

Use of High Technology to Strengthen the Use of Heritage Conservation Analysis



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Abstract: Cultural relics are the carriers of history, storing the essence of Chinese culture for 5,000 years. Through the conservation and utilization of cultural relics, it can preserve historical memory, provide an important reference value for the historical research of Chinese civilization, and allow more people to understand Chinese culture. With the advent of the digital era, the Institute of Cultural Relics and Archaeology has introduced high technology in order to enhance the conservation and utilization of cultural relics. Based on this, this paper focuses on exploring the use of high technology to enhance the conservation and utilization of cultural relics. I hope to provide some help to the Institute of Cultural Relics and Archaeology of cultural relics regarding the protection and utilization of the cause.

Keywords: cultural relics conservation; high-tech; utilization analysis

1. Preface

The protection and utilization of cultural relics are two important aspects of the Institute of Cultural Relics and Archaeology. Protection refers to the Institute of Cultural Relics and Archaeology using high and new technology to improve the level of protection of cultural relics in the collection; utilization refers to the Institute of Cultural Relics and Archaeology using high and new technology to improve the influence of cultural relics, realize the publicity value of cultural relics, improve the aesthetic awareness of the public, and meet the cultural needs of the public, so as to give full play to the role of cultural relics resources.

2. The importance of heritage conservation and heritage utilization

Cultural relics contain the outstanding qualities of the Chinese nation and are a symbol of spirit and strength. Heritage conservation not only protects the precious heritage of the Chinese nation and avoids the loss of national assets, but also stores the spiritual memory of Chinese civilization (Liu, 2021). Therefore, cultural relics are the treasures of the Chinese nation, and their conservation is the responsibility of the entire state and nation.

Contemporary culture and values are characterized by diversity, and it is an era of true "hundred schools of thought". In the process of the natural functioning of culture, there may be deviations from the mainstream culture. In response to this phenomenon, the use of cultural relics can make the Chinese nation's cultural cohesion, and identity, and constantly enhance the cultural convergence of Chinese civilization, unite the core ideas of Chinese culture, so that the mainstream values of the entire nation gradually converge, to draw on the excellent cultural qualities of cultural relics, to prevent Chinese civilization from being eroded by the cultural dregs, the loss of national cultural roots.

3. Use of high technology to strengthen the protection of cultural relics

3.1 High-definition images and digital storage

The information system stored in the heritage can allow archaeologists to better cognize history and understand history. The use of high-definition imaging equipment in high-tech can take pictures of cultural relics in all directions and without dead ends, record the picture information of cultural relics, and combine relevant historical introduction information with high-definition images to create a digital storage knowledge base for domestic and foreign experts to examine.

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For example, at the Shenyang Institute of Cultural Relics and Archaeology, there is a bronze short sword from the Spring and Autumn period. Using high-definition imaging technology, it was possible to capture the entire outline of the short sword in detail, including the blood grooves on the small sword and the sharpness of the blade. Referring to historical information, it is known that the bronze short sword is a short weapon of the Spring and Autumn period in the north (Lu, 2022). The staff can digitally store the high-definition pictures together with the background information.

3.2 Three-dimensional laser scanning restoration technology

The 3D laser scanning technology relies on the 3D laser scanner system. The 3D laser scanner uses the principle of laser ranging to establish a 3D modelling template of cultural relics through the reflectivity of dense points on the surface of the relics to achieve rapid restoration of cultural relics. The application of 3D laser scanning technology is based on the premise that cultural relics are established according to a standard template. For example, if a cultural relic is missing an earring and another earring exists intact, 3D laser scanning technology can replicate the shape of the missing earring according to the other earring, which is recovered according to idealized principles and cannot guarantee that the recovered cultural relic is identical to the original one. But compared to manual drawing, expansion and other cultural relics restoration methods, more authoritative.

4. the use of high-tech to strengthen the use of cultural relics

4.1 to create online "cloud exhibition"

Online "cloud exhibition" is based on a mature Internet system, through online live, online expositions and other ways to promote heritage knowledge (Yan et al., 2022). In the post-epidemic era, many people have developed the habit of not leaving home. Gradually from the focus on offline experience to online experience, therefore, the use of VR reality, interactive games and other high-tech to create online "cloud exhibitions" to meet the cultural needs of the masses, so that the theme of cultural exhibitions more prominent, so that the masses in the exhibition to learn a wealth of cultural knowledge, experience the convenience of life brought about by high technology.

VR live-action is one of the brightest technologies in the online "cloud exhibition". In the past, VR live view was generally used on the map, by sliding the front and back of the map to view information about roads and stores. However, the scope of the VR map is limited to roads, buildings and other content, it is difficult to go deep into the internal space of the Institute of Cultural Heritage and Archaeology, VR maps are not targeted, and cultural propaganda is not strong. The Institute of Cultural Heritage and Archaeology's online "cloud exhibition" is able to deeply express the space inside the museum, allowing users to produce a sense of immersion. The online "cloud

exhibition" can achieve a better cultural propaganda effect through 360° high-definition photography with professional copy descriptions. In the traditional offline browsing process, visitors focus more on offline play activities, many people go to the Institute of Cultural Heritage and Archaeology to browse cultural relics only for a pastime, rather than for the purpose of cultural appreciation. The focus of the online "cloud exhibition" is on the promotion and dissemination of culture through cultural relics. Therefore, from the perspective of the use of cultural relics, VR live view has a better cultural utilization effect. VR live view technology is the "darling" of the post-epidemic era, due to the impact of the new crown epidemic, a large number of museums can not be open to the public in real-time, in order to respond to the "dynamic zero" policy, should reduce offline gathering activities, heritage resources learning should be based on online learning. Therefore, VR live-action technology can meet people's cultural and spiritual needs.

An interactive game is one of the online "cloud exhibition" technology. In the traditional impression, cultural relics are always associated with ancient and uninteresting, which makes it difficult to stimulate young people's attention to cultural relics and makes the speed of cultural dissemination particularly slow (Liu, 2022). Through flash animation and other production techniques, the combination of cultural relics and small games to improve the playability and fun of cultural relics, in order to attract more young people to cultural relics, understand cultural relics, enhance the goodwill of cultural relics, and promote the promotion and development of traditional culture. For example, the production of cultural relics puzzle mini-game. Let the participants according to the door, threshold, door pier, and door forehead on the cultural relics to put together, through the development of participants' hands-on skills, so that participants learn about cultural relics, to learn about the cultural connotations of cultural relics, to further improve the level of appreciation.

4.2 new subject matter to let cultural relics "speak"

The traditional presentation of cultural relics in the form of photos and text is the main, relatively single way to promote them. In the new era of the Internet platform, text and photos of the historical publicity effect have gradually weakened, and short videos, historical text, animation and other new themes of publicity have become mainstream. However, whether short video, historical text or animation, all need the corresponding text as support. In order to use a new theme to let cultural relics "speak", the need to use high-tech means.

4.2.1 AI intelligent rewriting

AI intelligent rewriting is the latest type of artificial intelligence product, the use of the integration of Internet resources, the use a large amount of data training AI intelligent rewriting ability, through machine learning, AI intelligent rewriting level is gradually improved. AI intelligent rewriting can guarantee originality, in the case of the relevant historical articles to arrange, for the Institute

of Cultural Heritage and Archaeology of cultural relics to provide a large number of copies. AI intelligent rewriting function has the characteristics of high originality, high aesthetics, and working around the clock.

4.2.2 Picture Text Extraction

Picture text extraction can identify various texts from pictures and digitize the relevant texts to facilitate the digital management of picture texts. Image text extraction can help the Institute of Cultural Relics and Archaeology to achieve knowledge transfer, and play a good role in promoting the establishment of online databases.

For example, the texts of many cultural relics at the Institute of Cultural Heritage and Archaeology are engraved on sculptures, and in the past era, there were no digital information storage facilities such as the Internet. The texts on the sculptures were not entered into the relevant databases. If text excerpts were taken, a lot of labour and resources would be spent, the text of the sculptures would be difficult to identify with the naked eye, and the text collation work encountered major difficulties. Using the picture text extraction function, the text on the sculpture is stored in the form of pictures using high-definition photography, and then the relevant text on the sculpture is recognized by the picture text extraction software, which converts the sculpture text into a text stream, and then the text stream is recorded into the online library to realize the use of cultural dissemination (Zhong, 2022).

4.3 Building an interactive platform for the exchange of cultural relics on the Internet

The relationship between the Institute of Cultural Heritage and Archaeology and the public should be mutual communication and mutual promotion. If the Institute of Cultural Relics and Archaeology always keeps a distance from the public, it will not be conducive to the use and dissemination of the value of cultural relics. Therefore, the Institute of Cultural Heritage and Archaeology uses the high traffic characteristics of the Internet platform to build an interactive platform for the exchange of cultural relics on the Internet and to enhance the cultural popularity benefits of the Institute of Cultural Heritage and Archaeology by creating an online customer service system (Sun & Zhang, 2022).

The online customer service system is a customer service support system that can have the effect of cultural promotion for the Institute of Cultural Heritage and Archaeology. An online customer service system is a complex wiring system that has been widely used in libraries, epidemic prevention and control, museums, and other fields. Compared with the traditional way of answering phone calls, the online customer service system ensures efficiency and can avoid the occurrence of occupied lines. An online customer service system interface exists in the knowledge base of cultural relics, the operator for professional questions, you can go through the knowledge base to answer, in order to ensure the accuracy of cultural relics answer, and gradually improve the level of cultural relics communication and interaction.

4.4 the use of data high-tech integration of cultural utilization effectiveness

Big data era, data technology is an indispensable ability of the Institute of Cultural Relics and Archaeology staff. Through data technology, it can integrate the effectiveness of cultural utilization and intuitively show the effect of cultural utilization.

For example, in the process of public number data storage, the staff will be the daily number of fans of the public number of new followers and the number of unfollowed into the EXCEL table, you can calculate the public backstage fans change dynamic chart, to reflect the effect of cultural utilization. In practice, staff will first enter the monthly or daily number of new followers, unfollowers, the net increase in followers, and the total number of followers. Then open the "Data" tab, click the "Data Validation" button, and in the "Settings" tab, set "Allow Set" "Allow" to "Serial" in the "Source" text box, and enter the header area (Li, 2022).

Then open the "Insert" tab, click the "Insert Line or Area Chart" drop-down button, and select the "Line Chart with Data Marker" option from the list. Finally, insert a line chart, adjust its size, add grid lines, data labels, etc., and click the drop-down button, you can select the dynamic data to change the line chart from the list of "new followers", "unfollowers", etc. (Zhang, 2022).

5. Conclusion

Heritage conservation and the use of cultural relics play an important role and are part of Chinese culture. Therefore, the Institute of Cultural Heritage and Archaeology should strengthen the protection of cultural relics through high-definition images and digital storage, three-dimensional laser scanning restoration technology, face recognition and heritage protection. Through the creation of online "cloud exhibition", AI intelligent rewriting, picture text extraction, building a network of cultural heritage exchange and interaction platforms, the use of data high-tech integration of cultural utilization effectiveness and other ways to strengthen the use of cultural relics. Currently, there are many dilemmas in the protection and utilization of cultural relics, the lack of motivation for technological innovation in the Institute of Cultural Relics and Archaeology, the lack of professional staff, and related problems need to be solved, and all parties need to work together to promote the protection of cultural relics and the improvement of the level of cultural relics utilization.

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Conflict of Interest

The authors declare that they have no conflicts of interest to this work.

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