

# Library Archives Management Based on Electronic Technology

Weiguo Xie\*, Song Shan

Zhongyuan University of Technology, Zhengzhou 450000, Henan Province, China

\*Corresponding author: Weiguo Xie, 2496828821@qq.com

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**Abstract:** In order to better promote the digital and electronic development of libraries, this paper first analyzes the management requirements of library archives, constructs a management mode based on electronic technology, and analyzes the management measures of electronic library archives for reference.

**Keywords:** Archives management; Library; Electronic technology

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## 1. Introduction

All kinds of library archives come from educational, scientific research, and management operations. By gathering and exploring this information, readers are able to gauge a library's general state. This is not only to assist readers in comprehending a library's materials, but also to carry out various public relations and educational activities. Readers can comprehensively display the necessary information and the specific situation of the library through the effective implementation of archives management, which is based on comprehensively classifying various information data. This ensures that readers fully understand the internal retrieval system of the library and make rational use of its resources. In addition, as these archives deal with the specific contents and actual situation of various library activities, the research and analysis of these data in the decision-making process is an important basis for library directors to make sound decisions as well as effectively carry out the management work<sup>[1-3]</sup>. With the continuous change and development of the times, the contents of the library will also change. In the current environment, the library's contents are more vital than ever in order to provide readers with high-quality services. This should be based on the effective implementation of archives management. The purpose of library archives management is to record and properly archive the important documents and activities of the library. The management of these materials and data information can improve the service operation of a library.

## 2. Library archives management requirements

### 2.1. Accuracy

Accuracy requirement implies that all documents must be obtained in a short period of time, and the working documents must be able to professionally record specific parameters and information. For example, book files are open to the public and must be accurate. The current storage location of books, including warehouse information, bookshelf information, book type information, and other information, should be recorded. All information must be keyed into the proprietary resource system after comprehensive evaluation. Accuracy is a fundamental factor in library archives management. Even if the hardware and

software systems do not meet the requirements, the accuracy can be improved at the expense of storage efficiency and management norms.

## **2.2. Timeliness**

On the other hand, timeliness requirement implies that all documents should be recorded, analyzed, and stored within a short period of time, especially the need to fulfill these responsibilities and obligations <sup>[1]</sup>. After entering the location of the library, such as the book type, the content of the first book must be merged immediately, and a new file system should be created. The formed working system has higher reliability. In the rapid demand stage, it is necessary to determine the shortcomings of the existing working mode and upgrade both the hardware and software systems to ensure the stability of the existing working system, a quality implementation, and that the current requirements are met in the task of file management.

## **2.3. Collaboration**

Collaborative requirement implies that when new documents are added to the file management system, the information must be stored in an accurate database and can be readily provided to the public. Considering its actual use and operation, the archives management system can be divided into many forms: book archives, human resource management archives, library operation financial system archives, and so on. This forms a management system that can operate more efficiently. In addition, some management systems deployed with cloud computing need to associate localized files with cloud archives following data storage, in order for the entire file management system's archives to be updated at the same time.

## **2.4. Improvement**

Improvement requirement implies that whether it is a document management system or a task management system, there must be corresponding improvement indicators, including a comprehensive innovation of the existing management mechanism and the continued implementation of the management mode, which can be used by other system users. According to an individual's own needs, the individual can enter the relevant keywords in the management system to obtain the desired file type. The work management system should have high operational efficiency. In the operation and development phase, according to different input instructions and working systems, information is retrieved from the corresponding working database to prevent the database management system from working <sup>[4]</sup>.

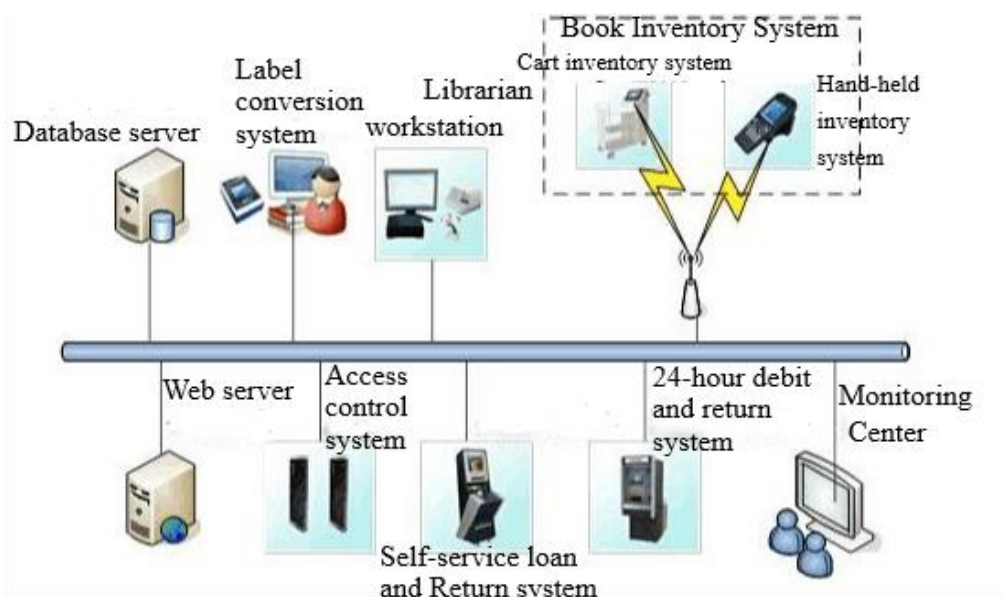
# **3. Library archives management mode based on electronic technology**

## **3.1. Model structure**

On the premise of using electronic technology to innovate the working mode of the internal archives management in libraries, a certificate authority (CA) center issuing public key infrastructure (PKI) certificate and an authoritative attribute authority (AA) center with privilege management infrastructure (PMI) technical attribute should be first established. Thereafter, the roles of readers outside the library should be strictly distinguished according to the actual needs of its business development and the readers' access to various archives resources in the library. The scope of authorization for roles like readers is clearly specified. At the same time, it is necessary to establish and improve the role specification and formulate corresponding role specification certificates. Following that, it is important to formally configure the public transport certificate and role assignment issued by the user on the server device and build the LDAP server based on the actual needs of security applications. At the same time, a server for external user identity and authorization verification, as well as a data resource server in the library, must be built.

When an external user has a demand for the application service offered by the library, the actual access request and public key certificate of the external user must be submitted to the authentication server, and

the authentication server must then submit the identity and public key certificate of the library. When external library users visit the authentication server, only those who successfully pass the server authentication task will be able to access the library's data resources. The authentication request is submitted by the authentication module. It should be noted that the reliability and authenticity of the digital signature certificate require additional verification, which is mostly done through the public key certificate library and the certificate revocation list (CRL) in the lightweight directory access protocol (LDAP) server. After the certificate is verified, if the server determines that the content of the certificate does not meet the relevant preset requirements, the verification server will send an access denial of service information to the user port [5-9].



**Figure 1.** Model structure

After the user has completely passed the identity audit, the next step is to enter the relevant links of permission verification. The implementation of protocol adaptation requires the assistance of control framework to analyze the acquisition instructions scientifically and comprehensively. After the session is established, the obtained information should be converted accordingly. For example, the format should be specified, and then an interface that meets its return requirements should be provided. Generally speaking, the operation of alarm collection can be triggered through the control framework. The manufacturer's protocol can then be analyzed, followed by the completion of the protocol adaptation operation, realizing it through the callback interface. As the system accepts warning data from a wide range of surroundings, it provides a practical and effective guarantee to the entire operating system through scientific and automated processing. The destroy callback method can be used to erase all the original information of the interface if the system can no longer execute; for example, if it is in a halted state. As the NetFlow protocol does not require polling, it is easy to use. Upon starting the main program, the NetFlow protocol can be automatically collected. The program collects the received data and enters them into the database; then, they are converted into alarm data, transmitted to the upper layer, and processed. Snmptrap will send trap packets without polling. It can accurately analyze the alarm information and complete the writing operation of the database. Under the SNMP protocol, the SNMP interface in the acquisition module will perform snmpget operation, and the agent will quickly package the extracted effective data, convert them into external format, perform the encapsulation operation, and send it to the manager in the form of SNMP package to realize the implementation of protocol adaptation [10].

### **3.2. Model application**

The main contents of the secure sockets layer (SSL) protocol include handshake protocol, ciphertext modification protocol, alarm protocol, and so on. The application of SSL protocol in computer communication network can improve the security and reliability of information transmission.

First, the application of SSL protocol to wireless video surveillance in computer communication technology is introduced. SSL protocol is widely used in the field of video surveillance, such as server, C/S mode, and control system. Different structures play different roles. Server is the core of the communication system. The wireless video monitoring system adopts SSL protocol for video acquisition and playback, and the established information can be transmitted to the database. Using the SSL protocol, the client can select the video path and transmit it to the server at the same time, so as to determine the video stream information. For hardware acquisition, SSL protocol can be used to transmit the collected video stream to the server in real time. Therefore, through the application of SSL protocol, the internal system of computer communication network can be connected, so as to improve the reliability of data transmission <sup>[11]</sup>.

The second is the application content of SSL protocol in web network. The SSL protocol can ensure a secure data transmission channel through coding technology and encryption technology to improve data security. In addition, by using the SSL protocol to encrypt HTTP information transmission and using the public key encryption technology to convert HTTP to HTTPS, it is possible to prevent data loss, omission, and other problems. The data transmission process does not require the installation of any service software when using the SSL protocol, but it does require the completion of the encryption processing of the web browser through the application layer encryption to ensure the security and integrity of information transmission.

## **4. Library archives management measures based on electronic technology**

### **4.1. Resource management under digital technology**

With the development and progress of digital library, various emerging technologies have been applied to the service system of intelligent library. Libraries should use more advanced management systems to manage and optimize library resources. By using servers such as electronic tags, users can set up unique ID codes for themselves to borrow and download resources by using the account password. According to each of their own reading preferences, recommendations will be suggested as big data is used to gauge their preferences as well as carry out corresponding algorithms and processing. Following that, book resources will be recommended based on their needs and various functions such as collection will be provided <sup>[8]</sup>.

### **4.2. Intelligent system management**

In the process of electronic upgrading, the management system of the library should also be reformed and upgraded at the same time. The traditional management system should not be used for modern library management. According to the actual development of different regions, targeted solutions and work plans conducive to the development of local libraries should be proposed. According to the actual work of the library management system, it is crucial to strictly formulate a scientific and reasonable management system, integrate information technology and big data into the management system, use advanced software system to manage electronic library archives, and regularly maintain the software system. Based on advanced technology, the management system can better promote the development and sustainable operation of public libraries <sup>[12-15]</sup>.

### **4.3. Proper design of interactive functions**

The design of interactive functions is one of the most needed functions in electronic library archives. The use of interactive functions can enhance users' interest in reading. The library is one of the most important

places for knowledge transmission, dissemination, and preservation of information interaction. By developing interactive functions, users can express their understanding of their readings, their satisfaction with the contents related to the services offered by the library, and their feedback on the storage of books and archives resources on the interactive platform. The interactive function in the library can better promote the communication among people and the dissemination of knowledge. The password strengthening of dynamic interaction can also promote the construction of electronic library archives <sup>[16-20]</sup>.

## 5. Conclusion

In conclusion, the application of electronic technology in library archives management can improve the security of electronic library resources, prevent the leakage of core data and information, as well as improve the efficiency of library archives management. In conjunction with the intelligent management system, the quality of library archives management can be substantially improved.

## Disclosure statement

The authors declare no conflict of interest.

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