Analysis of Computer IoT technology in Multiple Fields

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Abstract: In recent years, the level of informatization in China has developed rapidly, and the application of computer IoT technology has provided people with great convenience in daily life and work, and has certain positive significance for the promotion of China's national economy. It has also been widely used in many fields. This paper mainly analyzes the application of computer Internet of Things technology in many fields.

1. Introduction
The continuous development of the national economy has prompted the market competition faced by various industries in our country to be further improved. On this basis, it is also required that various industries can strengthen their own informatization construction and need to carry out Internet technology. We actively use it to enhance its core competitiveness in the market. In recent years, China has applied computer IoT technology in many fields, which has also played a good role in promoting the further development of these industries.

2. Concept, Characteristics and Structure of Computer Internet of Things

2.1 Concept Overview
The Internet of Things takes the Internet as mainly basic and the core, in order to let the things and things, people and things can rely on information technology to transmit, we need to collect information on each side of the network through wired or wireless mode [1]. In the Internet of Things technology, it can automatically complete a series of activities such as collection, connection and transportation of object information. It also has intelligent and time-sensitive features in the information management process, such as the mobile phone dimensional code is a common form of IoT application used in daily life in China.

2.2 Structure
At present, the Internet of Things system mainly includes the following three structures: The first layer is the perceptual structure, which is an indispensable part of the Internet of Things technology, the perceptual structure mainly includes the QR code tag, the camera, the sensor and other parts, at the same time the sensor can be used to identify and purchase information on the item. The second layer is a network system, which mainly collects and organizes various types of terminal information through wireless or wired sensing technology. It includes two types: access network and transmission network, wherein the access network is mainly connected through optical fiber. Incoming with satellite access two modes to achieve, and the transmission network is mostly composed of public network and private network, and supports the application of mobile networks. The third layer is the application system, which includes infrastructure and IoT applications at all levels. It can effectively mine and store item information, and can meet the actual development needs of various fields and industries [2].
2.3 Characteristics of Computer Internet of Things
The Internet of Things is mainly composed of information acquisition system, ONS and application management system. It can collect information of objects through various acquisition technologies such as sensing technology and two-dimensional code technology. As a source of information, the sensor can effectively collect all kinds of information by means of mass sensor application, and can continuously update various data generated during the application of IoT. Secondly, the computer Internet of Things can also be wireless or Wired sensing technology is used to transmit object information effectively, thus ensuring the reliability and accuracy of object information transmission. In the application process of the Internet of Things technology, it is also possible to effectively analyze and collate large database information through the application of new data technologies such as cloud computing, and also realize intelligent monitoring and diagnosis for object information, thereby satisfying users' respective item requirements.

3. Specific Application of Computer IoT Technology in Many Fields

3.1 Application in the Field of E-Commerce
In the field of e-commerce, computer IoT technology is mainly applied in commodity management and logistics distribution. Through the commodity tracking information system based on computer IoT technology, the efficiency and accuracy of information management can be further improved and upgrade [3].

From the perspective of commodity management, computer IoT technology can identify goods through IP technology, thereby realizing dynamic monitoring of product status and real-time management of goods. At present, computer IoT technology has been widely used in commodity management. It can also help consumers to accurately understand the origin, production time and price of goods, so as to provide consumers with a better shopping experience.

In terms of logistics and distribution, the application of computer IoT technology is mainly to facilitate timely and accurately grasp the goods inventory and consumer orientation timely and accurately after the sale of goods on the online business, and it can also combine consumer information. Based on the reasonable selection of the distribution site, the goods can be quickly and accurately issued. In addition, the establishment of commodity warehouses through computer IoT technology and sensor technology can further enhance the rapid processing capability of merchants for various commodities on the basis of improving the security of commodity storage.

With the application of sensor technology in the transportation of goods, the position of the goods can be accurately grasped, and the application of GPS technology can accurately reflect the position and status of the transportation vehicles, so that consumers can know where the goods are located and when they will be delivered to their own hands when they are buying. In addition, in the process of distributing various commodities, with the reasonable use of the handheld terminal, the delivery personnel can also have a clear understanding of the delivery information of the commodity, and can carry out reasonable planning of the distribution route on this basis, so that it can also improve the distribution efficiency of goods.

3.2 Application in the Field of Education
With the rapid development of computer IoT technology in China, it has also been widely used in the field of education, and it is mostly applied in practical teaching and information education management. Through the application of the practical teaching mode in the specific teaching process, students' practical ability can be further improved, and the students' self-learning ability and comprehensive quality will also have certain positive significance [4]. However, due to the influence of funds, venues and other factors, some colleges and universities have led to the inability to get an orderly development of practical teaching work, and it is difficult to obtain good practical teaching effects. Through the computer IoT technology to carry out the practice teaching activities, the virtual laboratory can be constructed to allow students to carry out practical operations, which can improve
the teaching level of practical teaching, so as to obtain good students' practical ability training effect. In this practical teaching mode, students can remotely operate the experimental equipment through computer IoT technology by adding sensors and digital attributes to the experimental equipment, and also can obtain various data information generated by the experimental equipment in real time. Let students receive relevant experimental data in a timely and accurate manner. In addition, when students have problems such as irregular operation during the practice, the system will promptly make relevant warnings to guide students to adopt correct operation methods. Therefore, the application of computer IoT technology can also promote the further improvement of the practical teaching level, thereby obtaining good teaching results.

At present, computer IoT technology has been widely used in many aspects such as student safety management and classroom interaction in information-based teaching management. It can accurately manage students' attendance and security conditions to avoid security incidents. Students through wearing RFID tags and then setting up the tag reading device at each critical entry and exit location, and then make it is possible to take advantage of the student's RFID tag reading mode and effectively control student attendance and where the student is located in order to prevent students from suffering a series of security threats.

3.3 Application in the Field of Transportation

In the process of traffic management, there is a very high requirement for management quality and efficiency. Through scientific management technology and management mode, traffic management quality and management efficiency can be greatly improved to meet the needs of traffic management work. The application of computer IoT technology can promote the scientific and systematic improvement of traffic management, which can realize the real-time sharing and dissemination of traffic information, thereby avoiding the occurrence of traffic jams and reducing traffic accidents the probability of occurrence. China's urban population is very large, and the traffic density is also very large. Therefore, in the process of traffic management, we need to face relatively large traffic operation pressure, and further improve the difficulty of traffic management.

Through the rational application of computer IoT technology, the management pressure of China's transportation department can be greatly reduced, thereby improving the quality of traffic management and management efficiency. For example, in the toll management process of expressway, through the application of ETC technology, it can automatically identify the vehicle entrance and exit information, and then complete the charge deduction work for the vehicle, thus reducing and releasing the work of the toll collector pressure, and improve the ability the traffic efficiency of vehicles at highway junctions.

3.4 Application in the Field of Fire Protection

3.4.1 Personnel Management

In the process of fire rescue, there will be more emergencies, in order to deal with these emergencies in a timely and effective manner, it also require firefighters to achieve a variety of information, and can prepare to avoid fire accidents appear at various accident situations. Through the application of computer IoT technology, the surrounding environmental information can be collected and processed in time to help firefighters to effectively grasp various information. For example, in the fire rescue process, by installing information sensors in rescue personnel equipment and related communication tools, it is possible to accurately grasp the surrounding environment of each firefighter, to ensure that various personnel dispatching and commanding work is reasonabily and orderly developed. By combining the IoT and sensors, it is also possible to accurately detect the abnormal conditions in the rescue process, which will lay a good foundation for the subsequent rescue and evacuation work.

3.4.2 Fire Control Resource Management

Through the application of computer IoT technology, fire resources of different regions and
department types can be concentrated, and then classified on the basis of functions and types to achieve optimal configuration of various fire resources. Through the application of computer IoT technology, it can also concentrate some relatively scattered data resources for processing, so as to realize unified management of various fire resources. The use of a combination of fire resources and information management to carry out the transfer of personnel and various resources can also provide sufficient basis for the formulation of fire protection plans and emergency response plans. It can be said that the rational application of computer IoT technology in the field of fire protection can also promote the intelligentization and automation level of fire protection work to be further improved, and can effectively improve the management level of fire brigade and the response level of crisis incidents. The further development of the fire protection industry also has certain positive significance.

3.5 Application in the Field of Smart Home
In the field of smart home, through the reasonable application of computer IoT technology, it analyzes on the perceptual level. It can use radio frequency technology to combine various data such as camera and QR code on system equipment and home environment. Effective collection and acquisition, and effective monitoring of various home environments on the basis of security. In addition, at the network level, through the smart home network communication and the Internet's converged network, intelligent processing of intelligent furniture information can also be realized, so that not only can the data transmission of various smart furniture devices be effectively realized, but also effectively improve the intelligence and automation of smart furniture. On the application level, through the application of computer IoT technology, intelligent detection and placement of various smart furniture can be realized, thereby promoting the intelligent control level of smart furniture to be further improved. It can also play a certain role in promoting the improvement of the environment and quality of life.

3.6 Application in Smart Parking
At present, the automobile has become a kind of daily goods in our daily life. However, in the process of rapid development of the automobile market, there is also a problem that the number of parking spaces is difficult to meet the parking demand of residents, and there is a serious problem of imbalance between supply and demand of parking spaces. Further development has caused a relatively large impact [5]. Based on the application of intelligent parking system of computer Internet of Things, narrow-band Internet of Things can be used as the main transmission channel of information to realize effective control of parking spaces. The parking system also has the application advantages of simple installation and installation, and does not need to consider network compatibility, and can provide automatic parking service through the geomagnetic detector. By downloading the relevant APP, the owner can have a clear understanding of the distribution of free parking spaces and then navigate directly to the parking space which is near the destination.

4. Conclusion:
With the continuous development of China's communication technology, computer IoT technology has been further developed in many industry fields, and it has a relatively high positive significance for people's daily life level. The development of China's communication technology also requires relevant departments in China to further strengthen the research and development and application of IoT technology, and requires all industries to continue to develop in the direction of informationization. Only in this way can we lay a good foundation for the construction of intelligent cities, promote the sustained and effective development of our national economy.

References:
[1] Shan Lijuan. Analysis of computer Internet of Things technology in multiple fields [J]. Electronics, 2017, (3): 33-34.
[2] Wu Ting. The application of computer Internet of Things technology in many fields [J].

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Communication World, 2015, (19): 6-6.

[3] Zou Zhengwei, Li Yuanzhong, Zhu Hong, et al. Visualization management system for oil and gas pipeline safety monitoring based on Internet of Things technology [J]. Telecommunications Technology, 2017, (8): 875-879.

[4] Zhu Xinwen. Analysis of the application of computer Internet of Things technology in various fields [J]. Science and Technology, 2017, (23): 91.

[5] Chen Zexi. On the application of Internet of Things technology in many fields [J]. China Science and Technology Investment, 2018, (1): 319.