Research on the Coordinative Development of Interactive Design and Local Traditional Culture Communication*

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Abstract—**In the context of artificial intelligence, big data and the interconnection of everything, the communication of local traditional culture is at risk of stall. In the process of ensuring the sustainable development of local traditional culture, interactive design technology is actively adopted to establish the connotation of local traditional culture and a new way of expression through the organic combination of human-computer interaction and artificial intelligence. From the perspective of interactive design with the characteristics of behavior and action, this paper discusses the transformation of local traditional culture from "one-way communication" to multi-dimensional "interactive communication" under the mode of media development, and explains the relationship between interactive design and the communication of local traditional culture.**

Keywords—interactive design; local traditional culture; communication and development

I. INTRODUCTION

Cultural diversity is a valuable asset of world civilization, and regional local traditional culture is the cornerstone of the development of human material civilization and spiritual civilization. The art form of digital media in the era of "Internet +" has broken through the traditional audio-visual communication system in interpreting the connotation of local traditional culture. With the help of digital technology, from the point of view of protection and inheritance, which enriches the means of communication of local traditional culture, and allows more local traditional culture to realize digital display, human-computer interaction and multidimensional communication in order to meet the challenges encountered by the survival of local traditional culture, which is an important measure of cultural development in the new era.

II. DEVELOPMENT OF INTERACTIVE DESIGN

The development of Internet technology has provided an unprecedented creation environment for the innovation of art design; the development of intelligent hardware provides technical support for the expression of art design. The design

is moving away from the low-dimensional design at the foreseeable speed, moving towards the multi-dimensional design, the design is no longer the design of the art, the more accurate is the design of science and technology, and the development of the current interactive design has leapfrogged multiple disciplines, and has involved the fields of design, psychology, informatics, computer science, sociology, and so on. [1] The cross-integration and development of disciplines is the continuation and innovation of design life. From the perspective of design application and information communication, the integration of interactive design and communication is promoting the development of cultural field at full speed, especially in China, human-machine interaction and artificial intelligence are the important technology to undertake the inheritance and development of local traditional culture, and which is is an important subject foundation of creative forms of local traditional culture bringing forth the new through the old and facing the future. The most popular newly-built museum and exhibition hall in different places are the experience devices with man-machine interaction.

III. THE PRESENT SITUATION OF LOCAL TRADITIONAL CULTURE

The inheritance and development of traditional culture is the focus of every country and nation. In order to protect the inheritance and development of traditional culture, China has adopted the method of cultural inheritor to ensure the continuation of traditional culture through the inheritance of groups, families and society. Local traditional culture is different from traditional folklore, because of the restriction of regional communication, it is the most easy to get rid of Internet culture in the process of rapid development of digital age. In the development of Chinese civilization for 5000 years, local traditional culture is gradually influenced by modern civilization, and some local traditional cultures even show signs of disappearing. For the existing local traditional culture of the third and fourth tier cities, more has become a good memory of the elderly. In the reality of the joint development of regional economy, the rapid mobility of population is an important factor hindering the regional development of local traditional culture, and the development of Internet culture brings more cross-border

aesthetic value to the younger generation, which also has certain influence and impact on local traditional culture.

Today's young generation, growing up in the environment of blending Chinese and Western cultures, their attitude towards local traditional culture also determines the inheritance, protection and development of local traditional culture. In order to give full play to the influence of local traditional culture, the local government education authorities have planned some manuals of traditional culture propaganda materials, and integrated the local traditional culture knowledge into the "local curriculum" in the elementary education stage. At the same time, the related series of lectures are carried out as an auxiliary study, but the backup talents participating in the construction of local traditional culture are still in short supply. The ancients said, "change is smooth, smooth is long." It is obvious that the slow pace of development of local traditional culture has encountered a bottleneck in the rapid development of social economy. It needs to make changes from itself, from the internal self-innovation, in order to keep up with the pace of social development. Only by injecting new cultural ideas, building new connotations and taking the road of new technology is the correct direction of the development of local traditional culture.

IV. WAYS OF COMMUNICATING LOCAL TRADITIONAL CULTURE

It is worth inheriting and developing to examine the local traditional culture, the connotation of its regional, folklore and interest. Since China's reform and opening up in 1978, the cause of culture and art has made great progress, and the development and dissemination of local traditional culture also has distinct characteristics. The broadcasting in the 1970s and 1980s, the television from the 1990s to the beginning of this century, and the network today all bear the important task of communicating and developing the local traditional culture. Broadcasting focuses on the transmission of sound, the investment cost is low, suitable for the traditional culture in the form of sound; TV has an image on the basis of broadcasting, in addition to making the audience fully satisfied with audiovisual, but also with narration, moving the traditional culture from life to the screen to show the development and inheritance of culture, which still has a certain influence in the future for a long time. The network is a new carrier that subverts the traditional form of information dissemination. The linear and nonlinear propagation based on the network breaks the time and place limit of the traditional information dissemination. The emergence of virtual enhancement technology such as VR improves the interest of the audience to participate in the interaction. However, at present, the hardware and software input of interactive effect restricts the communication of local traditional culture and has not yet reached popularity. It is worth looking forward to reducing the difficulty of software development and the cost of hardware input, and providing the driving force of information technology for the communication of local traditional culture.

A. Mass Literature and Art Under the Leadership of the Government

To protect the local traditional culture by administrative means, the communication area is more extensive. Through "strong city with culture", local government pays attention to excavating characteristics from the connotation of local culture, integrating tourism resources, trade cooperation and cultural exchange. There are many kinds of festival activities with the theme of culture, natural landscape, folk customs and religion. There are many well-known festivals in China, such as "Beijing Daxing Watermelon Festival", "Qingdao International Beer Festival", "Weifang International Kite Festival", "Qufu Confucius Cultural Festival" and "Meizhou Mazu Cultural Festival". Foreign festivals such as the German "Munich Oktoberfest Festival", Thailand "Water Sprinkling Festiva" and Canada "Ottawa Tulip Festival", which realize the blending of economy and culture, become a kind of local cultural brand, attract a large number of domestic and foreign tourists, but also give birth to the development of trade and commerce, which are models for the successful inheritance and development of local traditional cultures. The local traditional culture under the leadership of the government has enough political advantages and commercial value, and has the cultural activities supported by the government, and its communication economic value is incomparable to that of other regional local traditional cultures.

B. Mass Culture Based on Regional Consensus

"Ten Li with different winds and A hundred Li with different customs" is a typical regional feature of cultural differences. Small and medium-sized cities because culture affects small areas, the financial and human resources of local governments are not enough to support them, and their dissemination basically depends on the traditional model, focusing on the spontaneous organization, development and inheritance of the masses, which belongs to the non-key development field. In the field of view of cultural and artistic scholars, the economic soil environment of the development of regional traditional culture determines the development potential and influence of the culture, but it is also necessary to protect the diversity of local traditional culture and maintain the balanced development of local traditional culture. Therefore, the small culture handed down by the region should seek its own great development under the framework of regional economy, which is not only the embellishment of culture, but also the confidence of culture and the tolerance of culture.

V. COORDINATION OF INTERACTIVE DESIGN AND COMMUNICATION

In his understanding of Media: on the extension of Human beings, Marshal McLuhan (Marshall McLuhan) put forward the viewpoint of "media as information", emphasizing the importance and influence of communication tools [2]. In the network age of interconnection, the competition of 5G technology between China and the United States also proves the importance of communication technology and media from one hand, and more deeply, it is

the competition of scientific and technological voice right. The essence of design is to enhance information communication and enhance information communication. The important difference between interactive design and traditional design is that it has behavior action, paying attention to user experience is the characteristic of interactive design, and good user experience has very strong communication value to the spread of culture. In the era of "Internet +", the emergence of self-media has achieved rapid development. The integration of vision, hearing and touch makes self-media occupy the main flow of information communication for a long time, and its short and smooth fragmentation information has good timeliness and dissemination [3].

The mobile phone is the general equipment of the current electronic touch interaction, and is a "the fifth media" outside the newspaper, the broadcasting, the television and the network, it is even more the important medium of the information communication in the big data environment. With the continuous upgrading of the mobile device processor, touch screen and artificial intelligence, the interactive communication mode of the mobile phone as the terminal has realized the transition of information one-way communication to the multi-dimensional interactive communication. The local traditional culture has the diversity and the complexity, in the process of cultural communication, the narrative description cultural history can be realized, and the interest interactive experience can be realized, and the upgrading of the transmission mode can be realized.

VI. INFORMATION CONTINUATION OF LOCAL TRADITIONAL CULTURE

The inheritance and development of local traditional culture keep pace with the times. Only by following the pace of the times and integrating the science and technology and humanistic spirit of the new era can we continue to inherit it. Information is not only a record of content, but also an important means of dissemination for local traditional culture.

A. Big Data Construction

In the big data era, Viktor Mayer-Schönberger points out the information storm that big data brings to people's lives. His concept of "thinking change, business change and management change" is always affecting our work and thinking, and it has become an important source of digital service and development. IBM Inc. has outlined and summarized the 5 features of "V": Volume (large volume), Velocity (high speed), Variety (diverse), Value (low value density), and Veracity (authenticity) [4]. The local traditional culture has the characteristics of long history and diversity. In the big data era, one of the most important tasks of its inheritance is to carry out big data construction. The relevant materials of local traditional culture are gradually digitized, such as words, pictures and videos, and other data information are improved, and moderately open to the public for information collection,, so as to strive for the data integrity of local traditional culture, and to provide sufficient

electronic data for the visual interactive design of information of local traditional culture in the future.

B. Information Reconstruction and Cultural Regeneration

Based on big data's local traditional culture, it is necessary to integrate into the lives of the masses and meet the aesthetic consciousness and spiritual needs of the masses. In his article Information Dimension and interactive design principle, Professor Qin Jingyan of University of Science and Technology Beijing puts forward that In the ascending dimension and dimension reduction of 11 dimensions, the information completes the systematic process of All manifestations of nature, representation, embodiment, perception, abstraction, cognition, deconstruction, reconstruction, reproduction, behavior. [6] For local traditional culture, digital social life makes it easier for people to accept electronic audio-visual elements and physical interaction experience. All manifestations of nature, representation and embodiment are the survival foundation of local traditional culture and the focus of cultural connotation, perception, abstraction and cognition are the charm of local traditional culture, deconstruction, reconstruction, reproduction and behavior are the only way for innovation and development of local traditional culture. The cycle of 11 dimensions constitutes big data interaction in the information age, and promotes the development of culture from the ternary trisomy transformation of cyberspace (CyberSpace), information space (InfoSphere) and thinking space (NooSphere) [5].

Cultural innovation focuses on the reconstruction after cultural deconstruction. The development of local traditional culture is a continuous accumulation of achievements in the process of historical development, and has a certain cultural connotation. The embodiment, perception, abstraction and cognition of information are important processes of cultural communication. To maintain these processes is to maintain the purity of culture, but also to reduce opportunities for the Integration and Development of Cultural Innovation and Science & Technology. Since 2008, the world's science & technology and cultural development are no longer two parallel lines, more and more culture and art have achieved rapid changes through scientific, technological means, this kind of change is not limited to the external innovation of culture, but also to the change within culture. It is the development of local traditional culture to make science and technology become the strong backing of cultural innovation and to make the soul of culture have the charm of science and technology.

C. The Communication of Breaking Geographical Restrictions

Communication is an important way for cultural development. It is the connotation management of urban cultural construction to display local traditional culture through digital network and to improve the social humanity awareness of living environment. In the past 30 years, the economic activities, which take the local main traditional culture as the carrier, have achieved great success, and have played an active and effective role in protecting and

inheriting the construction of the local traditional culture. Humanity awareness

In the era of intellectual networking, mobile phones are serving as one of the most important information receiving terminals in people's lives. APP, which is based on the Internet, has gradually replaced traditional television, newspapers and other media. The adaptation of the younger generation to the network has been synchronized with the pace of scientific & technological development. The interactive media of the digital network, such as the wide variety of interactive media, the web page, the interactive video and the intelligent terminal APP, is the preferred form of the current information communication. "micro-vision", "fast-hand" and "buffeting" and other short video platforms have more than 50 million active users, and its rapid rise provides a network display platform for local traditional culture, eliminates the restriction of the space and time, and breaks through the Internet era represented by the PC. Through the data mining and visualization operation of local traditional culture, it is very important to display the local traditional culture in the form of digital museum, promote the multidimensional communication of information by the interactive VR mode, and lay the data information foundation for the digital development of local traditional culture [6].

VII. Conclusion

Today, with the integration and development of the whole media, the communication of culture and the development level of social science & technology are inseparable. In the society where the Internet, the Internet of things, big data and artificial intelligence are integrated and developed, the ultimate goal of science and technology serving culture is to meet the spiritual and cultural needs of people. "Innovation" is the most important key word since the opening of the Internet in China in 1994. In the inheritance and development of local traditional culture, the introduction of interactive design concept, with the help of media communication channels, pay attention to cultural connotation innovation, launch cultural new products, connotation new experience and new services, is in line with the current trend of China and even the world trend, but also an important direction of sustainable development of local traditional culture in the future. Looking at the future, in the context of artificial intelligence, big data and the interconnection of all things, the inheritance and innovation of local traditional culture will certainly be broken through with the support of human-computer interaction and artificial intelligence. [7]

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