Retraction

Retraction: Research on the Application of Computer Software Technology in Big Data (J. Phys.: Conf. Ser. 1856 012009)

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The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

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Research on the Application of Computer Software Technology in Big Data

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Abstract—This article mainly briefly introduces the related concepts of big data and computer software technology, and expounds the main technology of computer software technology in big data. The author discusses the effective application of computer software technology in big data through the current development of computer software technology. This article puts forward the considerations for the application of computer software technology in big data to clarify the important role of computer software technology in big data. The author strengthened the research on computer software technology. Relevant personnel need to continuously innovate and adapt to the big data environment, so as to improve the application level of computer software technology and accelerate the construction of modern society informatization.

1. INTRODUCTION
The 21st century is an era of big data, and computer information technology is widely used in all walks of life. It is inseparable from people's lives, has changed people's production methods, and has ushered in new development opportunities in various industries and faced a series of challenges. In order to adapt to the big data environment and improve the market competition level of enterprises, we should strengthen the research on computer software technology and effectively apply computer software. This can transform the traditional management methods of enterprises, move towards informatization and intelligence, and accelerate China's economic growth. At present, computer software technology still needs further innovation and development. We should attach importance to the research and innovation of computer software technology and increase the promotion of computer software technology. It can improve the current market environment and ensuring the sustainable development of China's social economy.

2. CONCEPTS RELATED TO BIG DATA AND COMPUTER SOFTWARE TECHNOLOGY
2.1. Related Concepts of Big Data
Big data is a term in the computer industry. It refers to a collection of data that cannot be collected, stored, and analyzed using conventional software tools within a certain period of time. It emphasizes a new type of data processing technology, which depends on the application of computer software technology. Big data has low value density, diversity and authenticity, and the data capacity is very large, and the transmission of information data is faster. Big data has a relatively large base. In the process of continuous development, its data types are becoming more and more abundant, and data processing is also more complicated. If we still rely on traditional computer technology, it will be...
difficult to achieve better processing results. Therefore, we need to innovate computer software technology and make full use of computer equipment to promote the efficiency of data processing [1].

2.2. Computer Software Technology System under Big Data Processing

In the context of big data, the application of computer software technology needs to do the following. Firstly, we must effectively collect data and information and use scientific transmission technology. When acquiring big data information, we must conduct scientific analysis on it, categorize the collected big data, and transmit it to the network terminal. Secondly, we must do a good job in data storage and implement scientific data archiving and storage technology. The data volume of virtualized information is very large, which requires relatively high computer software and hardware, and requires a large data storage space. As a result, we must proceed from these two aspects and continue to innovate and develop to ensure the quality of data storage. Thirdly, we must increase data and information security protection and improve the technical level of data and information security management. We should establish a sound data information security system and train more excellent information security managers. We should also strengthen its execution to monitor and manage data in real time to avoid information leakage.

3. The Main Technology of Computer Software Technology in Big Data

3.1. Cloud Storage Service Technology

In the context of big data, cloud storage service technology is one of the important technologies in computer software technology. It can store information data, perform scientific analysis on information data, and facilitate our effective application of information data. Compared with ordinary information data storage technology, cloud storage service technology has more obvious advantages. It not only improves the storage capacity of information data, but also can be classified and stored according to information data categories. Nowadays, cloud storage service technologies have been applied in many fields, and good application results have been achieved. Take the medical industry as an example. With the continuous improvement of the level of China's medical industry, it is developing towards intelligence. Cloud storage service technology is effectively integrated into existing smart health electronic products. It can store all the user's health-related information in real-time transmission. It can also be connected with people's social software, directly uploading data in smart health electronic products into the user's private software. We can analyze and store them effectively, and create files to monitor the health status of users [2].

3.2. Information Security Technology

In big data, information security technology is an important part of computer software technology, which is widely used in various fields. Internet technology has become an inseparable part of people's lives. It has a high degree of openness, which brings more convenience to people's production and life, but at the same time it also faces a series of threats and challenges. The security of Internet information data is very important. If you encounter hackers, viruses and other attacks, it is likely to cause important data information to be lost, leaked, or damaged, causing serious consequences. Based on this, the continuous improvement of the level of information security technology is particularly important. When researching information security technology, we can proceed from the following aspects. First, USB port management and control functions. The function of this part is to effectively avoid information leakage, which means that the administrator has the authority to restrict the accounts that access the internal information of the enterprise. For example, to block access to unregistered storage devices, to only grant "read-only" permissions to unregistered video recorders, or directly prohibit access. This function can effectively avoid the theft of important company information, and it can also disable USB storage devices from copying important information. In addition, we can also use encrypted USB storage devices to maintain the information and data in the USB storage devices. Administrators can make full use of the usee system to design encrypted disks. Second, the log audit function. All
operations of the administrator referred to will be recorded in the log. Moreover, user operations using USB storage devices will also be recorded in the log, and all logs will be uploaded. If you can't connect to the corporate internal network, you can read and write the use permission before offline when using the USB storage device, and submit the log for review [3].

3.3. Virtualization Technology

The application of computer software technology in big data includes virtualization technology. It belongs to resource management technology. It can not only optimize all data resources, but also provide corresponding solutions according to actual needs. This can minimize management costs and optimize resource allocation. Virtualization technology has strong scalability and comprehensiveness, and it has received attention from various fields and has gradually become the research focus of various enterprises. Effective application of virtualization technology can not only improve China's information technology level and increase resource utilization, but also help promote the sustainable development of China's social economy. Enterprises can increase their research on virtualization technology according to their actual operating conditions, conform to the development requirements of the times, and make full use of the effective role of virtualization technology. For example, we can continuously innovate private cloud technology and improve the level of firewall technology for enterprise customers. We can promote the improvement of private cloud service levels according to changes in enterprise applications.

4. THE CURRENT STATE OF DEVELOPMENT OF COMPUTER SOFTWARE TECHNOLOGY

Although the development of computer software technology in China started late, the overall development speed is relatively fast. It has achieved good results in a short period of time and has received widespread attention. Nowadays, computer software technology has been widely used in all walks of life, and traditional industries have also begun to transform to informatization. The number of theoretical research literature on computer software technology has also gradually increased. More people have invested in the development and promotion of computer software technology, and the team of computer professionals has gradually grown. With the improvement of Internet technology, the number of Internet users has doubled, and computer information technology has become an inaccessible important part of people's lives. It spreads all over people's life, work, leisure and entertainment, and the era of big data has arrived. At present, China's computer technology needs to process more than 1.5 billion terabytes of data, which places higher demands on China's computer software technology. We must continue to innovate, optimize data application processes, speed up data transmission, and increase data storage capacity. This can improve data processing capabilities to deal with the current data information problems [4].

5. THE EFFECTIVE APPLICATION OF COMPUTER SOFTWARE TECHNOLOGY IN BIG DATA

5.1. Collect Message

Compared with traditional information collection, the application of computer software technology in the context of big data has greatly improved the efficiency of information collection. Moreover, it can ensure the accuracy and timeliness of the information, summarize it, and implement good information management. Different from manual information collection methods, the use of computer software technology to collect relevant data and information can shorten the information collection time, save manpower and material resources, and avoid waste of resources. It can query all the information data needed in the first time. It not only changes the information collection work mode of some enterprises, simplifies the information collection process without waiting for a long period, but also effectively guarantees the accuracy of information and data [5]. Rich, scientific and efficient information collection methods have brought more convenience to enterprises. It also meets the requirements of the big data era, which is conducive to improving the information database of enterprises and establishing a sound
market information system and user information system. So as to provide a reliable basis for the company's various decisions.

5.2. Internal Data Development
In the context of big data, with the continuous innovation and development of science and technology, the application of computer software technology is imperative. It can not only improve the management level of enterprises, but also provide more convenience for enterprises. Enterprises can make full use of computer software to carry out management work. For one thing, it can cut and fork the industry market environment. For another, companies can find the source of customers, track and supervise the consumption of users in order to formulate appropriate management plans, and bring more economic benefits to the company. In the meantime, we can also use computer software technology to strengthen corporate internal control, effectively manage corporate personnel, and formulate a complete internal control mechanism. We should do the following. Firstly, we need to implement data sampling. In the era of big data, corporate information should be shared and a sound corporate database should be established. However, it should be noted that not all information in the database is confidential or valuable. Enterprises need to use computer software technology to filter the data in the database and select information data with higher value. Moreover, we can use it as a data sample to conduct sampling analysis to find the business rules of the company, find the problems in the business process, and take effective measures to solve them, so as to promote the long-term development of the company. Secondly, companies should also make full use of computer software technology to conduct intelligent analysis, continuously develop various data within the company, and tap the value of data information. Simultaneously, we need to combine the actual situation of business operations to determine business objectives and implement effective countermeasures to improve the level of business management. Enterprises can also give full play to the role of modern computer software technology. Companies must not only establish portals, but also make full use of new media and social platforms to establish good relationships with customers. Enterprises need to push information content that customers are interested in to grasp the corporate customer groups and open up the corporate market.

5.3. Communication Field
In the field of communications, computer software technology has a good application effect. In the era of big data, there are more and more types of predictive analysis software, which can be used to effectively predict the problem of enterprise customers. Besides, it can discover the reasons for the loss of corporate customers and the factors that may affect the loss of corporate customers based on the prediction results, and then formulate appropriate solutions to ensure the smooth development of business activities. Among them, the most used predictive analysis software is IBM software. Its operating platform is relatively simple, and based on a network analysis accelerator, it can run different operating decisions. Relevant personnel in communications companies can give full play to the role of IBM software, scientifically predict and analyze customer data and materials, and do batch review work. So as to fully understand customer preferences and consumption habits, provide personalized services for different customer groups, and improve customer satisfaction [6]. The era of big data puts forward higher requirements for the development of the communications industry. It not only requires faster transmission speed and greater transmission capacity, but also needs to be able to convert audio, text, video, pictures, etc. into clear signals and spread them quickly on the network. We can make full use of computer software technology to effectively solve the load problem, improve the openness of the Internet, and reduce the cost of network transmission.

5.4. Commercial Operation
It is very common to apply computer software technology in the field of business operations. Most companies are committed to the research of computer software technology, aiming to continuously improve the level of computer software technology and give full play to its role in order to improve the work efficiency of corporate personnel and bring more economic benefits to the company. For example,
we can use computer software technology to continuously improve the information management system and effectively apply data analysis technology in the process of enterprise operation and management. This is conducive to enterprises to understand more comprehensive market information and user information, integrate and summarize the collected information and data, and draw accurate conclusions to formulate appropriate operation management plans. Take the operation of shopping malls as an example. For one thing, shopping malls can use computer software technology to manage information and data with smart electronic devices as the carrier. In this way, companies can understand the flow of people in the mall at various time periods, the consumption data of each brand, and analyze customers' consumption habits and preferences. Based on this, an appropriate marketing plan can be formulated. For another, shopping malls can increase the promotion of shopping mall activities based on the WeChat official account platform, Weibo platform, etc., increase user stickiness, and maintain a good relationship with users. Companies can issue questionnaires to users, collect user feedback, and continuously improve the mall's operation and management system. Thereby improving the service level of the mall and promoting the sustainable development of the mall.

In the current increasingly fierce market competition in the same industry, if companies want to occupy more market shares, they must implement effective internal management work and continuously improve their service levels and operating capabilities from their own perspective. The application of computer software technology is an important tool for its development. It can not only scientifically analyze various information data, but also formulate targeted business strategies from the user's perspective. Nowadays, the most concerned and popular e-commerce platforms will push the products they are interested in based on the users' daily browsing data. Companies can analyze users' consumption habits and needs through users' past purchase data, provide users with personalized services in a timely manner, and quickly find the types of goods they need. This will help increase the transaction rate of e-commerce platforms and gain more benefits.

6. POINTS FOR ATTENTION IN THE APPLICATION OF COMPUTER SOFTWARE TECHNOLOGY IN BIG DATA
Although computer software technology has certain advantages in the application of big data and can obtain good application effects, it also faces a series of challenges. Companies must pay attention to the opportunities and challenges brought about by big data. The operation of the computer in the big data environment is greatly affected by various factors, and the information data is complicated. Whether it is in storage, or in the process of transmission and analysis, it is easily attacked or damaged, resulting in information data leakage and incompleteness. Avoid serious consequences caused by improper data management that directly affect the effective application of computer software technology. Based on this, enterprises should continue to innovate computer software technology, improve the level of computer software technology, and increase research on computer software technology. Enterprises can implement targeted measures to solve the existing problems in order to give full play to the role of computer software technology. At the same time, companies must clarify the development direction of computer software technology. Enterprises should strengthen the protection of computer network information security, attach importance to commercial secrets, protect personal information, and avoid leakage of important corporate information.

7. CONCLUSION
In the era of big data, there are three main technologies for the application of computer software technology. The first is virtualization technology. The second type is information security technology. The third type is cloud storage service technology. The application of these three technologies has achieved good results. Moreover, it is still in constant innovation and research, aiming to follow the development needs of the times to meet the application requirements of big data. At the present, the application of computer software technology in China needs to be further promoted and strengthened. Enterprises need to find out the existing problems, such as increasing data transmission speed and expanding data storage capacity, to solve them effectively. Computer software technology is widely
used in big data, which involves many fields. These areas include, but are not limited to, communications, business operations, internal data development, and information collection. We need to increase research on computer software technology. This will help promote the long-term development of big data.

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References

[1] Xu Jun. Application research of computer software technology in the era of big data[J]. Digital Communication World, 2020: 227-227.
[2] Zheng Zicong;. Application of Computer Software Technology in Big Data[J]. Electronic Technology and Software Engineering, 2019: 145-146.
[3] Ye Mao. Application of computer software technology in big data[J]. Software, 2020: 247-250.
[4] Jin Yanhong. Application analysis of computer software technology in big data[J]. Information System Engineering, 2019: 90.
[5] Li Bei. Application research of computer software technology in the era of big data[J]. Digital World, 2019: 130-130.
[6] Yao Lan, Li Ming. Application research of computer software technology in the era of big data [J]. Fireworks Technology and Market, 2020: 10-10.