

Digital Representation of the Cultural Landscape

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Abstract: The application of the digital technology to the cultural landscape can not only break the limitations of the traditional garden landscape, but also promote the digital construction of the cultural landscape, and then fully realize the integration of the digital and the cultural landscape construction. In addition, through digital means, we can bring a new interpretation of its associated cultural landscape, and further completely present the development context of history and culture. With the development of the current society, as well as the requirements of ecological civilization and information technology, we should give full play to the advantages of digitalization in cultural landscape and social value. In view of this, the following first explains the concept, role and status quo of cultural landscape digitalization, and then expounds the significance of digitalization application in cultural landscape application, and finally discusses the innovative development of cultural landscape digitalization.

Keywords: Cultural Landscape; Digital; Digital Art

Preface

Digital technology does not only belong to a kind of computer technology, it is also the general name of VR technology, Internet technology and cloud technology and other information technology, but also a symbol of technology in the network era. The emergence and development of digitalization has transformed our society from an industrial age to a digital age. For the development industry of cultural landscape, people will consider, formulate drawings and analyze models from the site, thus, the digital system of cultural landscape is formed, which is the only way for the industry to develop to efficient and advanced.

1. The concept, function and development status of cultural landscape digitization

1.1 Digital concept of cultural landscape

The meaning of "digital" surface is to transform graphics information, data information, and behavioral information into computer-used digital signals, thus realizing the ideal effect of computer automation to help people carry out their daily work. At the same time, digital technology can also produce artificial intelligence that replaces human work. In terms of cultural landscape digitization alone, digitization starts from the CAD mapping software instead of ruler mapping, until the current initial LIM of the continuous development. For LIM application, software function is relatively single, digital model system is currently used more frequently in the architectural design industry, and LIM of landscape engineering of geography, ecology and landscape architecture are lack of complete framework support, which as a variable of aesthetic factors are difficult to use accurate data to measure ^[1].

1.2 The digital role of the cultural landscape

The scientific data in the cultural landscape digital platform is used to design the preliminary scheme, and through the coordination with geographic information, the space and economic resources can be reasonably arranged, so as to prevent blindly relying on aesthetic and cultural expression to make the scheme, and further cause the lack of scientific analysis. The digitization of cultural landscape is a scientific method with literary thinking, which cannot abandon the essentials and get rid of rational thinking.

Using the cultural landscape digital technology and the landscape plant material library, standardize the design method, break the two-dimensional limitation of the floor plan, further directly reflect the ideal effect, and reduce the incidence of unnecessary repeated modification of the scheme caused by the specification. In the current traditional cultural landscape, we usually choose the scheme method to promote the three-dimensional space from plane space design and model plant collocation, which almost abandons the traditional concept of building gardens with each other. This method of blindly paying attention to plane expression is not desirable. To this end, we use a 3-dimensional collaborative framework to design under the digital platform, which can consider both plane and space factors, so as to effectively improve the promotion efficiency and persuasion of the scheme. In addition, cultural landscape digital technology can effectively promote and innovate solutions and methods when selecting plants in different regions ^[2].

Using the digitalization of cultural landscape has certain synergistic characteristics. When we cooperate with other majors in the project, we can effectively control the connection with different majors in the whole process of the project, and adjust the scheme at all times, so as to reduce the tedious modification problems brought by the scheme process. Cultural landscape major belongs to the media of mutual integration of multiple majors, which requires us to maintain a certain sensitivity to the standardization of other majors, so as to avoid conflicts with other professional norms in the design of cultural landscape space.

1.3 The development status quo of cultural landscape

In the development process of cultural landscape abroad, it has a rich research on digital restoration and reproduction and virtual reality technology, and the research time is also very long. Some European archaeologists early discovered the site of the ancient Roman Gladiator School buried underground in Kanongtum, eastern Austria, and reproduced and restored it through 2D and 3D computer information technology, while also detailed the functional characteristics of the various rooms. Compared with the internal development and research situation of cultural landscape in China, we are gradually developing on the exploration road of cultural landscape digitalization, among which the digital Old Summer Palace and the digital Imperial Palace have been built up, which enables people to observe China's excellent historical civilization and cultural landscape in an intuitive and three-dimensional way.

2. The important significance of the application of digitization in the cultural landscape

2.1 Protection of national cultural resources

We apply digital technology to the development of cultural landscape, can throughout each specific operation link, and combined with different, contains representative information overall information classification, and build digital management, help each department to save cultural landscape scheme, convenient from the subsequent use and query. At the same time, the application of digitalization to the development process of cultural landscape can replace the previous paper

design drawings preservation method, which is more convenient for the relevant staff to view, so as to better protect the national cultural resources [3].

2.2 To realize the information exchange and sharing

Using digital technology can build a special network database of zoos, nature reserves, parks and other cultural landscapes, so as to easily share all aspects of resource content and realize the smooth communication of information and data.

2.3 To help the cultural landscape supervision department to manage the landscape

The application of digital technology for cultural landscape design is more conducive to the landscape supervision departments to implement comprehensive management of the landscape. We combine the digital technology with the previous management technology, which can make the supervision staff of the cultural landscape more easily, timely and accurately harvest the landscape information, and carry out a comprehensive supervision of the animals, plants, buildings and other contents in the cultural landscape. At the same time, when the relevant staff use digital technology to supervise the cultural landscape, if the abnormal situation occurs, it can be timely solved. Finally, we can also use digital technology to set up a variety of lights, doors and other equipment in the cultural landscape, so as to be orderly in the work link, and save the labor cost in the landscape.

3. Innovation and development of cultural landscape digitization

3.1 Take philosophy as the leading, the transformation of cultural landscape digitalization

First of all, when we use digital technology, we should not only master the ability to develop cultural landscape plans, but also have a high level of digital programming thinking and skills, so that the digitalization of cultural landscape is innovative and developed. Secondly, the development and utilization of LIM software is a basic tool to promote the digital process of cultural landscape digitalization, so we should use diversified digital technologies to further replace the single cultural landscape construction drawings, so as to promote the transformation of cultural landscape digitalization [4].

3.2 Change the digitization based on the cultural landscape

In recent years, the concept of "meta-universe" has also been borrowed by cultural landscape, and produced many immersive and highly interactive landscape works. Metta-universe is not only a theme and equipment concept of landscape design, but also needs to penetrate into the digital development mode. The imaginary metauniverse can take blockchain technology, virtual currency and other elements as the economic basis, and NFT is virtual objects as assets, while virtual currency and items can also act on the real world. Therefore, in addition to the surface visual experience brought by VR and AR devices, the meta-universe will be an extended development of the real world. In the process of digitization of cultural landscape, the meta-universe is also a process of virtualization of real scenes [5]. Moreover, we can also combine the concept of PLM to further form the digital twin cultural landscape. The ecological, physical, structural and financial value parameters of the digital twin virtual site are basically the same as the real site in the real world. This similarity is mainly very symmetrical from the initial stage, completion and even to the later management of the project, which is the twin of the

whole product life cycle.

3.3 Innovative cultural landscape design based on heritage digitalization

The application of digital technology provides convenient conditions and broad space for the inheritance of cultural landscape, especially cultural heritage, which is embodied in display mode, content expression, situation setting and so on aspects. Therefore, when we carry out cultural landscape planning activities related to cultural heritage protection, we need to give full play to the advantages of digital technology, further innovate cultural landscape design, and reform the conceptual significance of historical and cultural heritage in the link of landscape design. For example, the presentation of audio-visual integrated language, the display of multidimensional virtual restoration, and the presentation of three-dimensional dynamic effects. To this end, we can combine the digital technology interaction attribute in the built archaeological site parks, and thus break the previous static mode of cultural heritage display, so that the public can have more opportunities to participate in the construction of archaeological site parks.

Epilogue

To sum up, with the rapid development of modern information technology, the application of digital technology in cultural landscape is more common, and fully promote the innovative development of cultural landscape, and cultural landscape design has also become an inevitable trend of social progress and development, so we should give full play to the advantages of digitalization.

References

- [1] Xie TT, Ni CH. Digital-oriented Design Based on Canal Culture [J]. *Packaging Engineering*, 2022,43 (2): 229-234.
- [2] Zhang MC, Li J. On the 3 D Digital Method of Cultural Relics Landscape [J]. *Digital users*, 2019,025 (004): 291.
- [3] Guo XT, Yang C, Han F. Digital record and protection innovation of cultural landscape heritage [J]. *Chinese Garden*, 2020,36 (11): 6.
- [4] Chi MJ. Digitalization on the inheritance of personal emotion and collective memory in the cultural landscape [J]. *Cultural Industry*, 2020 (9): 3.
- [5] Vera A, Zapata CM. Best practices of business process improvement: towards a representation on top of the Quintessence kernel[J]. *Business Process Management Journal*, 2022, 28(3):876-903.