Study on Application of Computer Related Science and Technology in Intelligent Building

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Abstract. In the field of construction engineering, computer technology has been applied to engineering design, construction, material test detection, economic accounting, project management, etc., which can effectively coordinate the development of various work. Through computer related science, construction engineering can better collect construction unit information, process engineering data, control construction materials, which will improve the management level and save costs. Therefore, the progress of computer information technology has brought new development direction to China's construction industry, especially intelligent building. The application of computer technology in intelligent building meets the requirements of social progress, which can not only effectively save the construction cost, but also accelerate the process of intelligent building. By improving the quality of the overall intelligent building, we can enhance the economic benefits of intelligent construction enterprises. Through computer information technology, we can realize the intelligent, automatic and other multi-functional system installation of buildings, which is the main embodiment of intelligent buildings. The application of computer science and technology in intelligent building is in line with the development of economy and times of modern engineering construction. First of all, this paper analyzes the necessity of computer technology. Then, this paper puts forward the application of computer in intelligent building.

Keywords: Service Oriented, Space Ground Transmission, Network Architecture

1. Introduction

At present, computer technology is more and more widely used in various fields. Through the introduction of computer technology, the construction industry has improved the overall construction efficiency and management ability. However, in the practical application process, there are still some problems in computer technology, which still does not play its due effect. With the rapid development of computer science and technology, it is gradually applied in various fields, such as: intelligent building field[11]. Reasonable application of computer science and technology in the field of intelligent building can not only give full play to the advantages of science and technology in the building, but...
also make the construction more safe and efficient, and promote the further reform of traditional building methods. However, although the intelligent building has made great achievements in our country, it is necessary to strengthen the analysis of the application value of computer science and technology in the field of intelligent building in order to give full play to the function of intelligent building. Through processing and analysis, we can meet the needs of managers, which will promote the scientific and information development of project management. By promoting the rational use of various information resources, we can combine economy and technology organically, which will improve the overall implementation efficiency of the project and ensure the maximum utilization of information resources. Through the computer application technology, we can use the computer to provide services for different users, which will better solve the problems in the project management. Through computer technology, we have realized intelligent building\(^2\).

2. The importance of computer science and technology in intelligent building

2.1. In line with the standards of modern social development

Computer science and technology is very in line with the standards of modern social development. Reasonable application in intelligent building, we can not only improve the diversity of building object function selection, but also greatly reduce the construction cost. By improving the project quality and construction efficiency, we can make all the functions in the intelligent building give full play to their own value\(^3\). Therefore, if we want to better promote the further development of China's construction industry, we must strengthen the publicity and promotion of computer science and technology, which conforms to the standards of modern social development.

2.2. Meet people's living needs

With the continuous development of society, people's economic income is also growing, which constantly improves people's living standards. In this context, people's demand for life is no longer at the previous level of food and clothing, but the pursuit of higher quality of life and comfort. As far as the living environment is concerned, people need not only air conditioning, refrigerators and water heaters, but also various intelligent devices, such as automatic washing machines and sweeping robots. This is the result of social progress. Therefore, reasonable application of computer science and technology in intelligent buildings is an inevitable trend, which is not only the inevitable result of social development, but also an inevitable pursuit of people's quality of life.

2.3. In line with the characteristics of engineering construction projects

The main characteristics of engineering construction projects are long period and large scale. And in the actual construction process, engineering construction will be affected by many factors, such as: natural factors and social factors, which increase the economic risk and technical risk in the project. In this context, if we want to better ensure the smooth project, we must fully consider all aspects of the factors. Combined with the construction site situation, we should choose the most reasonable method, such as digital model, statistics and information theory, which is inseparable from the support of computer science and technology. Therefore, all construction activities need to be carried out around the computer, and the application of computer science and technology is also very consistent with the characteristics of various aspects of construction engineering\(^4\)
2.4. Improve the level of project management

After decades of development of the construction industry, project management has developed into a very large system, no longer just dealing with simple people and things as before. Project management mainly refers to the comprehensive control of all aspects of the project, including project progress, project safety, project quality, contract management, financial management, organization management, etc., which can obtain the maximum production benefits with the lowest production cost. But these things are inseparable from the support of computer technology. The engineering project has the characteristics of complex structure and large scale, which requires that all transactions belong to their own database and carry out data processing. However, the traditional manual operation is obviously difficult to meet the current construction needs. Therefore, reasonable application of computer science and technology is the general trend, which can greatly guarantee the effective improvement of project management level[5].

2.5. Improve the level of project information processing

In the process of project management, information processing and collection is a very important link. At present, the information of engineering project is very much and complex, which puts forward higher requirements for information processing and collection. Based on this situation, reasonable application of computer technology is very necessary. The application of computer science and technology can promote the modernization and scientization of project management, which makes the project become a strong and stable information system. Specifically, it is to create an information management center through computer science and technology to manage and process the scattered, large and complex engineering project data, which will realize the simplification and scientific rationalization of management. Therefore, the reasonable application of computer science and technology in intelligent buildings can effectively improve the processing level and efficiency of project informatization.

3. Application of computer technology in intelligent building

3.1. Intelligent life needs

Intelligent building is a deeper application of computer technology. Through the combination of modern management system and high-end scientific research technology, the computer has realized office automation, system management automation, etc., which has created a more humanized and convenient working and living environment[6]. At the same time, computer technology can also play a security early warning, energy-saving control, Automatic wake-up, room temperature conditions and other intelligent functions, which fully meet the diverse and personalized needs of residents. Computer technology meets the needs of intelligent life, as shown in Figure 1.
3.2. Comprehensive coverage of building subsystems

IBOs not only contains the professional functional modules accumulated by helium krypton within six years, such as fire protection, environment, energy, etc., but also continues to expand many other functional modules. Among them, security protection includes security video, fire monitoring, perimeter alarm, access control, etc. Among them, equipment monitoring includes building automation, intelligent lighting, energy management and control, elevator management and so on. Among them, information application includes information release, public broadcasting, all-in-one card, etc. Others include intelligent sanitation and unmanned buses. With iotos as the base, IBOs not only has a stable and powerful technical foundation, but also realizes decoupling in the knowledge field, technology field and development link. The technical personnel responsible for the docking of the bottom subsystem and the expansion of the upper business functions do not need to pay attention to the other party's professional domain knowledge. There is no requirement for the technology stack of the third-party brand, whether docking the bottom subsystem or expanding the upper function. Before the completion of weak current construction, equipment free virtual joint debugging can be carried out in advance according to the brand of the designated subsystem. Technical architecture and function based on middle stage is shown in Figure 2.
The application of computer science and technology in intelligent building has greatly promoted the development of construction industry. Computer science and technology conform to the modern application level. Computer science and technology can not only improve the function of intelligent building, which can effectively reduce the cost of intelligent building investment. By improving the construction efficiency and construction quality of intelligent buildings, we can ensure that the system functions in intelligent buildings can play a greater value. Computer science and technology is the key technology of intelligent building. Its application has high practical value. In the new era, Architecture tends to develop intelligently. We should keep up with the pace of the times, which can promote the development of the construction industry. Through the reasonable application of computer science and technology in intelligent buildings, we can not only guarantee the high efficiency and high quality of intelligent buildings, but also play a very important role in monitoring and management.

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