Application Analysis of Electronic Information Technology in the Internet of Things

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Abstract: Under the premise of technological progress, people's thinking is constantly changing, and people have certain demands for new technologies. At present, people particularly favor information technology, which has changed people's lifestyles. Especially after the emergence of the Internet of Things, a novel environment has been created for people's living habits and enterprise production, and the distance between people can be effectively shortened. It can greatly improve the efficiency of life, highlighting the convenience. In the new era, the Internet of Things and electronic information technology are combined, and the two work together to help various industries move forward. It has targeted integration in multiple aspects such as QR code, intelligent transportation and electronic ordering, so that the Internet of Things brings forward action full of the times to the society, demonstrating its unique and effective use.

1. Introduction
In the new era, the operation of the Internet of Things relies on electronic information technology, and relevant personnel should bring advanced concepts to combine electronic information technology with the Internet of Things, so that the two can make progress together. In turn, the complementary effects are released, allowing various industries to move forward quickly and steadily. In order to ensure the high efficiency of the Internet of Things in operation, technical personnel should conduct in-depth research on the advantages and characteristics of electronic information technology, and apply it in combination with the real needs of the Internet of Things. We should pay close attention to the powerful support that the development of the Internet of Things brings to the technical side, so that it can be used effectively on the basis of science and technology, and keep up with the trend of the times.

2. Overview of Electronic Information Technology and Internet of Things

2.1 Electronic Information Technology
Electronic information technology is not only an innovative and modern technology, but also refers to relying on electronic information to comprehensively describe the information contained in things in a special language. It is a product of the advancement of Internet technology. The technology can also complete precise processing and subsequent transmission and sharing of required information on the basis of text and signals. At the present stage, electronic information technology has been cleverly integrated into various industries and has highlighted its advantages, especially in signal sensors, networks, cargo tracking and navigation and other links with great application value.
2.2 Internet of Things
The Internet of Things is an Internet technology that effectively connects things to things. The users of the Internet of Things can use both humans and various objects to realize the communication between things. In other words, things are intertwined, that is, information exchange. This technology covers cutting-edge technology, relies on the Internet to highlight its own value, and has advanced, intelligent and interconnected characteristics. The advancement of the Internet of Things is now moving towards the "fast lane", showing rapid progress with the new normal such as "smart cities". Since the 1990s, after years of practice, the Internet of Things has evolved from its concept to a technological product, which can solve past deficiencies and enter people's lives with maturity (as shown in Figure 1).

| Year  | Facts                                                                 | Meaning                                      |
|-------|----------------------------------------------------------------------|----------------------------------------------|
| 1990  | Xerox's network coke vending machine                                 | The prototype of the Internet of Things (first practice) |
| 1999  | Ashton of MIT put forward the concept of 'Internet of Things'        | First proposed and named the Internet of Things |
| 2005  | World Summit on the Information Society (WSIS)                       | The International Telecommunication Union released the "ITU Internet Report: 2005 Internet of Things", citing the concept of "Internet of Things" |
| 2008  | The U.S. lists the Internet of Things as a priority for economic revitalization | Internet of Things technology rises to the national strategic level |
| 2010  | Chinese Premier Wen Jiabao inspects the Institute of Internet of Things Industry of the Chinese Academy of Sciences | The Internet of Things has become a key development industry in China |
| 2011  | IPv6 protocol officially released                                    | Solve the problem of the number of network address resources and solve the obstacle of multiple devices connecting to the Internet at the same time |
| 2013–2020 | Google, iphone, Xiaomi and other companies have successively released consumer-grade products based on IoT technology | The Internet of Things gradually forms a product from a concept, and will soon enter thousands of households |

Figure 1 The Development History of the Internet of Things

3. Characteristics of Electronic Information Technology
First of all, integrated circuits are advancing rapidly in the new era, and most sensors have begun to use new materials. Coupled with the current advanced technology, it greatly improves the size and integration of the sensor, saving a lot of space in subsequent use. This is also convenient for people to work and carry, showing the characteristics of small size and high integration. For example, the development of notebooks has changed in appearance. We can use electronic information technology to highlight the speed of data processing. At the same time, the notebook also has a humanized design, which can meet the diverse needs of people. For this reason, it has improved the carrying and working ability of the notebook.

Secondly, the advancement of this technology covers the expansion of people's thinking, which can combine communication and sensor technology to a great extent. In this way, the advantages of each link can be effectively integrated, so that the complicated information can be transmitted as soon as possible. In turn, it can bring great convenience to the work of the enterprise and show the advantage of extremely fast delivery.

Thirdly, network technology is becoming stronger with the advancement of electronic information technology. It can enable people to complete the acquisition of required information in various time periods and in different spaces, have an understanding of the ever-changing environment of society,
and have changes in their feelings about things. It transfers and shares a variety of different information in digital operations, which can accelerate the speed of the network, and also demonstrates a strong storage capacity to meet the real needs of people under the surge of information.

Finally, the computer industry is showing intelligence based on electronic information technology, which also allows the communication industry to automate under this technology, so that various tasks can be precise, with scientific characteristics, and thus greatly improve the overall work efficiency. For example, smart phones are favored by people for their convenience. They can not only strengthen the connection between people, but also share social resources. It can save people's time in collecting information, and can obtain a variety of data within a few seconds, injecting the power of the times into the work, highlighting automation and intelligence.

4. Application of Electronic Information Technology in the Internet of Things

4.1 QR Code Technology

The two-dimensional code is improved on the basis of the traditional bar code to obtain an encoding method, that is, the two-dimensional bar code, which can store a lot of data. In the new era, QR code technology has not hindered its progress due to its late start, but has shown rapid development in China. It is not only applied in the construction industry, but also extremely common and extremely widespread in life. For example, currently popular and popular shared bicycles, we can design the locks on these shared bicycles based on the Internet of Things, including electromechanical locks, GPS positioning modules, kinetic energy generation, on-board accelerometers, and wireless communications. In actual operation, the user can scan the QR code on the shared bicycle on the smart terminal device, and the back-end server can accurately identify the user information and complete the judgment with the support of the Internet platform. At this point, the Internet of Things system can issue instructions, and through the information exchange channel, the shared bicycle can control the vibration sensor in the device after receiving the information, and the lock will be opened immediately after receiving the instruction, bringing services to users. Meanwhile, users can find the nearest and unused bicycles around by using map positioning on the designated APP when searching for shared bicycles with the help of smart terminals. This can also save search time and ensure accuracy. People also use the GPS positioning system in electronic information technology when returning shared bicycles, which can meet people's travel needs.

4.2 Intelligent Transportation System

In the context of social progress, the transportation system has moved towards intelligence and has been effectively and effectively improved in subsequent practice, which highlights the characteristics of high efficiency and modernization. The intelligent transportation system can fully track electronic products. It can not only monitor the entire process of cargo movement and transfer, but also allow personnel to communicate with vehicles accurately and smoothly under electronic information technology. And then master the real-time information of goods and vehicles, and have scientific and accurate guidance for decision-making. Normally, the technology covers navigation and positioning, personnel information, driving routes and vehicle status, etc., with complex content. It can integrate this information to a great extent through scientific and rapid analysis, and complete judgments and calculations in combination with many factors such as travel routes, road conditions, climate and real-time conditions. In addition, this technology can adjust the route of the vehicle according to people's needs under certain circumstances. In addition, the technology can also complete the re-planning of the route according to the destination, driving emergency, weather, etc., and do a good job of command or dispatch in real-time monitoring to ensure the overall safety of personnel, goods and vehicles, which also improves the work efficiency effectively. If accidents or emergencies occur during the driving of the vehicle, we can design the most effective solution that meets the actual needs of the vehicle in the shortest time with the support of electronic information technology. Moreover, the electronic information can also show the shortest and safe driving route to the rescue vehicle
according to the route calculation and status, so that the rescue work can be completed smoothly. JD.com has introduced robot warehouses in 2016 and built an intelligent sorting center composed of robots. The collection of practical data shows that an automatic sorting robot can complete the sorting of about 20,000 goods in one hour. The logistics industry is the first to integrate with the Internet of Things, relying on its advanced intelligent concepts to cater to the trend of the times, relying on multiple technologies such as barcodes and sensors to carry out warehouse management, transportation, cargo handling and other operations, and integrate electronic information technology into it. This can make the transportation process appear intelligent, and it can move forward with efficient management methods, which can cater to the trend of networking.

4.3 Electronic Ordering System

The electronic ordering system is a system in which users can purchase the goods they need on the network terminal, check the details and values, and complete the online ordering under the service provided by the supplier. The system can meet the convenience needs of users. Users can complete online shopping without going to the store in person, and can select them through detailed inspection. Sellers can rely on network terminals to open online stores, which can optimize the sales process, save store management, personnel employment, and store rental costs under the electronic ordering system, thereby greatly improving sales services. For example, steel bar manufacturing companies can introduce a wholesale system to add modules such as purchasing, sales, warehousing, and ordering, and provide users with comprehensive services through the B2B professional mall, with a customer exchange system to achieve refined push. In turn, the service will be more high-quality in the new era, allowing enterprises to face the ever-changing market environment with extremely high strength. Under the electronic ordering system, multiple links such as management, marketing, system integration and transactions can be covered and comprehensively managed. This not only reduces sales pressure, but also optimizes the ordering process and enhances service effectiveness, which can ensure the perfect connection between the supply and demand sides on the network. In 2014, the overall scale of China’s Internet of Things industry has exceeded 600 billion yuan, and in 2015 it has increased to 750 billion yuan. According to big data forecasts, its scale will reach 2.45 billion yuan in 2022 (Figure 2 Shown). From 2018 to 2022, the scale of China's automotive electronics market will show a trend of increasing year by year (as shown in Figure 3), which can not only meet the needs of users for car purchase, but also highlight the value of electronic information technology in the Internet of Things, allowing electronic ordering The system is constantly being improved in practice. The staff has a high sense of responsibility to create a safe operating environment for the electronic ordering system, so that the staff can pass a number of important information and related miscellaneous materials in the fastest time and store them in the relevant area through professional operations. Furthermore, with the protection of comprehensive programs, the user's transactions present extremely high security, and at the same time, it also enhances sales credibility.

Figure 2 China's IoT Industry Scale (100 Million Yuan)
4.4 Warehouse Management System

In the new era, information-based warehouse management uses a variety of different technologies to carry out effective and effective innovations. It can achieve detailed and accurate collection and subsequent scientification of different types of inventory information under the combination of electronic information technology and the Internet of Things. In turn, the information is presented in multiple categories, and efficiency is improved in multiple links such as search and distribution. Under the software used by the inventory management system, the manager can rely on the network platform to complete the inquiry of different information such as the inventory location and quantity, saving operation time and greatly improving the overall work efficiency. In the meantime, the information-based warehouse management system sorts out and optimizes the inventory model through information-based docking, so that the operation highlights the intelligence, and then caters to the diverse needs of people. The warehouse management system can also integrate all warehouse spaces to avoid waste of resources and make services, a system, docking and processes more perfect. In turn, the warehouse will show order in the subsequent management, and the utilization rate of the warehouse will be increased accordingly, so that the cost of the enterprise can be effectively controlled. This can expand the economic efficiency that enterprises should obtain and gain a firm foothold in the increasingly fierce market competition.

4.5 Communication Technology

At present, the rapid development of the Internet of Things also places more high demands on electronic communication technology, so LPWAN has begun to emerge rapidly, which can achieve low power consumption, a large number of connections, low broadband, and long-distance Internet of things. In the new era, electronic communication technologies cover multiple technologies with short-distance characteristics such as wifi, Z-wave, Zigbee and Bluetooth. It also has LPWAN, a wide area communication technology including 4G cellular supported by 3GPP, which can highlight its convenience. For example, the Beidou new space-time lane location service platform can not only connect to the Beidou ground-based enhanced network, but also connect to the Beidou wide area enhanced system. In this way, the user can realize the RTD closed-point positioning with the help of the terminal during the driving process, which can control the horizontal error within 1 meter and has the characteristics of high precision. With the integration of information technology to a great extent, it can be equipped with the integration of geographic data, allowing vehicles on the road to complete the judgment of the driving route through positioning monitoring under the communication technology with high precision. In practice, based on the location service platform, technicians can integrate the access protocol to complete the trajectory playback of traffic vehicles. Simultaneously, it also can improve the alarm notification module in the real-time monitoring link, so that the overall safety of the vehicle when driving is practical effective promotion. Furthermore, it demonstrates the effectiveness of the application of electronic information technology in the Internet of Things, keeps up with the
trend of the times, and also makes the city forward to be scientific and enhances China's overall strength. Otherwise, social software such as WeChat, QQ, and Weibo can not only meet the user's text communication needs, but also transmit information through video and voice. At the present stage, the fifth-generation communication technology, 5G, has entered people's lives. It has the characteristics of high speed and high reliability. At the same time, 5G technology also has high latency, which can boost the advancement of the Internet of Things and become a high-quality and efficient carrier. In particular, the cellular system equipment completes the transmission through short-range data, which brings more forward paths for the application of the Internet of Vehicles, and thus enables the development of the short-range Internet of Things in multiple ranges.

4.6 Satellite Positioning
The satellite navigation system is a cutting-edge product produced by the combination of high technology and electronic information. It relies on GIS technology and cooperates with GPS technology to obtain the required ground information by means of satellite positioning. China's Beidou satellite navigation system is composed of 35 satellites, which can be greatly integrated with the current Internet of Things logistics system. It has real-time tracking of vehicles, goods and people in transportation, and then determines the location of the tracked target. At the same time, the Beidou satellite navigation system monitors the entire process of cargo transit, item quantity, weight, delivery location and route, and the data generated during actual use. Operators can make precise commands for the goods, and find a suitable storage place according to the way the goods are received and their transportation routes. It can perform work analysis in combination with real-time dynamic data under the satellite positioning system during transportation, and it can also highlight comprehensive and scientific aspects in the inspection process. With the introduction of satellite tracking technology, staff can use precise positioning to complete specific classifications, which brings convenience to the formulation of subsequent work goals, which greatly improves work efficiency. In the new era, in the combination of electronic information technology and the Internet of Things, the satellite positioning system highlights its extremely scientific nature. Although its cost is relatively high, it can be fully controlled. Technicians rely on their own abilities to operate electronic equipment, which can make the Internet of Things move forward at an extreme speed, bringing convenience to people's travel, life, and fast-paced work.

5. The Development Prospects of Electronic Information Technology in the Internet of Things
The Internet of Things relies on recognition and intelligent technology, and at the same time, based on edge-dimensional computing technology, enables the interconnection of equipment and system functions, bringing earth-shaking changes to people's lives. At present, the world information industry has entered the "third wave", enabling the Internet to expand in the direction of connecting everything in the new era, highlighting the new application scenarios created by the Internet of Things and meeting the needs of the times. For this reason, technicians use the application model as the entry point to carry out practical and effective innovations, open up the space for the Internet of Things, regard user experience as the core of technology, and inject the soul of the Internet of Things into the innovation link. In the meantime, electronic information technology helps advance the Internet of Things under the combined effect of data processing and network technology. Specifically, for one thing, we should pay attention to the diverse needs of user groups, effectively innovate technologies, expand the functions of the Internet of Things application, and bring them many conveniences, so that they can create unique value and present them on the way forward. For another, we should pay great attention to the advancement of electronic information technology, absorb its mature technology based on the actual situation, and then achieve effective integration with the Internet of Things. In this way, it can lay the groundwork for multiple applications with the help of information technology, so that it can be released accordingly in subsequent applications. Besides, based on an objective perspective, the Internet of Things has the characteristics of network virtuality. Users should strengthen network management with the assistance of electronic information technology when operating, avoid risks and
protect users’ property and interests, build a high degree of credibility, and help Information exchange.

6. Conclusion
With the application of the Internet of Things, electronic information technology can boost the advancement of the economy, thereby satisfying the diverse needs of people and society at different stages and highlighting its own value. Electronic information technology and the Internet of Things can interact and show continuous improvement, which can greatly improve people's living standards and make people's lifestyles more scientific. In specific practice, technicians should accurately and comprehensively analyze the characteristics of electronic information technology to integrate it with the Internet of Things. After the combination, it can not only improve the perception layer and the application layer, but also make the network layer more perfect, synchronized with the changing needs of different people, and make the Internet of Things take a big step forward.

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