Computer AR Technology to Help the Application of Cultural and Creative Product Development Research

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Abstract. Using AR technology for tourism products research and development and application, especially should pay attention to the feeling of tourists experience, with cultural creativity as the starting point and the foothold, using AR technology, stimulate tourists a variety of feelings, stimulate their excitement, make they produce close feeling, constantly produce consumption desire, meet the actual needs of tourists.

Keywords: computer AR technology · cultural and creative product development · application

1 Introduction

Internet, the creative industry of tourism culture has attracted more and more attention. Tourism cultural creative products are a cultural symbols of a country, but also an important part of promoting the development of China's tourism. Introduced to the tourism market and achieved success to a certain extent. Take Dalian as an example. Dalian is a coastal city in eastern China, adjacent to the Yellow River and Bohai Sea, and has the reputation of "Northern Pearl", with profound architectural culture, square culture, seaside vacation culture and so on [1]. In this environment, how to better combine with the modern economic and social life, has become an urgent need for research and discussion topic.

2 Overview of the AR Techniques

AR technology is a new data technology that appeared in Japan in the 1990s. It can integrate reality and reality data together. It can integrate the corresponding pictures together through the perspective and position of the camera, and finally perfectly integrate the reality and reality together, so as to realize the interaction between the two.

The significance of computer AR technology to help cultural and creative products AR technology is a brand new electronic technology that can effectively integrate the real world and the virtual world, so as to achieve the interaction between people and things.

Let the user have a sense of immersive feeling. In addition to touch, the application of AR technology can also use visual synthesis, hearing and other sensory experiences, so as to achieve the "immersive" experience. Use AR technology, make the tourism cultural and creative products to get rid of the function of ornaments, improve the content of science and technology, more cultural connotation, but also more three-dimensional, vivid. Through a small memorial, people can feel a brand new travel cultural experience.

AR technology is due to its high virtualization [3] Convenience characteristics make the creativity of cultural and creative products more creative. Some designers start from the basic principles of AR technology and take advantage of its virtual role. Through a large number of ideas, AR technology is permeated into the cultural and creative design [2]. The AR technology diagram is shown in Fig. 1.
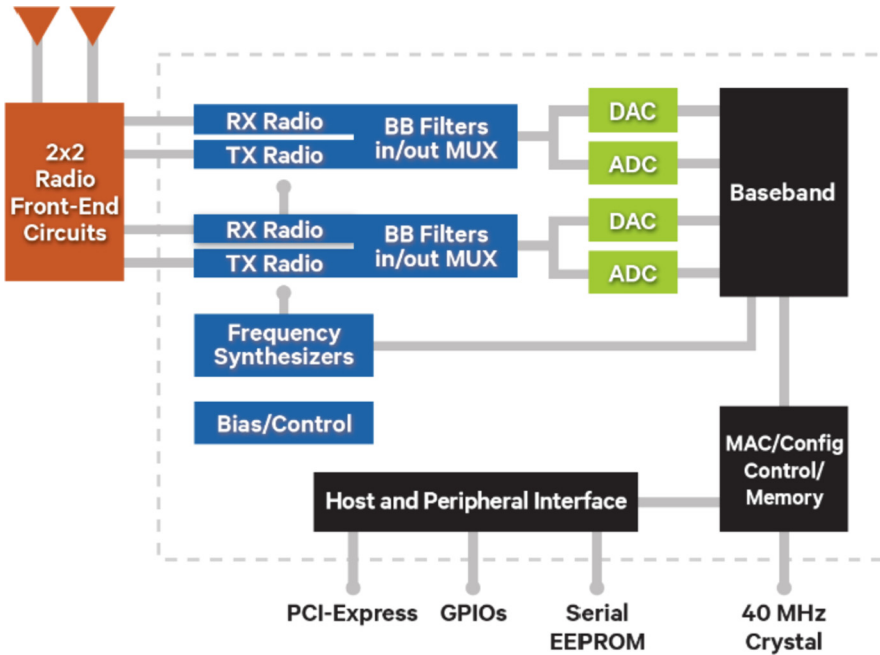

Fig. 1. AR technical diagram

For example, when you go to the scenic spot to select tourist souvenirs, scan postcards with your mobile phone, and scan the QR code with your mobile phone, you will find a 3D composite picture on the mobile phone, which is very realistic, along with music accompaniment, audio commentary and so on, so that tourists can be full of memories here. This is a novel tourism and cultural creative product, providing tourists with a brand new experience. In addition, they can also share their experience with others, so that they can get more happiness and satisfaction. Therefore, the application of AR technology in tourism cultural creative products has a great role in the development of tourism industry and tourism.

3   The Application Way of Computer AR Technology to Help the Development of Cultural and Creative Products

At present, under the background of the integration of culture and tourism, all places are trying to seek a synchronous development path along with the development, and develop cultural and creative commodities. Cultural commodities are a kind of flexible, convenient, diversified and personalized cultural commodities, which are of great significance in improving the regional cultural visibility and expanding the channel of the regional. Therefore, it is necessary to strengthen the development and optimization of cultural and creative products, and to build a real, instant and interactive cultural and creative viewing area based on AR technology. Through the construction of the "Metropolis" IP of "Romance k", inherit the Marine history of the region, through the combination of culture and tourism, promote the development of regional tourism, and promote the integration of regional culture and tourism [4] (Table 1).

Table 1. Parameter

1	To study and locate the regional characteristic culture	Cultural and creative design knowledge, simple AR programming and design, QR code design and product elements
2	Investigate the carrier of cultural and creative products	Through the creation, creation, express its spiritual connotation and emotion of the material products
3	Conduct interaction design	Using creative ideas such as manual drawing of the Palace Museum, the QR code of smart maps is added to regional museums and three-dimensional landmarks, allowing users to pass through mobile terminals
4	Test identification and release	Through the computer camera observation, test the development effect of the engine, to see if the computer has a picture mode, whether the compilation results are reflected in the development design
4	Focus on the development of intelligent cultural and tourism products	Local relevant departments cooperate with universities, publishers, social organizations and other organizations to jointly develop the "Coastal Odyssey" series, a virtual cultural and creative theme

(1) Research and positioning of regional characteristic culture

First of all, the most fundamental to accurate determination of the developed product is its humanistic value. In the specific design, according to different marketing conditions, so as to improve the attraction of tourism cultural creativity. Therefore, it is necessary to

have a deep understanding of the regional characteristics, do a good job of research and analysis, especially in the tourism regional cultural origin, development process, social and historical environment, cultural characteristics and their role, to seek the application of cultural creativity. Secondly, the traditional handicraft and modern design elements are integrated together to make the cultural creativity more attractive and improve the use experience of users. AR technology provides strong support for regional cultural and creative design, and focuses on vigorously promoting the integration of smart tourism from both macro and micro aspects, creating a good social environment, and carrying out ideological innovation from the concept. And according to the different characteristics of different regions, according to the needs of different customers, to formulate the market strategy suitable for the local market, in order to facilitate the development of the region. From the big aspect, the local government to cooperate with the relevant institutions, colleges and universities, education, the AR technology into the product technology concept, such as the cultural institutions, study the intelligent brigade fusion may bring value, so can through watch AR technology production and product video, and micro film to attract many social groups. With the help of the media platform to promote smart tourism products, to expand its brand influence and brand image. At the macro level, universities, cultural units and relevant departments should also pay attention to the development of cultural and creative knowledge, and learn more about cultural and creative design knowledge, simple AR programming and design, QR code design and processing and analysis of product elements, so as to improve people's attention to the smart tourism industry. The process of smart tourism is shown in Fig. 2.

Fig. 2. Smart Tourism Process

(2) Investigate the carriers of cultural and creative products

At present, some people still have problems such as insufficient understanding and insufficient attention to the integration of AR technology into the cultural and tourism industry. The main reason is that in the long-term integration and development, the culture and tourism industry has formed a set of inherent integration concepts and models, and the public also has a high recognition of this traditional integration mode of culture and tourism. If AR is forcibly introduced as a new technical element, it will bring a thinking impact to the public. Therefore, in the new media era, people must constantly improve people's understanding of the cultural and tourism integration methods in the new media era, both in theory and in practice, so as to enhance the competitiveness of the urban tourism market. For some groups with low cultural level, the understanding of the concept of AR technology is not enough. The lack of in-depth research on AR technology is not conducive to the development of virtual reality interaction function, and exclthe layout form of simulation scenes and other unfamiliar content, which is unfavorable to the integration of AR technology and the tourism industry. Therefore, it is necessary to correctly understand and grasp the connotation and extension of the integration of the tourism industry in the new era, and reasonably choose the suitable cultural and creative carriers according to their own needs, so as to achieve the purpose of cultural and tourism integration. Cultural creation is a kind of material product that aims at specific groups in a specific period and expresses its spiritual connotation and emotion through creation. Using technology to transform abstract cultural consciousness into tangible audio and visual products, this is AR technology. Therefore, in the design of tourism products, it must be combined with the local unique regional resources, in order to achieve better publicity and promotion effect. Therefore, it is necessary to analyze and study the regional culture, integrate its basic characteristics into the carrier of the identification map, and form a regional culture and creative identification symbols with strong regional cultural characteristics.

(3) Interaction design

The implementation of AR technology requires interaction through some software. Among these technologies, the most critical thing is to have a good human-computer interaction, and this interaction system includes a 3D model and drawing. Current AR special effects on the market are mostly developed and designed based on Unity3D. Enter the prepared identification graphics, patterns and other information data into a virtual environment, and complete the interaction between users and goods through coding. Through each other, tourists can have a deeper understanding of the history and history of commodities.

Using AR technology to scan cultural and creative products and generate dynamic images can expand the extension of its culture. With the help of mobile phone connection and the application of big data, it can intuitively display and analyze the relevant information of products and trademarks, so as to provide more convenience for customers to go shopping. Moreover, the content of AR can be updated instantly in the background, thus preventing the uniformity of video programs, and thus ensuring the constant change of users. For example, the relevant units of local cultural creativity can use AR technology to build a four-dimensional virtual world, so that the public can hear it. In addition,

there are some auxiliary space, mechanical interactive devices, voice remote control and other auxiliary means, as well as through voice remote control to appreciate cultural and creative works, can also be marked, to improve the perception of the public. In addition, the information collected by mobile phones can interact with other regions, countries and metropolises, so as to achieve global sharing, and bring more communication and communication channels to the people. At the same time, the use of the palace manual drawing, such as creative, the intelligent map of qr code to join the regional museum and 3 d landmarks, let users through the mobile terminal, can know the main location of the museum of geographical information and collection, so you can let the traditional ideas rooted in the people's heart, so as to promote the spread of our history and culture. Driven by AR technology, cultural and creative design departments can also use AR technology for simulation, and integrate artificial layout into intelligent design, so that the public can carry out cultural and creative design through the form of voice and hand-painting. The final virtual works are made into an electronic version and sent to the public to commemorate and enrich the creative expression of the creative works [5].

(4) Test identification and release

Implement two interactive digital information and graphics of editing control, and complete the engine development and design. Place an recognition map under the computer camera, check the development effect of the engine, see if the computer has a picture mode, and whether the compilation results are reflected in the development design. When the recognition figure appears on the screen, click the mouse, select the required information in the pop-up box, and type the corresponding code, and you can call the corresponding plug-in to perform this feature. If the display and identification map on the computer has been designed successfully, then the APK installation software can be sent to the mobile terminal to download and install the apk, thus scanning with the product.

4 Conclusion

The development of cultural and tourism integration industry must pay attention to the creativity of tourism products and conduct tourism development with the help of AR technology. It can be applied to sightseeing attractions to improve the experience and participation of tourists, and then promote the dissemination and publicity of culture. For example, relevant local departments cooperate with universities, publishing houses, and social organizations to jointly develop the "Coastal Wandering" series, virtual cultural and creative themes, such as "Square roaming", these cultural and creative works integrating social ideas, distinct personalities and intelligence. At the same time, we should cooperate with media companies, Internet enterprises and other aspects, and promote culture and tourism through a variety of media channels. At the same time, the major enterprises can also jointly form a wisdom creative team, specifically for the area of the existing cultural creative optimization and optimization, for example, through AR technology to create "eloquent shell", "the big fish bite fish, with dinosaurs as subject" ideas, make works more vivid, realistic, ornamental and collection.

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