

Research on Digital Protection and Inheritance of Qiang Cultural Heritage

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Abstract: In order to make Qiang culture continue to spread and spread in modern times, this paper studies the digital protection and inheritance of Qiang culture. The research mainly focuses on the characteristics of Qiang's cultural heritage, the design of digital database and the application of database. The dissemination forms and ways of Qiang's cultural heritage are analyzed, so that we can understand how Qiang's culture is disseminated through digital form and verify its effectiveness. Through the analysis, it can be seen that under the database application designed in this paper, Qiang culture can be connected with the Internet environment, spread by digital animation or other forms, and the dissemination effect is good, which shows that the design of this paper is effective; there is a good coincidence between digitalization and the Internet, and the Internet as a modern popular one. "Virtual environment" has a large number of users of different interests and ages, so Qiang culture can be known by more people in the Internet environment, indicating that it has been protected and inherited continuously.

1. Introduction

Qiang is one of the oldest nationalities in China. Many nationalities in China, including Tibetan and Han nationalities, are inextricably linked with Qiang. In the long process of historical evolution, the Qiang people created rich cultural heritage. They embody the national memory of the Qiang ethnic group and bear the collective memory of the Qiang ethnic group in the process of birth, development and continuation from ancient to present. They are the important basis for exploring the history and culture of the Qiang ethnic group, as well as the indispensable important resources for studying the history and culture of other ethnic groups within the Chinese nation and clarifying the development thread of the Chinese nation. On the basis of summarizing the work of predecessors, this paper mainly studies the design and implementation of Qiang cultural heritage database by using modern digital technology.

Firstly, this paper analyses the cultural heritage of the Qiang nationality, and carries out the digitized collection and processing of the cultural heritage of the Qiang nationality. Combining the characteristics of Qiang's cultural heritage and the needs of database, the database of Qiang's cultural heritage is designed, and the database of Qiang's Cultural Heritage Based on MySQL is realized.

2. Research methods

2.1 Analysis of Qiang Cultural Heritage

In the classification of Qiang cultural heritage, it mainly consists of three parts: material cultural heritage, intangible cultural heritage, ecological and cultural landscape heritage. Among them, intangible cultural heritage is the core, material cultural heritage is the carrier, and ecological and cultural landscape heritage is the support. Specifically, in terms of material and cultural heritage of the Qiang people, there are a large number of material and cultural heritage in the Qiang people's inhabited areas, including earthquake sites, cultural relics, Qiang towns and ancient villages. Among them, Beichuan Earthquake Relics Reserve and Beichuan Middle School Relics have become extremely important cultural heritage. In this area, there are also Pingwu Baoen Temple, a national key cultural relic protection unit, Yongping Fort ancient city, Zhenqiangmen, Zhaozhong

Temple, Douchao Temple, Kuanda Huilong Temple and so on. Fig.1 and 2 are examples of Zhaozhong Temple and Douchao Temple. The current classification of intangible cultural heritage in China can be divided into several categories, as shown in Table 1. In terms of Qiang's ecological and cultural landscape, Qiang belongs to the inhabitants, and the inhabitants are mostly Alpine basin landforms. The Qiang nationality distributes in the Minshan Mountains, the Motiling Mountains and the Longmen Mountains. There are many ecological and cultural heritage in the area. Among them, a national geological park, after the "5.12 Wenchuan Earthquake", the newly formed unique landscape also has high natural and ecological and human values, such as Tangjiashan barrier lake, Beichuan Yongchang Town, and Jina Qiang Village. Figure 3 is an example of Jina Qiang Village [1-2].

Table 1 Classification of intangible cultural heritage of Qiang nationality

Serial number	Intangible cultural heritage	Serial number	Intangible cultural heritage	Serial number	Intangible cultural heritage
1	Folk Literature	3	folk arts and crafts	6	Folk Faiths and Customs
2	Traditional music	4	Traditional Skills	7	Folk knowledge

In terms of characteristics, Qiang culture has distinct local cultural characteristics, including Qiang language, totem, clothing, villages, towers, folk customs, Qiang year, art, handicraft and so on. It has the characteristics of historical antiquity, regional extensiveness and numerous quantities, specifically: historical antiquity: Oracle inscriptions, as the representative language of the pre-Yin and Shang Dynasties, have a history of more than 3,000 years, and "Qiang" is the only language about clan and tribal titles in Oracle inscriptions, which is also recorded by the relevant clan titles in our country at present. First discovered. The long history of the Qiang nationality also determines its long and ancient cultural heritage; the breadth of the region: the Qiang people or nomadic or farming people in history lived in most areas of Western China today, from Shaanxi, Gansu, Ningxia, Xinjiang to Qinghai, Tibet, Sichuan, Yunnan and Guizhou are all areas where the ancient Qiang people lived and migrated. In this vast area, Diqiang people have left a vast cultural heritage[3].



Fig.1 Zhaozhong Temple



Fig.2 Doucha Temple



Fig.3 Gina Qiang Village

2.2 Digital Technology

Digital technology is the most advanced information science and technology nowadays. The application of information technology to the protection and development of cultural heritage provides more powerful high-tech technical support for the protection and development of cultural heritage, and further expands and derives the ways of protection and development of cultural heritage[4]. The digitalization technology of Qiang culture is divided into two parts, namely, digitalization collection and digitalization processing. The specific contents are listed below[5].

(1) Digital acquisition

At present, in the field of digital protection of traditional cultural heritage, traditional photography and video are mainly adopted. Although this way has played a certain role in protecting material and intangible cultural heritage, it has preserved a large number of precious

cultural heritage resources, such as folk dance, paper-cut,drama and so on. With the continuous development of information technology, people's ability to use information technology to process data has been greatly improved. Through the use of digital technology such as digital collection, storage, processing, display and communication, cultural heritage can be transformed, restored, re-shared and renewable digital forms, which can be re-interpreted from other perspectives. Read. For planar cultural heritage, such as ancient books, calligraphy and painting works,murals,embroidery,paper-cut,etc.,researchers first use high-precision digital cameras or plane scanners to digitize the relevant cultural relics, generate two-dimensional images, and then use image processing technology to process and analyze these images. For jade, pottery, porcelain, sculpture and other cultural relics, digital work needs to be done in three-dimensional space. At present, the commonly used methods are three-dimensional color scanner and multi-angle photograph based data acquisition. For earthquake sites, Qiang villages and ecological natural landscape, through 360-degree panoramic photography and three-dimensional modeling, the virtual reality preservation and display of Qiang cultural heritage can be realized[6-7].

(2)Digital Processing

The data collection and processing of Qiang cultural heritage is to digitally record all kinds of information of cultural heritage. Through simulation, production and creation of cultural heritage content restoration and reproduction, thus forming a large number of text data, image data(two-dimensional and three-dimensional),audio/video data and other digital information. The collection of Qiang cultural heritage data includes material cultural heritage, intangible cultural heritage and ecological and cultural landscape. Among them, the collection of intangible cultural heritage is the key and difficult point.In the process of data acquisition,according to the characteristics of cultural heritage projects,the traditional acquisition methods such as text description,photography,recording and video are mainly used[8].For some special Qiang cultural heritage projects,the system group tries to use advanced technologies such as fish-eye panoramic photography, three-dimensional data acquisition and location information acquisition. The number and proportion of Qiang cultural heritage projects completed are shown in Table 2.

Table 2 Statistics of Qiang Cultural Heritage Project Collection

category	Heritage projects	Acquisitioned items	Acquisition Proportion
Intangible cultural heritage	202 items	200items	99%
Material Cultural Heritage	103items	103items	100%
Ecology and Cultural Landscape	72items	72items	100%

2.3 Database Design

In terms of function design, the Qiang Cultural Heritage Database Platform adopts the way of digital protection of the Qiang Cultural Heritage, which combines the professional construction of digital Qiang Cultural Heritage with the construction of the public. In order to ensure the authoritativeness of Qiang cultural data and realize the depth and breadth of the construction of Qiang cultural heritage, in order to guarantee the professionalism of Qiang cultural data, we should carry out the construction of popular and interesting culture, and on the basis of professional team building, let the public and society participate widely in the construction of Qiang cultural heritage database. On the one hand, the Qiang Cultural Heritage Database Platform should provide a support platform for the digital protection of the Qiang Cultural Heritage. On the other hand, the Qiang Cultural Heritage Database should provide support for the promotion of the Qiang culture and provide technical support, service mechanism and demonstration for the sharing and utilization of the Qiang Cultural Heritage data[9].

In terms of development tools, we use MySQL database as a development tool, which has the

advantages of small size,fast speed,low overall cost,open source and free.MySQL is a small relational database management system,which is widely used in small and medium-sized websites on the Internet.

3. Qiang's Cultural Application Form in the Way of Cultural Inheritance

3.1 Application of Digital Animation

Applying the above database to the Internet can provide a way for the digital animation design of Qiang culture. This form emphasizes the cultural creativity in the process of cultural inheritance and promoting the development of national cultural industry. It is a way to actively expand and realize the value transformation and value appreciation of excellent traditional national culture. Therefore, in the development of Qiang's cultural industry, efforts should be made to adapt the traditional culture of ethnic minorities to the contemporary society, to coordinate with modern civilization, to maintain national character and to reflect the times, to have a lofty idea based on the spirit of the times and to strive for sustainable development, and to attach importance to the inheritance and importance of the excellent values of the nation and society. Structuring, highlighting the principles of inheriting culture, enhancing value, innovating and developing, and promoting harmony, makes Qiang animation art an important carrier for the development of Qiang culture industry. Figure 4 is a digital application form[10].

3.2 Ways of Cultural Inheritance

Combined with the above application forms,it has two ways of inheritance, see below.

(1) Changing the traditional ideas and concepts of the Qiang people

The Qiang people should make rational use of Internet culture and change their traditional ideas and concepts. First,the local government and the state should strengthen their support,promulgate relevant policies, set up a research and Protection Center for Qiang culture,strengthen the network propaganda and protection of Qiang culture,let Qiang culture go out and constantly improve Qiang people's culture. Cultural awareness, cultural self-confidence and cultural identity of the Qiang people; secondly, the main leaders of the Qiang region should take the initiative to make rational use of mobile phones, computers, tablets and other mobile terminals to learn skills,and regularly convene Qiang people to hold seminars on inheriting and protecting Qiang people's cultural knowledge, leading Qiang people to actively adapt to new ways and learn new skills. Third, we should set up a voluntary mission for young people of the Qiang nationality to teach them how to make use of various network platforms through face-to-face communication and interaction with the elders, so that they can accept and recognize the positive role of Internet technology in inheriting and protecting the Qiang culture to a certain extent, because they are familiar with the Qiang area. The inheritors of Qiang culture and the older Qiang people have high power and influence in the village. Instead of relying solely on the support of the state and government, the Qiang people should change their ideological values and strengthen their own "hematopoietic" function.

(2)Balancing the Relationship between Cultural Inheritance and Economic Development

With the rapid improvement of economic level in Qiang area,Qiang people have a large amount of fragmentation time in their daily life.Real-time communication and seamless connection of the network penetrate into the Qiang people's families.It is necessary to balance the relationship between cultural heritage and economic development.First,professional and technical personnel are invited to develop a network suitable for Qiang people's living habits and national characteristics.Small network procedures, embedded in the micro-time of life,provide technical and intellectual support for effectively balancing cultural heritage and economic development;second,use the Internet to develop new network resources to inherit and protect Qiang culture, and integrate and develop traditional Qiang cultural resources such as festivals,stories,rituals,customs and cultural and artistic activities. Network video, cartoon animation, micro-film and other network cultural products are transmitted in real time through two

micro-one-end broadcasting stations, electronic screen and other platforms, which not only imperceptibly enhances the inheritance and protection of Qiang culture under the new situation, but also contributes to the rapid development of local cultural industry and realizes the organic unity of economic and social benefits. One.

4. Conclusion

Based on the open knowledge management system and multimedia technology, the Qiang Cultural Heritage Database System can disseminate and promote the "Qiang Yu Culture", national specialties and folk characteristics of Beichuan in the form of Internet, digital publications and digital museums, and promote Beichuan in tourism, commerce and brand. At the same time, it guides the external resources into the Qiang information platform. From the perspective of future development, the system has great application prospects in the Qiang area. However, due to my ability level, more efforts should be devoted to improve and optimize the database system in application and practice.

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References

- [1] Xiao W M, Yang Q Y, Chen Z Q, et al. Blast-Resistance Inheritance of Space-Induced Rice Lines and Their Genomic Polymorphism by Microsatellite Markers[J]. *Agricultural Sciences in China*, 2009, 8(4):387-393.
- [2] Long Z Y. The Qiang sports cultural reconstruction results investigation and reforming mechanism research. [J]. *Journal of Southwest University for Nationalities*, 2012:503-506.
- [3] Zhu S H. Saving and Protection Shibi Culture and Cooperation Between the Qiang People and Nationality Universities[J]. *Journal of Southwest Petroleum University*, 2012, 14(6):12-19.
- [4] Chen Y H, Liu Q. The value system and its protection and utilization of natural and cultural heritage in China[J]. *Geographical Research*, 2012, 8(1):1111-1120.
- [5] Liu Z, Mao F, Zhou W, et al. Conservation of large-scale cultural heritage sites based on spatial databases[J]. *Journal of Tsinghua University*, 2010, 50(3):338-341.
- [6] Jing H, Zhang S, Xiao C, et al. Studies of the Polymorphism of CTG Trinucleotide Repeats of Myotonic Dystrophy Gene in Qiang Nationality in China[J]. *Hereditas*, 1998, 20(4):7-11.
- [7] Wang M K. Searching for Qiang Culture in the First Half of the Twentieth Century [J]. *Inner Asia*, 2002, 4(1):131-148.
- [8] Qiang L, Li B, Xiao M Y. Study on Figuring Technique on a Back-strap Loom of Li Nationality[J]. *Advanced Materials Research*, 2011, 328-330:961-965.
- [9] Lin S Y, McKeigue K, Maldarelli C. Diffusion-controlled surfactant adsorption studied by pendant drop digitization[J]. *Aiche Journal*, 2010, 36(12):1785-1795.
- [10] Wearne S L, Rodriguez A, Ehlenberger D B, et al. New techniques for imaging, digitization and analysis of three-dimensional neural morphology on multiple scales[J]. *Neuroscience*, 2005, 136(3):661-680.