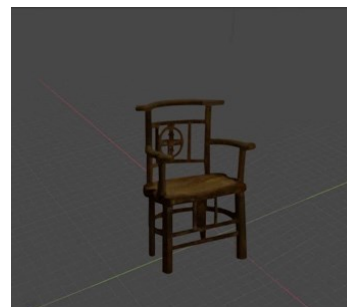


Figure 2: Reconstructed virtual chair

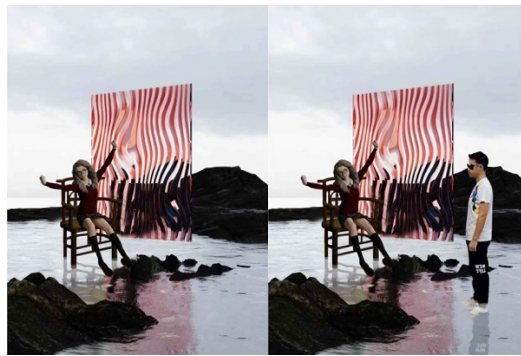


Figure 3: Virtual scene

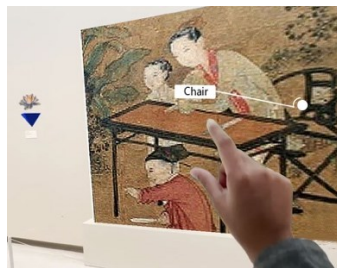


Figure 4: Virtual Wall



Figure 5: Virtual Chair Zoom

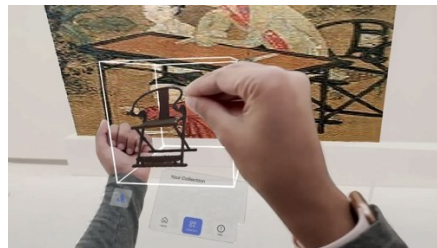


Figure 6: Virtual Watch Museum

Outcome 1

Actual questionnaire results: are virtual technology tools interested in reconstructing heritage chairs? Refer to Figure 7 for survey results.

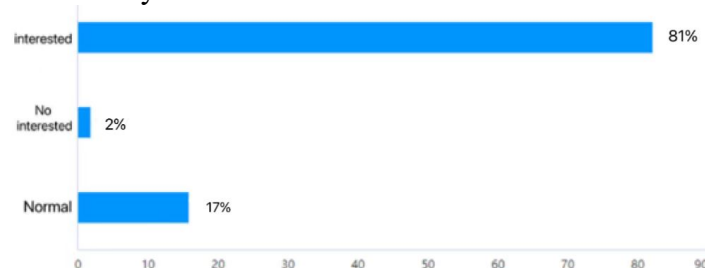


Figure 7: Survey results

Actual questionnaire results: how would you rate your satisfaction with the reconstructed and restored virtual chair immersion experience using virtual technology tools? Refer to Figure 8 Survey Results.

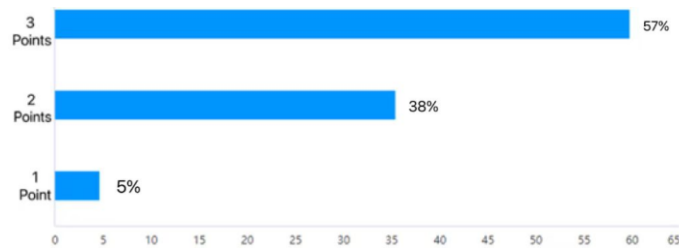


Figure 8: Results survey

Results of the actual questionnaire: does the use of virtual technology improve the dissemination of cultural heritage chairs? Refer to T Figure 9 Survey results.

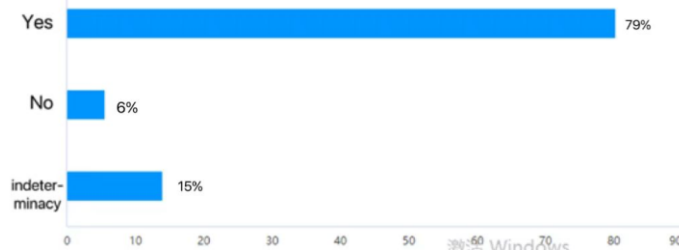


Figure 9: Survey results

Actual survey results: are virtual technology tools interested in reconstructing heritage chairs? Referring to the results of the survey in Figure 7. 81 % of the youth group aged 18-44 are interested, 2 % are not interested, and 17 % are normal.

Actual questionnaire results: how satisfied would you be with the reconstruction of the restored virtual chair immersion experience using virtual technology tools? Referring to the results of the survey in Figure 8. the proportion of 3 points reaches 57%, the proportion of 2 points 38%, and the proportion of 1 point 5%.

Actual questionnaire results: would the use of virtual technology tools improve the dissemination of the cultural heritage chair? Refer to Figure 9 survey results. The proportion of people who agree reaches 79%, disagree 6%, and uncertain 15%. Through the actual survey it is concluded that most people are interested in technological tools to reconstruct the cultural heritage chair pairs. Most of the people insisted on their satisfaction with the immersive experience reconstructed by virtual technology. Most people believe that virtual technology can improve the communication services of cultural heritage.

Among them, the third question of the questionnaire with reference to the survey results in Figure 9, there is also 15% uncertainty, which may indicate that the current popularity and awareness about virtual technology tools are low, leading to uncertainty options for some participants. Side by side, it shows that China's virtual technology tools market belongs to the beginning stage, with fewer research results and less obvious practical results that fit the population, which may be the main reason for some people to be uncertain about this new technology. This also provides opportunities for research and indicates that the practical promotion of virtual technology should be improved to achieve a better new economy of human-computer interaction.

Outcome 2

The researcher brings a new handheld chair museum experience through the virtual technology VR, aiming to create a reconstructed cultural heritage, immersive gaming experience with collection features for visitors[5].

The researcher uses stretched forms as well as multi-sensory and bi-directional experiences to transform the museum into a game [6], communication channel. The long-term dissemination of

cultural heritage is achieved by transforming curious participants into game collectors [7]. Visitors can collect the virtual chairs they interact with into their own virtual wristwatch, becoming a museum on their wrists that is not limited by time and space and can be played back at any time [8], refer to Fig. 1.6 Virtual wristwatch museum.

5. Conclusion

According to China's Nielsen released 'China's Single Economy Report', it is pointed out that only about 1% of China's single group faces the problem of old age and children's education, and will show stronger spending power and willingness to consume. China's National Bureau of Statistics released that the number of single people in China reached 240 million by the end of 2022, accounting for 17.4% of the total population. It can be predicted that with the increase in the number of singles in China and the rise of the singles economy, users have more ability to try and consume new technology virtual technology products, solving the uncertainty of the 15% of the population's awareness of new technology that exists in this study. It proves that in the next study, China can try to mention more practical promotion services of new technology and virtual technology to improve the crowd's understanding of and participation in new technology. To achieve a better new economic model.

The above experiments and survey results confirm that the virtual reconstruction of cultural heritage, handheld virtual game museum, put forward a new model of cultural heritage dissemination, supported by the majority of people, expectations, survey data proved that the new model of cultural heritage dissemination can be more opportunities for the Chinese market, and even become a rigid need to promote the dissemination of China's cultural heritage chairs to drive the new economy of virtual services.

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