The Integration of Environmental Art Design Based on Artificial Intelligence

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Abstract. In recent years, artificial intelligence has gradually penetrated into people's lives, and the emerging technological field of "artificial intelligence" has begun to be paid attention by more and more groups. The integration of artificial intelligence in environmental art design has also triggered human exploration of "smart home". The purpose of this article is to promote the development of environmental art design towards intelligentization by discussing the status quo of the development of the intelligent space environment. This article uses the network research method to investigate the intelligent construction of public libraries at and above the provincial level in China. In general, there are 28 libraries with self-service loan and 24-hour self-service library service facilities, and the construction of intelligent projects has reached 93.33%. Intelligentization has become the general trend. Analyze the smart home space and environmental art design, promote the development of environmental art design to be intelligent, and provide people with a better quality living environment.

Keywords: Artificial Intelligence, Smart Home, Environmental Art Design, Living Environment

1. Introduction

Since the day when humans appeared on the earth, this group has been making unremitting efforts to provide themselves with a more comfortable living environment [1]. It is precisely because of the unremitting pursuit of human beings for a beautiful living environment, along with the rapid development of electronic technology, network information and other scientific and technological aspects, smart homes emerged at the historic moment [2-4]. The evolution of the human settlement environment can be seen as an opportunity for the emergence of "smart home". The continuous improvement of the human settlement environment, the growing human demand for the living
environment, and the increasingly developed human production technology are all promoting "smart home". The reason, meanwhile, intelligent design can also improve the quality of human life [5-6].

In the development of modern society, due to the successive emergence and rapid development of technologies such as computers, the Internet, and the Internet of Things, the emerging scientific and technological field of "artificial intelligence" has begun to attract more and more attention [7]. The integration of artificial intelligence in environmental art design has also triggered human exploration of "smart home", and "smart home" has gradually become a new hotspot and topic in the field of art design [8]. At the same time, due to the impact of resources waste and environmental pollution in the past development process, in the process of developing "smart home", some people also have a questionable attitude towards it. Therefore, today's human requirements for "smart home" have increased, not only to meet the needs of human life, but also to consider its relationship with the entire environment, considering human beings and the environment as a whole, human life More scientific, more ecological, more convenient and healthier [9-10].

The important significance of this article for the integrated research of artificial intelligence-based environmental art design lies in understanding the use of intelligent space design. Artificial intelligence is more naturally integrated into the design of the space environment, providing a new possibility for future design ideas. At the same time, in the future design, the building, home, environment and people in the environment can be organically combined to provide a better living environment for human beings.

2. Method

2.1. Artificial Intelligence and Space Environment

At present, there is no unified definition of the term "artificial intelligence". Some scholars believe that "artificial intelligence is to study how to make computers do intelligent work that only humans could do in the past". Some think that "let the computer system simulate the human brain activities in various ways to accomplish what humans can accomplish through the brain." It can be seen that everyone's understanding of artificial intelligence is different. Mainly includes: intelligent machines; as a branch of computer science; as a collective term of various intelligent technologies; and has the ability of humanoid, anthropomorphic thinking and behavior, rational thinking and other aspects.

For the combination of artificial intelligence and the environment, there are mainly the following ways of understanding: embedding intelligent machines in the space environment; using artificial intelligence discipline theory to guide the change of the space environment; applying the various technologies involved in artificial intelligence to space Environment, such as somatosensory technology, fingerprint recognition, etc. the space environment has human-like abilities, thinking and behavior, or the space can be analyzed at any time and has more rational thinking and behavior. It can be seen that the smart space environment is not only a simple combination of artificial intelligence and space environment, but more importantly, it is to give wisdom to the space environment to meet the various needs of users in the space environment.

2.2. Smart Home

Smart home is based on the space environment, combining various technical means such as network
information technology, automation technology, etc., and placing them in a unified space environment to work in series so that space users can use the space environment more efficiently. The purpose of the internal function. The main function of smart home is to improve the living and living experience of human physiology. Smart devices are the most direct embodiment of smart homes. With the rapid development of artificial intelligence, various types of smart home devices are widely used. At the same time, the emergence of smart home also provides new possibilities for space design. The ultimate purpose of environmental art design for the space is also to improve the living environment of human beings. A focal point of environmental art design is the space itself, but is essentially people-oriented, service to humans. Both try to create a safer, more efficient, comfortable and convenient living environment for users.

3. Experiment

Step1: Investigate the current situation of intelligent construction of public libraries above the provincial level in China and the practice of smart space environment in various industries by using network research methods to understand the development status of smart space environment and the impact of artificial intelligence on environmental art design.

Step2: A case analysis method is used to analyze the typical smart space environment cases obtained by the investigation and extract key elements of the intelligent space environment. And draw on the practical experience of artificial intelligence in other industries, starting with the space environment for reconstruction, injecting intelligent elements into the space environment, and promoting the transformation of intelligent space environment management and service intelligence. Realize the intelligent transformation of the industry to keep up with the development of the times.

Step3: Theoretical collation and analysis. Combining the research theory with practical content to conduct a systematic and objective analysis to promote the integrated research of environmental art design based on artificial intelligence.

4. Discuss

4.1. Analysis of Intelligent Construction of Public Libraries

With the emergence and wide application of artificial intelligence, it is driving the evolution and development of public libraries in the direction of intelligence, and the rebuilding of public library space is a concentrated expression of the rise of intelligent technology. Through the official website of each library and the official WeChat platform, we conducted a survey on the current status of intelligent space construction in 32 public libraries above the provincial level in China. Among them, because the libraries of the two provinces are in the construction stage of the new library, they do not participate in this survey and actually survey 30 books. The details are shown in Table 1 and Figure 1.

Table 1. General situation of intelligent construction of public libraries above the provincial level in China

| Construction project | Self-service certificate | Book sorting system | Lending system |
|----------------------|--------------------------|---------------------|---------------|

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In general, the intelligent construction of public library spaces above the provincial level in China is mainly reflected through intelligent facilities and intelligent services, which can be divided into physical space, virtual space and virtual-real space. The current situation of the physical space and the combination of virtual and reality shows that there are 28 libraries with self-service loan and 24-hour self-service library service facilities, and the construction of intelligent projects has reached 93.33%. It can be seen that these two constructions are currently the first choice for the construction of intelligent spaces in public libraries. The second is self-service card application. Since some library office reader cards involve deposits, identity verification and other issues, self-service card application has not yet been introduced, but the self-service form has become the general trend. While developing intelligent physical spaces, some public libraries have also focused on virtual space and virtual-real combined space services. Virtual navigation is divided into two parts: intelligent bookshelf navigation and panoramic library navigation. Smart bookshelf refers to the reader's query of the target book, in addition to the book number, it also presents the reader with a navigation map of the shelf where the book is located to help the reader find the target quickly and accurately. Books; panoramic library navigation refers to the use of virtual software systems to simulate the structure and distribution of library physical buildings. Users can conduct virtual visits through 3D panoramic and VR experience modes to understand library architecture and layout. At present, the construction of virtual navigation,
online robots, physical robots and book sorting systems is still relatively weak, and it should be strengthened in the future. Judging from the current development of the physical space of public libraries, each library has added smart space supporting facilities within its capacity. The primary smart facilities are: self-service certificate, self-service loan, self-service replication, etc., the increase of such intelligent facilities, it reduces the simple repetitive work and improves the service efficiency of the library from the most basic level.

4.2. Analysis of Smart Home Space and Environmental Art Design

The emergence of "smart home" has changed a lot of design methods based on traditional home equipment. Make the space more personal and scientific, rather than the same as traditional houses. Design and science are not two separate disciplines. In fact, design is also scientific, and the development of science and technology is also one of the decisive factors that affect human living environment. The emergence of smart home can adjust the parameters of the house by setting the parameters that the user needs, making the house more suitable for the person who lives in it to use. As one of the emerging technologies, "smart home" brings environmental art design a different design idea from the past. After all, every individual and every family has different needs for housing, regardless of size, total There are some differences. But on the contrary, the personalized customization service in the "smart home" has also become more complicated in architecture and design, because more and more factors need to be considered in the process, which poses challenges for designers Naturally, it is getting bigger. The focus of environmental art design is on the space itself, its essence is still people-oriented and serves humanity. Since "smart home" and environmental art design have the same purpose, environmental art designers can use these two to give full play to the advantages of the two, and integrate and transform these advantages with each other to complement each other to achieve The purpose of better living environment.

5. Conclusion

Perhaps for now, "smart space" has not yet become the mainstream of environmental art design, especially interior space design, but looking ahead, artificial intelligence will occupy an important position in the future environmental art design market. Not only for indoor space, after the proposal of "smart community" and even "smart city", the term "smart" will also be integrated into many environmental art design directions such as architecture, landscape, planning and so on. Therefore, the future-oriented designer should naturally get to know him, and then integrate it into the actual design to bring convenience to the residents and satisfy people's pursuit of "beauty". In the end, technology and art are combined into one, and the human living environment is improved from both physical and psychological aspects.

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