The Application of Computer Technology in Protecting the Original Ecological Singing Culture of Oroqen Nationality in Heilongjiang Province

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Abstract. The natural environment and humanistic environment attached to the original ecological singing culture of Oroqen nationality are constantly impacted by foreign culture, which seriously threatens its development and inheritance, and urgently needs to be reformed. Based on this, this paper first analyzes the Oroqen original ecological singing culture and its artistic characteristics, then studies the problems existing in the protection of the original ecological singing culture of the Oroqen nationality in Heilongjiang Province, and finally puts forward the application strategies of computer technology in the protection of the original ecological singing culture of the Oroqen nationality in Heilongjiang Province.

Keywords: Computer Technology, Oroqen Original Singing, Culture

1. Introduction
The original ecological singing culture of Oroqen nationality in Heilongjiang Province embodies the unique aesthetic concept of Oroqen nationality. It brings people the function of music appreciation and emotional expression, and constantly embodies its unique cultural value. Like other ethnic original singing culture, the original ecological singing culture of Oroqen nationality in Heilongjiang Province also embodies the aesthetic concept of Oroqen nationality, and its development and change are also bound and affected by the internal aesthetic framework of the nation.

However, with the continuous impact of popular culture, especially western culture, the natural environment and humanistic environment attached to the original ecological singing culture of Oroqen gradually disintegrated, and its internal closure was constantly impacted by foreign culture \cite{1}. In addition, the field of Oroqen's original singing culture is constantly changing, and its inheritance mode is also constantly challenged. Therefore, the protection of the original ecological singing culture is imminent. With the revolution of information technology and the rapid change of computer technology, it brings technical foundation and conditions for the inheritance and protection of Oroqen's original singing culture. With the help of computer technology, the original ecological singing culture of Oroqen nationality in Heilongjiang Province can be carried forward again, which plays an important role in promoting the original ecological singing culture to return to the mainstream aesthetic vision of the public and stimulate people's emotion to the traditional national music culture.
Therefore, it is of great practical value to study the application of computer technology in the protection of the original ecological singing culture of Oroqen people in Heilongjiang Province.

2. The Original Singing Culture and Artistic Characteristics of Oroqen Nationality

2.1. The concept of Oroqen Aboriginal singing culture
The original ecological singing culture of Oroqen nationality in Heilongjiang Province is a form of singing culture which is extracted and created by Oroqen people in their life and production practice under natural conditions, and has been widely spread in Oroqen. The original singing culture of Oroqen nationality is rooted in Heilongjiang region, and comes from the life and work practice of Oroqen people, which expresses its unique national emotion. The original ecological singing culture of Oroqen nationality is the reflection of its fusion in several aspects as shown in Figure 1 below, showing its unique original ecological music culture form and becoming one of the important parts of Oroqen people's life.

![Figure 1. The reflection of original ecological singing culture of Oroqen nationality](image)

2.2. Artistic characteristics of Oroqen's original singing culture
The original ecological singing culture of Oroqen nationality has very distinct artistic characteristics, which is embodied in its authenticity, artistry, diversity and nationality, as shown in Table 1 below. These characteristics of Oroqen's original ethnic singing culture not only enrich the Chinese original ecological national music field, but also embody more abundant national elements and rich multi-ethnic cultural flavor in the process of diversified development [2]. At the same time, the original ecological national music also shows the long history of Chinese music development in many aspects, showing full spiritual value and good aesthetic taste.

| Characteristic   | Detail contents                                                                 |
|-----------------|---------------------------------------------------------------------------------|
| Authenticity    | The truest reflection of Oroqen folk custom, production and living state        |
| Artistry        | Singing culture presents high artistic and aesthetic value                      |
| Diversity       | There are various forms of original singing performance of Oroqen nationality   |
| Nationality     | The essence of Oroqen language and culture embodies the artistic               |
|                 | characteristics and cultural connotation of Oroqen                            |

The Oroqen people of Heilongjiang Province have lived in Daxinganling area for generations. Their hunting and gathering life for thousands of years is a true portrayal of their daily life. However, with the change of the ecological environment in Daxing'an Mountains, the personality characteristics of the original ecological singing culture of Oroqen nationality in Heilongjiang Province are gradually separated from its natural environment and human environment, and gradually decline and even disappear [3]. In a sense, the decline of Oroqen's original singing culture is not entirely due to the
problems of its singing culture itself, but by the change of living environment and the strong impact of foreign culture, which makes the Oroqen nationality’s original ecological singing culture pay a heavy price.

3. Problems in the Protection of Oroqen's Original Singing Culture in Heilongjiang Province

3.1. The ecological foundation of Oroqen's original singing culture is fragile
The emergence and development of Oroqen's original ecological singing culture is mainly based on the deepest material and spiritual needs of the local people, that is, the demand for cultural life is the origin of Oroqen's original ecological singing culture [4]. Because the ecological environment of Oroqen people is relatively closed, the original ecological singing culture of Oroqen has formed a certain stability in the process of historical development. However, with the accelerated development of society, the living environment of Oroqen nationality has undergone great changes, which makes the ecological foundation of its original singing culture increasingly fragile, which is mainly shown in several aspects as shown in Figure 2 below. It can be seen that the various ecological basic elements of Oroqen's original ecological singing culture are increasingly fragile, and the survival status of Oroqen's original ecological singing culture is more and more unsatisfactory.

![Figure 2. Changes in Oroqen's living environment](image-url)

3.2. The inheritance of Oroqen's original singing culture has been destroyed
With the rapid development of modern society, the national culture also gradually presents a diversified development trend [5]. For the Oroqen original ecological singing culture, its original ecological folk songs have gradually formed a relatively fixed ecological inheritance mode after development. These ecological inheritance forms have the characteristics of spontaneous formation and convention. In addition, the original singing culture of Oroqen nationality can be perfected in artistic practice, so that the essence of its song culture can be precipitated. With the continuous invasion of foreign culture, the Oroqen original singing culture has been weakened and even abandoned. And the ecological inheritance mechanism of its singing culture has gradually become more and more vulnerable due to the lack of mass basis.

4. The application of Computer Technology in the Protection of Oroqen's Original Singing Culture in Heilongjiang Province

4.1. Record protection of Oroqen's original ecological singing cultural figures
Based on the computer protection technology, digital recording and video recording technology is the most important protection technology. Firstly, computer recording technology has advanced and highly accurate accuracy [6]. It is more authentic in restoring the original culture of Oroqen, and thus has more prominent advantages. In addition, the computer recording technology has strong stability and anti-interference ability.

The original ecological singing process of Oroqen people is filmed for better protection and inheritance, so as to avoid the loss or exaggeration of the singing cultural content. At the same time,
the oral skills and know-how are formed into audio, which lays a solid foundation for future generations to get authentic inheritance.

4.2. Image protection of Oroqen's original singing culture
The application of computer-based three-dimensional imaging technology in the protection process of Oroqen original singing culture can make people have a huge three-dimensional feeling. Based on the powerful digital three-dimensional imaging technology of computer, this paper applies it to the protection of Oroqen's original ecological singing culture, and records the process of Oroqen's original ecological singing in the way of 3D film and television shooting for wide dissemination. Based on the blessing of this technology, the Oroqen original ecological singing process presented in front of future generations is more three-dimensional. The display based on panoramic mode not only makes its cultural performance vivid, but also has more appeal, so as to promote its inheritance and protection.

5. Conclusion
In summary, with the continuous development and integration of social culture, the closed Oroqen original singing culture has been weakened or even abandoned, which urgently needs timely protection. The revolution and rapid change of computer information technology has laid a technical guarantee for the inheritance and protection of Oroqen's original ecological singing culture. With the help of computer technology, the original ecological singing culture of Oroqen nationality in Heilongjiang Province can be carried forward again. It plays an important role in promoting the original ecological singing culture to return to the mainstream aesthetic vision of the public and stimulate people's emotion to the traditional national music culture. Therefore, it should be popularized and applied more quickly.

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