

An Exploration on the “Non original tourism experience” Mode Based on Science and Technology

Dayong Ma, Fan Li and Anzhuo Li*

School of Design Art, Shenyang Aerospace University, Shenyang 110000, China

*Corresponding author e-mail: 381772091@qq.com

Abstract. This paper analyzes the feasibility of developing tourism in Shenyang based on science and technology, and creatively put forward the concept of "Non original tourism experience". Combined with 5D, holographic projection, augmented reality, virtual reality and other technology means to explore the new tourism experience mode of Shenyang Expo Park.

1. Introduction

With the development of economy and the improvement of people's living standard, tourism is favored by more and more consumers. However, the current tourism experience is not satisfactory. On the one hand, the most of scenic spots are affected by numerous uncertain factors such as season and weather in the open air. Once encountering adverse weather, it will seriously affect the quality of tourism. On the other hand, there are more sights of the same kind. There are few prominent representatives in each category, and the differentiated experience in each category only rest on different regions.

2. Feasibility analysis of Shenyang's scientific and technological development of tourism industry

Apply science and technology to the development of local tourism in Shenyang. And combine many pain points with Shenyang's tourism development mode. Its feasibility is as follows.

2.1. Political feasibility

At present, Shenyang is implementing the strategy of innovation driven development and building northeast science and technology innovation center. Shenyang has been built into a technological innovation center based on the northeast and the whole nation. Technological innovation and cultural industry have been recognized by policy in Shenyang. Liaoning also actively introduced policies to encourage technological innovation and tourism experience.

2.2. Economic feasibility

The development of tourism is an urgent need to improve the function of the city and speed up the construction of the central city of the country. It is an inevitable requirement for optimizing the economic structure and promoting the economic growth. It is an important way to improve the life of the masses and improve the happiness index. In other words, the development of Shenyang's tourism is conducive to the new round of Northeast revitalization.



2.3. Technical feasibility

The whole world is in the stage of gestation and breakthrough of the new generation of information technology deep integration application and the new round of technological revolution. Virtual reality, augmented reality, holographic technology and other high technology have basically developed and perfected. They have the capital and power to inject fresh vitality into the tourism industry.

3. Exploration of “Non original tourism experience” development mode -- take Shenyang Expo Park as an example

In this context, from the perspective of science and technology, creatively put forward the concept of "Non original tourism experience". It is through modern technology to enhance tourism experience and make tourism a differentiated experience. Then taking Shenyang Expo Park as an example, and put forward the following inquiry and thinking.

3.1. 5D technology display interactive experience Park

As Expo Park covers an area of 246 hectares, it is very difficult to visit all the parks within a day. The physical quality of the elderly and the children is difficult to visit. Therefore, taking advantage of 5D technology to create an interactive experience Park, visitors can overlook the whole park in this area.

Horticultural display is the core of the Expo Park in Shenyang. There are only more than 1500 varieties of perennial flowers, more than 1500 varieties of greenhouse flowers, 650 kinds of flowers, and about 6 million tulips in the park. Although the flower sea is very attractive, the flowers are bound by the time factor, the "flash in the pan" scene is also affected by the weather, making the tourist experience not satisfactory. Here we can combine the 5D technology to make the whole process video of the rare flower varieties from bud to leaf to bud and flower. The true appearance of 5D effect can make visitors feel the biggest impact on vision and smell. Audio can play a role in cognition, science and education with the interpretation of flower structure. At the same time, it can break the time chain, so that visitors can choose content to interact with each other and enhance their scientificity, knowledge, interest and interaction.

3.2. Holographic projection to feel different customs and feelings

Holographic projection technology is based on the principle of interference and diffraction to record and reproduce the real three-dimensional images of objects, and it can produce three-dimensional air phantom.

Application of Expo Park in Shenyang in 53 domestic and 23 international exhibition, it can show different regions of the characteristics of local customs and practices. The wonderful holographic projection and the actor's special performance enable visitors to experience the dual world of virtual reality. In addition to reducing the time cost of visitors, holographic projection has strong sense of space and perspective. Holographic viewing effect is more stereoscopic and intuitive so that can bring tourists a fantastic visual experience.

3.3. Real time interaction between augmented reality and small animals

Augmented reality (AR) is a technology that calculates the location and angle of camera images in real time and adds a corresponding image, video, and 3D model. The goal of this technique is to put the virtual world on the screen and interact in the real world.

It can be applied to Shenyang's Expo Park with animal elements. First, add AR animal design to Expo Park tickets and use smartphones to scan tickets, at the same time visitors can interact with them. For example, the single finger slipping on the animals rotates freely, double fingers magnify or narrow the animals the animals can drag freely out of the ticket page with rotating 360 degrees, taking pictures and so on. It not only effectively improves the collection value of Expo Park tickets in Shenyang, but also has great interest and scientific significance for children and tourists.

Second, AR technology based on geographic location is applied when tourists visit Expo Park in Shenyang. It's similar to the augmented reality game Pokemon GO, but it doesn't just use the camera

function to stack digital images. This form is based on the triggering of real images in the Expo Garden, so that the surrounding scenery will move, the building will tell the story to the tourist, the virtual animal will play with the tourist. When tourists use the camera to scan, there will be animated images consistent with the real environment. For example, when scanning the gate of Phoenix wing in the Expo Garden, a flying phoenix appears on the screen which is flying up the main tower. When we scan the rose garden, there will be butterflies flying, walking deer, running rabbits and so on, and we can make a photo with them. When visiting a park, the camera will scan the area's image and receive relevant information of the park on the phone. The real-time interaction based on AR technology has greatly increased interest in touring. The integration of digital images and real scenes enables tourists to have intuitive experience without wearing any devices.

3.4. Virtual reality games feel a different stimulus

Virtual reality technology (VR) is a computer simulation system that can create and experience virtual world. It uses computer to generate a simulation environment. It is a system simulation of multi-source information fusion, interactive three-dimensional dynamic view and entity behavior.

Applied to Expo Park in Shenyang, the corresponding VR game park can be established. Using blue light resistant VR glasses to reduce the harm to tourists' eyes. Handheld devices can avoid different head adaptation problems, but also prevent tourists from overindulging for a long time, resulting in physical discomfort. For example, aim at the original water game in Expo Garden, tourists who don't want to be wet can participate in VR games. The perfect combination of virtual illusion and actual site can create a more intense sense of immersion for tourists. Tourists consider themselves walking in a straight line in VR games, but the actual route may be tortuous and circuitous. This VR version of "redirection walking" technology application can effectively reduce the area and construction cost of VR game park. In the Expo Garden, the original roller coaster, rash and rock climbing, rock climbing and other games are not suitable for all the tourist groups. The use of VR based game experience can reduce their physical burden, thus mobilizing a full range of five sense real experiences.

4. Conclusion

Based on the integration of technology integration in Shenyang Expo Garden, a Non original tourism experience development mode is formed. It not only satisfies the appeal of personalization and interest, but also meets the requirements of generality and technology sense. In general, the 5D technology, the holographic projection technology, the augmented reality technology, the virtual reality technology and other innovative technologies are the basis of the development of the cultural industry represented by the tourism industry, and also a dynamic integration trend.

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