

Application of database technology in computer network

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Absrtact: with the accelerating process of informatization, computer network technology has also achieved good development, but because of the complexity of the network design process, it is necessary to build a corresponding relational database. The type of database and the increasing use of users make the traditional data processing mode unable to meet the actual needs of the current society and users. This paper explores the application of database technology, hoping to improve the level of computer data processing.

Key words: database technology; Computer network; practice

Due to the full development of computer network system in recent years, computer network can not only share resources, but also spread information more efficiently, and greatly improve the efficiency of human information processing in daily life and work, further promoting the progress and development of society as a whole. With the development of social economy and science and technology, computer network technology is bound to become an indispensable modern technology, which will get better development and application. With the continuous development of computer information technology, computer network design has become one of the most noticeable research projects in the field of computer. The relational database in the process of computer network design also fully shows its own advantages and application prospects. The traditional database technology must keep pace with the times, so that our country's computer network design can get better development.

1 Characteristics of database technology and computer network

In the context of the information age, information technology and computers will play a great role in human survival and development. However, we often focus on the results of information retrieval, but ignore the specific process of information retrieval. In fact, because there are many different types of files and information in the computer database system, customers can make full use of data resources to quickly query the existing information stored in the computer. Using this method can not only make the information management efficient, but also effectively meet the needs of users to obtain information from the computer. The database technology is a brand-new data preservation method. By using the database method correctly, we can not only store information safely, but also help our clients and servers obtain information in time.

(1) Database system information technology helps to preserve data more independently and systematically. Due to the rational use of database system information technology, it is helpful to convert the procedures for storing information and data to the independent working system technology. Therefore, when customers request information and data, they may request information in a more orderly and programmed manner, without any conflict with the computer. (2) Rational use of database technology is conducive to the sharing of data resources. In the specific application of database technology, the database system and network must be integrated, which is conducive to the accurate transmission of information. After the completion of data resource sharing, users can quickly collect and use information on the user side, which is of great significance to fully improve the actual benefits of data information transmission. (3) Database technology has considerable independence, which will not change the programming due to the change of data, and can further enhance the stability and practicability of the application. Therefore, through the rational application of database technology in the field of computer network, the security and stability of computer network applications can be significantly improved. Reasonable application of database technology, even if the information changes, there is no interference to the application. Computer data technology can improve the convenience of data sharing. After breaking through the constraints of time and space, data can be used safely, which plays an important role in improving the efficiency of information use.

2 Database technology related content

Database system information technology is the key cornerstone of modern computer network technology. It must be constantly integrated with advanced information technology to form a new system of modern computer network technology. At present, the commonly used database system information technology is divided into the following three types: first, the hierarchical model database system, which mainly applies the data relationship to the Internet development through the construction of association mode, and expands the network application scope of the computer system; Second, the relational database information technology, which is the information constructed on the foundation of the model, uses the idea of geometric fuzzy to manage the information in the database system; Third, the network database system, these methods generally require the use of building an integrated relationship and database model, and according to the characteristics of the computer network system, the unified management of different relationship information, so as to form a rigorous data structure. Therefore, the relevant methods of database system must be reasonably used in the design of computer network to shorten the intermediate link of engineering design, so as to improve the utilization rate of data and information. At present, the database system method has been widely used in computer network design, and its outstanding advantages have gradually emerged.

1. Resource sharing

With the development of the Internet and computers, people all over the world can pay attention to economic and social information, current affairs and other information at the first time. The construction of a perfect database can increase the circulation of computer network information, enable a large number of individual users to store and access data and information at the same time, and increase the sharing of public information,

This is also the national and economic and social development requirements for computer network information technology.

2. Data perfection

Considering the development trend of computer system in the future, its relatively simplified architecture will be able to standardize the use process of computer network and effectively overcome the difficult problem of data loss due to computer network in the past; In addition, there is a large amount of information in the database technology, which can reduce the difficulty of information exchange, and can widely process the data of applications, reducing the cost of application development.

3. Diverse data types

Starting from the current application of computer network, the database system must not only handle the distribution of information on the basis, but also coordinate the relevant languages and products in the database system. Therefore, the database system has a more complex and cumbersome structure, which can effectively identify different languages, and can also convert the data in the database system into a simple data analysis table by using the method of model, which can effectively reduce the complexity of computer network design.

3 Design requirements of computer network

1. Performance requirements

Database technology can better adapt to all data common sense, and has a very broad range, so it can meet the needs of most computers. However, in order to achieve some high processing functions, it is also necessary to meet all the functional requirements of computers and the Internet in the working environment, realize high bandwidth LAN technology, and realize non blocking data exchange.

2. Quality requirements

Because the computer network will produce a large number of application business data in the process of working, this application data flow will form a peak in a short time, which will directly affect the response time of key business data flow, so it is necessary to use relevant network technology to make the transmission service of important business unaffected and have a more reliable service quality.

3. Security requirements

In the process of operation, the computer network is very vulnerable to the illegal invasion of foreign viruses, causing harm to the computer, so it needs certain means to avoid the infection of computer viruses and interference to computer equipment, so that the computer network has a high stability.

4 Application advantages of database technology

1. Data storage function

The gradual progress of information technology has made the database relational system completely change the previous architecture, promoted the gradual optimization of database system information technology, and expanded the data coverage in the relevant settings. In the traditional database technology, the preservation and management of all contents are carried out by manpower, and content errors often occur in the process. In the current database system, it can effectively reduce the human operation link, use the unlimited storage space of the database system to manage unlimited data, and can also use the auxiliary functions of the database system to transform the content, so as to ensure the correctness of the data and the convenience of use.

2. Data conversion function

The need of computer for network system covers all businesses in various fields, and provides more requirements for data conversion technology in computer network. Database technology can compile and transform different data in computer according to different data requirements, realize the link of data in a few minutes, and realize accurate translation through a large number of software, At the same time, the device layer architecture and control provided by the network technology can be realized through the computer. The network system technology gives the maximum usable range of the network system to the greatest extent, thus increasing the beneficial range of the network system.

3. Data accessibility

A lot of information and data in the construction of computer network come from the database. In some auxiliary features of the database system, the data can be specially defined. Various data can also be combined through a certain data model, so as to obtain different network parameters. These methods can effectively alleviate the problem of a large number of input and use of information in the construction of computer network. In the process of computer network construction, optical fiber can also combine the data in the database system, so as to improve the speed of data transmission and ensure the smoothness of data transmission. In addition, because the database system is built on the basis of strict mathematical logic and theory, there is a corresponding relationship between all information and data, and its architecture and logic are very rigorous. For users, the storage method of data can also be relatively confidential, which solves the problem of data protection in the application of modern computers.

5 Implementation of database technology in computer network design

1. Structure mapping

Identifying various document forms can effectively simplify the key information in the database. Therefore, the extensible markup statement can simplify the document DTD and form a table; For the hierarchical relationship, it can realize the planar transformation of documents; For the process of data change, the continuous multiple operations can be simplified; For various elements in the document, you can combine as many related name elements as possible to make them change in one architecture. In addition, the document type definition

must gradually establish an association model, which generally has four ways: basic inlining, shared inlining, mutual inlining and combined inlining. These four ways use the association model to transform DTD images into different types of element and node signals, so that the information processing is formed in the database system with a unique association network, which is convenient for personnel retrieval.

2. Model mapping

Model mapping mode refers to the storage of extensible markup language through a certain model. In this way, various forms of data models can be stored. Based on the inherent structure of extensible markup language, certain graphic content can be set in the database, which can be roughly divided into three ways: the first is the edge method, This method requires that the graphic design and editing information in the model should be stored in the edge relationship table by converting the extensible markup language into different character groups, and the identification symbols between the original node and the target node must be identified, and the different information should be stored in a different node location; The second is xrel method, which requires multiple path analysis of the document model, using the cross connection between each node and the root node to save the text data in the same path; The third is xparent method, which processes, classifies and saves the digital information related to the relational table and image data independently.

3. Database conversion process

The conversion process of the database system roughly includes the following seven stages. First, a mapping can be established between the needs of the marked database and the target database to form the same type of mapping file, and then converted into a mapping file of data. Different document types are correctly sorted and summarized to achieve the integrity and accuracy of information in the computer network, Thus, the document type and format transmission of the two end database is realized. When a homogeneous or heterogeneous mapping document is formed, the mapping document is submitted to the agent system, and the network parameters are submitted to the data importer. The structure that needs to be synchronized is found by comparing the number of two terminals in the original database, and the image association of the two terminals' data is established, so as to realize the initialization of the database synchronization process. Then according to the constructed synchronous processing function, the synchronous data is created, and through the synchronous agent mapping function in the database system, the SQL of the database system is effectively retrieved, so as to obtain the complete data information. This part of the information is input into the corresponding format file and sent back to the database system for query, so as to realize the information transmission process.

6 Concluding remarks

To sum up, under the influence of the continuous development and change of Internet technology, database information technology is widely used and accurately realized in the application design of computer network. In fact, the correct use of database technology can effectively achieve the goal of equipment configuration protocol entry, and the comprehensive combination of C language and database programming can further improve the feasibility and convenience of its actual operation. It is of great significance to improve the rationality and accuracy of the overall design of computer network by closely focusing on various forms of relational database. Therefore, the application of database technology in computer network is an important choice to strengthen information transmission and promote user communication at this stage.

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