

Library Information Resource Management Based on Metadata Storage

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Abstract: With the improvement of science and technology and the deepening of informatization, there are still some problems in the management of information resources in libraries. In order to realize the effective management and informatization management of its resources, an information resource management system of metadata warehouse is proposed. Using metadata warehousing, through metadata collection, sorting, aggregation, and storage, various classification systems have been established, and functions such as resource navigation, advanced retrieval, personalized services, and user rights management have been constructed, so that users can realize the unified retrieval, browsing and utilization of library resources. The structural form of metadata realizes the systematization of information resource management and makes its data description more standardized. At the same time, metadata effectively connects the data through the hierarchical structure and realizes the storage of different data, so as to ensure the efficient retrieval of information by users. At present, many libraries simply provide the entrance address directly to users through database list for a large number of network databases, but the efficiency is not high. Therefore, it is necessary to introduce metadata warehousing technology.

1. Introduction

With the continuous deepening of economic and cultural development, the library has also carried out continuous research in its own management. In the daily operation of the library, the effective management of library information resources is the need of the development of the times. Based on this need, the library information resource management system of metadata storage continues to develop, which promotes the continuous openness and integration of library information collection system to a certain extent, To a certain extent, it also solves the storage problems of library information collection system, and better promotes the orderly and efficient operation of library information resource management [1]. The current situation of resources determines that the existing information resources in libraries generally have problems such as lack of standards, serious redundancy, poor data quality, etc., and readers' demand for information resources utilization is generally characterized by dynamics, diversity and professionalism, so the development and utilization of library information resources is a relatively complicated task [2]. The library information resource management system based on metadata warehousing came into being, and received extensive attention and in-depth research on it, which made library information resource management more open and integrated, and solved the problem of library information

resources. Storage and management issues.

2. Overview of Metadata

2.1 Concept of Metadata

Metadata is the data that describes the attributes of a certain type of resource, locates and manages this resource, and facilitates data retrieval [3]. This definition explains that metadata is a kind of structured data about information resources or data, which can be used for the organization, management and mining of digital resources [4]. As data information of data set, text information, image, sound and any other digitized information, metadata has become an important tool for organizing and acquiring digital resources under the network environment [5]. The application of metadata in the field of library is mainly to properly describe and quickly locate the external characteristics and contents of documents or information resources. In a digital library, metadata provides a complete data description form, and is the basic element for providing resource description, discovery, and processing in a digital library.

2.2 Role of Metadata

The structural form of metadata realizes the systematization of information resource management and makes its data description more standardized. At the same time, metadata effectively connects the data through the hierarchical structure and realizes the storage of different data, so as to ensure the efficient retrieval of information by users [6]. In terms of data mining, metadata effectively links different data, which ensures data mining and makes data information more complete.

The information resource utilization module reorganizes information resources with reference to the information resource catalogue and applies it to new fields. It mainly completes the following functions: importing important and high-quality data that meet the requirements into the management analysis system, using OLAP, data mining and other technologies to analyze and assist scientific decision-making; The qualified data will be integrated and imported into the new business system to improve the data quality of developing the new system, thus shortening the development cycle and reducing the cost; Realize the logical concentration of data, form a complete enterprise information architecture and global information view, and guide the planning and implementation of enterprise information construction.

Among them, the processing of data screening needs to follow certain principles, which will make the data we can obtain reliable and stable. The principle of quickest proximity: set the specified weight status for different resources, judge according to the actual source of the client, and give priority to the resources with the fastest response [7]. By checking and merging the underlying metadata, the search results do not display the retrieved duplicate records. However, if the reader needs to see all the full-text resource links of the document and click Enter, then the user can choose to use any one of the links. Automatic delivery takes precedence over manual delivery: For resource systems with high usage rates, automatic delivery is performed, and resources that cannot be automatically delivered to determine the reader's needs are transferred to the manual delivery queue.

3. Integration and Utilization of Storage Resources

At present, many libraries simply provide the portal address to users directly through the database list for the large number of network databases they have. Users log in to a single database

system from the portal, and then browse and retrieve resource metadata. Applications in the library field the main purpose is to properly describe and quickly locate the external features and contents of documents or information resources. In the digital library, metadata provides a complete data description form, which is the basic element to provide resource description, discovery and processing in the digital library [8]. Resource integration refers to the integration, classification and reorganization of resources and functions in a variety of network databases of the library on the basis of abiding by norms and standards in the network environment, so as to form a new and efficient digital resource system through structured storage, orderly organization, efficient and accurate retrieval and seamless link, so that users can realize the unified retrieval, browsing and utilization of library resources on a unified interface, Its purpose is to improve the utilization of resources and save users' time [9]. Metadata completes the identification of information resources by describing the attributes of information resources, and is an important basic tool for the application part of digital libraries.

4. Overall System Structure and Workflow

Based on metadata storage technology, this paper proposes an information resource management method. First of all, using the method of book classification and catalogue management for reference, classify the information resources and establish the user information resource catalogue, which is similar to the government information positioning service system. The catalogue constructs a scientific, reasonable and practical overall user information system architecture; Then, the metadata warehouse and data exchange platform are used to realize the creation, retrieval, update and authority management of the information resource directory [10]. Based on this method, an information resource management system is designed. The system includes three components: catalog manager, metadata repository, related data exchange and description tools.

Among them, as a key part of the library information resource management system, the main function of the directory manager is to effectively manage the directory of the whole system. Its specific function is to transform the information from business management data to technology layer. According to the actual needs, after abstracting it and integrating it into metadata, it can also realize the transformation from metadata to business management under certain conditions, To a certain extent, it is convenient for the salesman to effectively identify, so as to realize the management of information resources.

Based on resource integration of metadata warehouse, a central library platform is established. Metadata of digital resources distributed in network databases are collected, sorted, aggregated and stored by means of extraction and mapping. Various classification systems are established, and functions such as resource navigation, advanced retrieval, personalized service and user rights management are built, so that users can realize unified retrieval, browsing and utilization of library resources on a unified interface.

The data description of library information resource management is realized through automation, and its work mainly includes the following aspects: convert and map the metadata of structured data to make it more standardized; The automatically generated identification information is displayed to the user, and the user can modify it at the same time; Define the categories of business management, and users can add them, such as keywords and topics.

According to the metadata entered by the user, through the adapter in the system, we can find the data we need in the corresponding classified data. The description system of library information resource management is completed automatically in operation. According to the business requirements and objectives, we can automatically extract the metadata of structured data, map and convert and standardize the metadata. Automatically generated identification information is

displayed to the user and allows the user to make corrections. Use the information resource directory tree to select the node to which the metadata belongs, determine its business management category, and allow users to add keywords, divide topics, and so on.

5. Conclusions

Based on metadata storage technology and flexible directory design and management methods, this paper constructs an information architecture with a global view. The proposed information resource management method can well realize the logical integration of library information resources. In this way, the lowest metadata is indexed in advance, and then different heterogeneous databases are imported into a brand-new database, which improves the speed and efficiency of retrieval, and will not affect the overall retrieval efficiency because of the access failure of one of many databases. Based on the metadata warehousing model, using metadata warehousing technology, and using flexible catalog design and management methods, an information system architecture with a global view is constructed. The information resource management method proposed in this paper can well realize the logical integration of information resources; At the same time, because it can reflect the specific fields and work perspectives of different users, it can realize the good transition from metadata to business for non-technical personnel, so that they can understand the situation of information resources, so as to improve the use efficiency of information resources.

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