

Leveraging Electronic Information Technology in the Internet of Things: A Comprehensive Analysis of Applications and Future Prospects

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Abstract:

The rapid advancement of electronic information technology has significantly spurred the timely reform and innovation of the Internet of Things (IoT), thereby broadening its developmental scope. Consequently, electronic information technology holds a crucial position in the realm of IoT. This article aims to provide a comprehensive and detailed analysis, focusing on the following key areas:First, the concept of electronic information technology will be elucidated, outlining its fundamental principles and components.Next, a thorough examination of the Internet of Things will be conducted, detailing its definition, core characteristics, and the underlying principles that make IoT a transformative technology.The current state of IoT applications will then be reviewed, highlighting various sectors where IoT is being effectively implemented. This section will cover real-world examples and case studies to illustrate the practical impact of IoT.Finally, the future development trends of IoT will be explored, including potential advancements in technology, anticipated challenges, and opportunities for further innovation and integration with other emerging technologies.By addressing these areas, the article aims to underscore the pivotal role of electronic information technology in the evolution of IoT, providing insights into its present applications and future prospects.

Keywords:

Information Technology; Internet of Things; Application.

1. Introduction

At present, China is already in the information age. Electronic information technology has a greater impact on people's lives and work. Correspondingly, people's dependence on the Internet of Things has also increased. At the same time, the application range of electronic information technology has been expanding and gradually occupying an important position with the passage of time. At this stage, people usually divide the content of electronic information and corresponding technologies into network platforms, electronic applications, communication navigation, embedded systems and so on. These aspects are closely related to people's life and work. Strengthening the application of this kind of technology can not only effectively change the existing working mode to a certain extent, but also bring great convenience to people. So we will effectively promote the smooth implementation of relevant work, further strengthen the quality of work, and improve the efficiency and accuracy of staff. Therefore, strengthening the application of electronic information technology will greatly promote the development of China's society and move towards a broader space.

2. Introduction to the Internet of Things

2.1 Concept of internet of things

The Internet of Things refers to real-time collection of any object or process that needs to be

monitored, connected, and interacted through various information sensors, radio frequency identification technologies, global positioning systems, infrared sensors, laser scanners to collect sound, light, and various required information such as heat, electricity, mechanics, chemistry, biology, location, etc., through various possible network accesses, realize the ubiquitous connection between objects and objects, objects and people, and realize intelligent perception, identification and management of goods and processes. At this stage, in order to effectively manage and develop the Internet of Things system, people have divided the Internet of Things into certain levels according to their different applications, such as the sensing layer, the network layer, and the application layer. Among them, the sensing layer scans the item information into the corresponding system through two-dimensional code, sensor, radio frequency identification and other technologies. This process is not only unaffected by time, nor by location. The network layer means that real-time and accurate understanding of the transportation and information transmission of objects can be achieved with the help of different kinds of networks and the Internet. The main function of the application layer is to timely and reasonably process the information acquired by the sensing layer, so that the functions of item identification, management, monitoring, etc. can be effectively played.

2.2 Features of internet of things

With the development of electronic information technology, communication technology and Internet technology, the information system has been improved. The value of its application is not only to enable people to communicate without being affected by distance, but also to effectively deepen communication. Especially for people who are far away from home, it is easy to communicate remotely with their family through the Internet, and they can also achieve face-to-face dialogue [1]. The application of the Internet of Things has enhanced interpersonal communication to a certain extent, and can also enhance the information exchange function between goods and articles, and also realize the communication between people and articles. This is mainly because during the operation of the Internet of Things, the information of the items is first collected through the sensing layer, which will control the flow of information of the items. In this link, a large amount of data information will be generated, and information communication and exchange phenomena will occur. In addition, the items circulating in the Internet of Things are generally personal items and have certain privacy. Therefore, when the items are delivered through the platform, they must be kept confidential, which means that the Internet of Things must have security features. Only in this way can we effectively meet people's needs and realize the real role of the Internet of Things.

3. Application status of electronic information technology in Internet of Things

3.1 Electronic ordering system

One of the most frequently used electronic information technologies in the operation of the Internet of Things is the electronic ordering system. In this system, the customer can not only inquire about the goods ordered by the network terminal or the mobile phone client, but also purchase the goods anytime and anywhere in the corresponding network according to the order of the item supplier. The advantages of the electronic ordering system are mainly reflected in two aspects: on the one hand, compared with the traditional ordering mode, the customer no longer needs to enter the market in person, nor does it need to go to the factory to check the quality standards of the goods, but simply through the network. The platform observes whether the form and function of the goods meet the corresponding requirements, and can directly place an order for pre-purchase without any mistakes. On the other hand, the seller only needs to set the corresponding items on the network platform according to the actual situation of the goods being operated, so that the customer can clearly and accurately understand the goods through the network platform. This model not only effectively changed the previous sales process, but also greatly reduced the cost of hiring sales staff, renting shops, making advertisements, and decorating. This will help the seller to invest a large amount of money to improve the quality of its own goods and appropriately reduce the price of the product. For example, if a clothing manufacturer applies an electronic ordering system, it can effectively and intelligently monitor the inventory of the warehouse, and can distribute the goods according to the

customer's order, and deliver it to the designated location in a timely and accurate manner within a specified time. This model can effectively realize the integrated operation management of garment enterprises in production, sales, service and after-sales, which can further reduce the pressure on clothing sales, improve the quality of clothing, and improve the ability of serving customers [2].

3.2 Smart phone

With the rapid development of technology, the functions of smart phones are more comprehensive, and people pay more attention to performance in the development process, and the speed of mobile phone replacement is faster. Especially in the era of the Internet of Things, the application level of smart phones will be further strengthened, and at the same time, it can fully play its role. At present, the most commonly used electronic device is a smart phone, which can effectively realize the information interaction function between people and objects. It is one of the key carriers for information interaction, and has completed the implementation of objects and equipment to a certain extent. Instructions, such as the application of the relevant application in the smartphone, can easily turn on the TV remotely, no longer need to approach the device. The application and development of smart phones require the assistance of electronic information technology, on the basis of which they can have perfect functions and powerful performance. At this stage, the smart phone can not only scan the QR code, query the object information, but also realize face recognition and fingerprint recognition. The application of these functions belongs to a part of information interaction processing, and all need to rely on the support of connected electronic information technology [3]. Therefore, for the life and work of the Internet of Things era, the application field of smart phones will be further expanded, which fully demonstrates that electronic information technology can effectively promote the development of the Internet of Things.

3.3 Electronic communication technology

China now has a wide variety of communication technologies, which can effectively achieve information transfer functions to a certain extent, such as: WeChat, QQ, computer, telephone, etc. Among them, QQ, WeChat and other software can realize the functions of voice call and video call, and strengthen people's communication and communication to a certain extent. In addition, through this kind of software, text, pictures, links, etc. can be quickly transmitted. By applying this function in the Internet of Things environment, people can realize the function of transferring information between items through electronic communication technology, thus ensuring people more. Proficiency in the information and data of the goods, as well as the ability to issue instructions through the communication technology, so that the information data of the goods can be changed within the appropriate range. Electronic communication technology can play a guiding role for people's work in the Internet of Things, and the cost of this technology is relatively small. Therefore, people have a strong application to communication technology. For example, the growing express delivery service industry is to manage, plan and deliver goods through electronic communication technology to provide convenient services for people [4].

4. Development of electronic information technology in Internet of Things applications

4.1 Strengthen the degree of informatization

At present, the Internet of Things and electronic information technology have effectively realized the integration and optimization of each other to a certain extent, and this phenomenon will greatly promote the development of the Internet of Things. In order to fully realize the combination of the Internet of Things and electronic information technology, relevant personnel should establish a scientific and reasonable business system website according to actual needs, and classify customer information according to certain standards, so as to achieve strict management of user information. And can provide corresponding data information according to customer needs in a timely manner. In addition, network operation points should be established according to the operation of the Internet of Things, further enabling the electronic information system to play its own value in this link, better provide services for users, and ultimately achieve a significant increase in the degree of Internet

information.

4.2 Improve the level of credibility building

In its own development process, the Internet of Things not only needs timely and effective technical support for electronic information technology, but also requires customers to fully trust the results of their work, which means that relevant personnel must establish a scientific and reasonable Internet reputation system. [5]. Only a sound reputation system can make the Internet of Things actively and proactively make good changes in the development process, and can provide customers with quality services.

5. Conclusion

In summary, the integration of electronic information technology with the Internet of Things (IoT) enhances the functionality of IoT, enabling it to better meet user needs while fully leveraging its capabilities. Currently, both electronic information technology and IoT are rapidly evolving, resulting in significant expansion and development within the IoT field. Notably, the application of electronic information technology in real-time monitoring and control of goods exemplifies its impact, driving IoT towards greater completeness and sophistication.

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