The Studies And Explores Visualization In The Information Of Cultural Heritage Protection

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Abstract—With the accelerated globalization and the further development of city, the protection of the cultural heritage has already been the concept which could not be avoided in the new times. The cultural heritage was not killed in the wave of the modern science and technology quietly, instead has become the foundation of a national development. Protecting the cultural heritage, maintaining the inheritance of national culture, is not merely relates our economical development of country ,but also the continous power in civilized development. We are now facing the new topic that applying the new science and technology in the protection of cultural heritage, except for nurturing stronger sense of management and definitude of laws. I hope that stated clearly in this article that the technology of information visualization applying in the cultural heritage protection, and find a road of the solution for the protection of cultural heritage digitization.

Keywords- the protection of cultural heritage; information visualization digitization

I. THE AVENUES AND THE REMAINED PROBLEMS OF THE PROTECTION OF CULTURAL HERITAGE

On the context of the globalization and economic integration,each administrative entity has almost experienced the procession of the attitude changing from indifferenza to the small scope spontaneous protection then to the global cooperation in system protection; from "visible" to"invisible"; from the pure rescue to the rational application of development.In terms of our country's cultural heritage protection enterprise,it has experienced the procession from neglect to value;from few person's calling for to establishing a legislation.In the 80's ,we signed "Protection World Inheritance Joint pledge"at United Nations Educational Scientific and Culural Organization, the 90's we joined international organization,such as ICOMOS (international ancient ruins council).It can be said that, our country has been engaged in the cultural heritage protection by several decades . The main principle of our country's cultural heritage protection is the government -leading, the society-participation for the moment.Through the investigation and research of the protection of cultural heritage, I consider that there are following several problems:

A. Unformed system of the management of cultural and relic

We always carry on the protection of cultural relic and buildings by the sole and isolate approach to them,but ignore the protection of the culture, environment, historical site which matches with it.

B. Cultural heritage protection isolation

The cultural cultural relic needs to be properly management and operation so as to glow their new vitality in the modern society but not bury them by dust.Only administration of system combines with the collection, research, entertainment, education and so on can help the protection of cultural heritage on the benign track.

C. It will be lose the original significance of cultural heritage if we do misgovernment badly

Appearently,replicating the constantly reconstruction, the protection transformation in the style of antiquity and so on means protecting the management, in fact, the limit of technology and the shorten of consciousness destroy the original style of cultural heritage destruction,so it does to the cultural heritage.

D. Lacking our set way of code of conduct and the standard of management by recogonized by pubilic with science

Since the construction of the files , there should be a standard operating procedure for separate zone of management which according to the situation of our behaviors in the protection of cultural heritage , research, demonstration, collection and so on. The author of"The Existent Question of management system of heritance in our country " --- LuJiansong believed that, the code of conduct and the standard of management with science by public in our conservation management of cultural relic protection management is still a blank,including the standard of work, technology and management.He also advanced the principle of constructuring the standardization system of cultural heritance. Generally speaking, in the standardization system of construction of cultural heritance , it should be especially considered by the following several principles:Firstly, the principle of protecting and sustainable development;

Secondly, the principle of universality and particularity; Thirdly,the principle of compulsory measures and recommended standard; Fourthly is the prominent of crucial target principle.But there are also some scholar believe that, it does not need to rigidly adhere to the principle, the maintenance of culture growth oriented and polytropism interest to the multiplicity of protection cultural heritage.The most important thing is we should carry on the protection--research work according to our country's actual situation[1].

Is it available that the insufficient can be corrected by the information technology in protection of cultural heritage at present, or can be improved by a certain extent?The UNESCO pays attention to the protection of digital inheritance all the way. November, 2002, "Digital Inheritance Protection Draft" formulated by widespread questionnaire countries' opinions on the protection of digitized product and appealed the member of nations attach importance to this problem.

II. THE RELATION OF THE INFORMATION VISUALIZATION AND THE PROTECTION OF CULTURAL HERITAGE

Visualization is a procession just like that it transformates the data message and the knowledge to a form of visual and utilizes the people's natural ability to recognize in the visible pattern .The visualization associate the human brain with the modern computer ,which the most powerful management system of formidable information.The effective visual view enables us to observe, operate, research, browse, explorate, filtrate, discovery and understand the large-scale data,which is convenient to mutual interactionand then may extremely effectively discover the characteristic and the rule which hides in the internal information [2]. Our government also highly attach importance to the informationization development of the enterprise of cultural relics. The related department has formulated "The Overall plan of National Informationization" It is the important component of the construction of informationization.Qin Jingyan swallowed in her paper that the digitization cultural heritage can be achieved the information management of space and time multi-dimensions, the presention of information interactive all kinds of media information , the protection approach of researching multiple-point of cultural relics and the multi-people participate in network by the method of information design and the method of information technology .Generally speaking,the visualization information has following several points of practical significance in the protection of cultural heritage protection.

A. The protection of Numeral cultural heritage has broken the limits of protection of traditional culture inheritance

The digital space exhibits the infinity of the information.which cannot be receive hindere by space or time. Regarding the non-renewable cultural heritage resources, the preserved information which will be protected and used at utmost, thus will not be able to harm or change the cultural relic itself.

□

B. The traditional cultural heritage,or deposited in the museum, or existed in the location of the inheritance.After all, there are few pepole can appreciate and study these precious wealths

The technology of information visualization which unions Internet may display the soundly sleep precious inheritance to the whole word ,expanding the numerous communities greatly who benefited by the cultural heritage.

C. Providing a kind of brand-new, high-level alternately experience

The audience not only may appreciate the croes by looking out the glass but also touching them in the finishment-equipment. It can be offered a historical environment returned to the original condition to the audience which take them to the history situation. All these things,the demonstration of traditional cultural relic cannot provide.

Opposite to other countries, our country is still at the start stage in the cultural heritage informationization.Apart from the limits of investment there are also two problems which limits the development of protecting cultural heritage digitization .On the one hand is the low-attention to the protection of cultural heritage; on the other hand is lack of the modernization talented person who be proficient in the knowledge of cultural relics,such as archaeology,the management of cultural relic and so on,who be familiar with the information technology ,who pay attention to the spread of the cultural relics information and the management of cultural industry.

III. THE SOLUTION TO THE INFORMATION VISUALIZATION

The protection of digitization cultural heritage transcend the traditional cultural heritage protection by limits of space and time, causing the protection of research work to be possible in any time, any place.Thus the information visualization causes the traditional cultural heritage to multi-dimensional, dynamic, mutual and the hypothesized direction of development.The information visualization design of digitization cultural heritage protection aim to the visual informationization design for the protection of cultural heritage .So-called "informationization", in significance of information economics ,means to dependent peeling to other feeling form of information content. Through "understanding" natural transformation and construction,the information language medium,such as writing mark, color, music, graph imageand so on.,which achieved to the objective revelation importantattribute that reveal the content of information and provided the system of consume-appraisal ,the creation of information and the procession of far-explanation . [3]

Actually, the protection of numeral cultural heritage may applyied in following several domains:

A. Information gathering data informationization

The artificial factor possibly causes the change of the cultural heritage and the information technology can record

each step in the change. Moreover it almost does not take any physical space.South Korea ,Asian country with us,started to carry on the massive cultural heritage record work since 1962 by the government.All things considered,it mainly has the writing, the photograph and the phantom,further more these three ways have all experienced from the traditional way to the digital way transformation.For the cultural heritage confirmation, the record, the research, the preservation, the protection, the propaganda have provided the complete material origin. [4]At present, in our country's each big museum and the domain of cultural relic collection, started to preserve the data of cultural relic by digitized preservation.

B. Archaeology excavating

Actually the information visualization technology already used in archaeology excavating.The archaeology worker utilize the digitized method,carries on the archaeology material by the high fidelity the duplication,then make the utilization high accuracy three dimensional scanning, establishes a basic database. In this database, the original part information is preserved perfectly well, then analysis in this database foundation, uses characteristic of the information , carries on the restoration or makes the high simulation copy using the reverse-engineering.The famous painting in Renaissance time renowned painter Da Vinci "Mongolian Elegant Lisa" is an example.In 2004 ,scientific research committee member of Canada ,using a kind of special 3D technology to pro and con scanning to the"Mongolian Elegant Lisa"in the Paris Louvre's holding .has obtained the entire work high definition 3D image data. Using these precise data, the scientist hoped that discover the entire procession of Da Vinci drawed up "Mongolian Elegant Lisa". People especially interest to the behind secret that her mystically smile. These high definition pictorial information cannot be received without using the information visualization.Specific details like following chart shows. (Figure 1)

C. The information visualization in the museum

The traditional way of museum exhibition causes visitor's passive form of attention, influencing by many factors,such as space,time and so on. But the hypothesized exhibition display unfolds the line to be possible the infinite extension, the content to be possible the infinite expansion, which can provide the content of information has gone far beyond the protection of traditional culture inheritance.The hypothesized museum may provide the brand-new experience which has the interaction,completely immerses.On the one hand, greatly expanding the numerous crowds to the museum; on the other hand enhanced the quantity and the quality of information which audience's acception.At present, the museum can achieve following points:

- The cultural relic's restoration original condition. Through the digital technology restores the reality which in the hypothesized space, lets the cultural relic passed on with the characteristic, the shape, the history.

- The zero distance from contacting cultural relic. Let audience puts on the data glove and the eyeglasses,just like touching in hypothesized spatial, holding appreciatively the cultural relic;
- The simulation of cultural relic historical environment. Restorating the cultural relic in the historical environment location,making audience feel like in that case.
- The procession of technical and the demonstration of the story.Multimedia may demonstrate the flow craft of the cultural relic manufacture procession to the audience, as well as the story of cultural relic historical
- The protection of the cultural heritage culture demonstrates a country's attitude to respection of its historical and culture.The movie "Avatar" had demonstrated marvelous outside star world, meanwhile, let us realize the 3D technology of mysterious charm. If a computer can completely establish an imagination of the world, could it help us to restore that has had already vanished, or incompleted cultural heritage? We believe it.Whether the brand-new information visualization technology can help the ancient cultural heritage to glow the vitality, needing the massive jobholders to conduct the specialized research and the exploration,finally finding a way to combine the technology and the culture into a unified.

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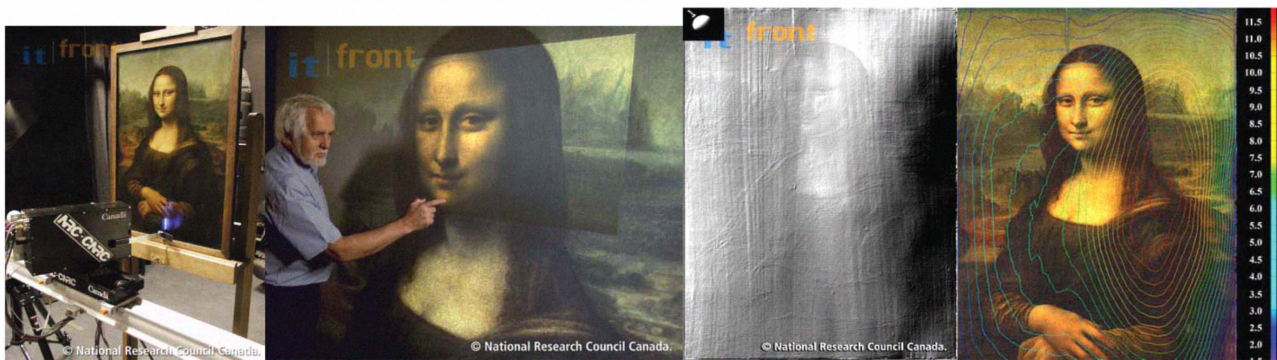
Figure 1. the Canadian Scientific research Committee's scientist utilizes 3 Uygur X light analyzer,
carries on the pro and con surface scanning to " Mongolian Elegant Lisa", obtains the high clear three dimensional image data.