

Research on the Innovation and Development of Northeast Red Resources under AR Power

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Abstract

Red resources record the great course and touching deeds of the Chinese revolution, which is a vivid teaching material to carry forward the revolutionary tradition and revolutionary culture, strengthen the construction of socialist spiritual civilization, stimulate patriotic enthusiasm and inspire the national spirit. With the continuous advancement of urbanization, the revival and inheritance of red cultural resources have been challenged by many threats and challenges, and people's awareness and means of protecting red resources need to be enhanced and improved. This paper takes the red resources in northeast China as the research object, sorts out the red cultural resources in northeast China with relevant websites and book resources, uses AR technology, adopts the combination of virtual and reality, and conducts special research on the revival and inheritance of the red resources in northeast China, so as to help the inheritance and publicity of red culture.

Keywords

Red resources; AR technology; cultural inheritance; Northeast China.

1. Research Background

The red story reflects the red history, the red gene and the red blood. It is a vivid portrayal of the arduous and brilliant struggle of the Communist Party of China. With the continuous development of science and technology, the use of digital technology to integrate red resources and realize the effective protection of red cultural resources has become an important task for the current science and technology practitioners and cultural experts. The technology combines virtual elements with real attractions and cultural relics, vividly presenting a rich cultural scene. Based on virtual reality (VR) technology, AR technology digitally processes cultural content, generates various digital forms such as animated images, sound and text, to realize real-time interaction with the scene.

In 2020, Huawei cooperated with the Dunhuang Academy to launch a project called "Dunhuang HyperPerceived Image". With the help of Huawei River map technology, the project has successfully realized the digital transformation of Dunhuang Mogao Grottoes. This paper is based on Huawei augmented reality of dunhuang nine color deer theme project, specific analysis of AR technology in dunhuang cultural intangible cultural heritage application principle, explore AR technology promote visitors to visit the interactive experience mode, and assign the application of northeast red resources, play the language as a bridge, formed with

the characteristics of science and technology products, let red resources vivid, condensed new dynamic power, to the world about the story of China, spread Chinese voice.

2. Overview and Distribution of Red Resources in Northeast China

The red cultural resources in northeast China are not only a precious historical and cultural heritage, but also a resource with great educational value. They carry the red memory across time and space, provide people with opportunities to feel the red history, and have many values such as educational guidance, moral cultivation and spiritual incentive. According to the northeast three provinces culture and tourism hall released immovable list of cultural relics, the Anti-Japanese War memorial network, Jilin province library website, Wang Qing heroes network and *the Yanbian old revolutionary base areas in Heilongjiang province important revolutionary sites overview* "Jilin province revolutionary sites to overview" *the revolutionary sites in Liaoning province* and so on a variety of literature sorting, according to the northeast three provinces a total of 3826 red ruins. These sites are mainly distributed in the mid-eastern and south-central regions of the northeast. Among them, Jilin Province has the largest number of red sites, totaling 1691, accounting for 44% of the three provinces; followed by Liaoning Province, 1432, 37% and Heilongjiang Province 703, accounting for 19%. This shows the profound red culture in northeast China, and its geographical location is the gateway to the Eurasian continent. As a host place of foreign affairs activities for a long time, it has provided superior conditions for the education of ideals and beliefs, the cultivation of the feelings of the country and the promotion of the national spirit.

As an old industrial base, northeast China is not mature in the application of new technologies and the exploration of new paths. Government departments at all levels do not pay enough attention to the red ruins, and lack of cognition of the role of the protection of red cultural resources on the social and cultural development of the region. Although there are 3,826 red sites in northeast China, most of them have not been included in the scope of cultural relics protection. In Yanbian Prefecture, Jilin Province, for example, there are 815 red sites in this region, accounting for 21.3% of the total sites in northeast China, but few of them are listed as cultural relics protection sites. There is a lack of extensive historical knowledge popularization, and the lack of normal activities of red culture education. At the same time, there is a relative lack of provincial laws and regulations on red sites in northeast China, which leads to the protection and inheritance of red cultural resources.

3. AR Enables the Innovation Path of Northeast Red Resources

Under the background of the new era, as an important educational resource carrying the rich historical connotation and national spirit, the northeast red resource plays an irreplaceable role. With the rapid development of digital technology, especially the wide application of AR (augmented reality) technology, it provides a new path and possibility for the inheritance and development of red resources in northeast China. Therefore, it is very important to promote the inheritance and development of red resources in northeast China and to explore their new ways to adapt to the network era.

(1) Construction of AR red cultural resource database

First of all, it is necessary to use AR technology to carry out comprehensive digital collection and processing of red cultural resources in northeast China, and build an AR red cultural resource database including images, sounds, videos and other forms. This database can not only realize the digital storage and rapid retrieval of red cultural resources, but also provide rich

material support for the subsequent AR application development. Through AR technology, people can more intuitively and vividly understand the red history of Northeast China, and enhance the sense of immersion and experience of learning.

(2) Develop AR red culture applications

Based on the constructed AR red culture resource database, we can further develop the AR red culture application suitable for ideological and political education. These applications can include AR guide system, AR interactive experience platform, etc. Through smartphones, tablet computers and other terminal devices, people can learn red culture anytime and anywhere. For example, an AR guide system can be developed to allow people to "retrace" the northeast resistance route in the virtual environment, to feel the heroic deeds of revolutionary martyrs; or to develop an AR interactive experience platform, to allow people to participate in the repetition of historical events through AR technology, and to deepen the understanding and identification of red culture.

(3) Innovative AR red culture publicity

The introduction of AR technology also brings a new model for the publicity of red resources. We can make full use of the advantages of AR technology to innovate the red culture model, such as using virtual simulation, interactive experience and other ways, so that people can learn the red culture in a more real and vivid environment. At the same time, it can also combine other resources and means to form a diversified communication mode, improve the effect of publicity, and stimulate people's enthusiasm and creativity.

4. Epilogue

The digital inheritance of northeast red resources is the inevitable result of the development of culture and education under the background of "Internet +". This digital construction fully meets the growing cultural needs brought about by the rapid development of today's society, while the integration of AR modern virtual reality technology breaks through the way of traditional historical and cultural inheritance. The digital display of the red resources in northeast China is conducive to the mining, extraction and development of the resources, and promotes the transformation of the red resources in both tangible and intangible levels, so as to realize the digital inheritance of the materials such as revolutionary culture and historical events.

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