

The Exploring on University Archives Management System Based on Information System

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Abstract. Archive management is one of the routine tasks of colleges and universities. The effective use of college archives is of great significance to college brand building, cultural heritage, teaching reform, scientific research and innovation. Based on the major colleges and universities, this paper aims to explore the improvement of university archives management in the information age. It uses the literature review method, research method, experimental method, and object-oriented method to analyse. This paper analyzed the current situation of university archives management work, summed up the problems existing in archives management work, improved the archives management system of colleges and universities, and implemented it by means of management information system.

1. Introduction

University archives generally refer to the historical records of various forms, carriers, and other forms of text, graphics, audiovisual, etc. that are directly preserved by students engaged in enrollment, teaching, scientific research, and management. It is a true record of the work of colleges and universities and an extremely important information resource. In recent years, China's information technology has developed rapidly, cloud computing, cloud storage technology, etc. have been generated and widely used, and college file storage and inheritance have ushered in new challenges. In the information age, the storage of college archives presents many characteristics such as virtuality, publicity, comprehensiveness, and openness, which are conducive to the hierarchical sharing of resources for college archives, improve the efficiency of archive service work, and better achieve the education of college archives.

Therefore, in order to meet the requirements of archives information management, improve archives management level, enhance archives service functions, standardize archive management of electronic archives in colleges and universities, and ensure the safe and effective use of archived electronic archives, The management system of university archives based on information system has its realization importance.

At present, all colleges and universities attach great importance to the management of archives, and formulated regulations on archives management, electronic filing and management based on the situation of each college. However, the level of informatization archives management among colleges and universities is uneven, and the information systems used by most colleges and universities archives



have been unable to meet the needs of the management of more and more archives and the more targeted and efficient services. Many systems face upgrades and even replacements.

Therefore, if universities want to actively develop all kinds of archives, reduce the waste of information resources, meet the needs of teachers and students and social groups, and reduce the pressure on archives staff, they must build a personalized college archives management system based on the information system. Promote the inheritance and development of university archives and culture.

2. Problems Existing in University Archives Management System

Through investigation, we found that the following problems exist in the university file management system:

2.1. Irrational organizational structure and shortage of high-quality talent

With the advent of the information age and the popularization of archives management information systems, college archives have increased the professional level of computer management staff. At the same time, college archives include various administrative work documents, scientific and technological research, and academic journal publications. This requires archive managers to be involved in science, technology, culture, politics, etc., have a relatively rich knowledge reserve and strong learning ability, and can always pay attention to the development of the school and update their cognition. At present, it seems that the staff of college archives are highly specialized, mostly with professional backgrounds in administrative management or ideological and political education, and the average age is relatively large. They are often inadequate in computer and information management. The stagnation of the update of university archives management system has also caused great burden and pressure on itself.

2.2. Cumbersome file collection and sorting process and lagging in digital processing

The process of collecting and collecting and sorting out university files is often cumbersome, which makes the process of archives lack of timeliness and leads to the accumulation of archives. which makes the archives collation of colleges lack timeliness and causes the accumulation of archives. At the same time, the archives of colleges and universities are often presented in the form of paper, video tapes, etc., which poses a great challenge to the management of archives. The collection and arrangement of archives not only requires a large amount of manpower and resources, The survey shows that about 15% of college archives have not been digitized at present. ^[1] This has caused college archives to use more manual operations, and the problems of large archive redundancy and high repetition rate have caused manual archive management errors in colleges. The high rate and low efficiency are not conducive to the protection and development of archives.

2.3. Low file utilization and openness

At present, the management of archives in colleges and universities often ends with the collection step. The follow-up development and utilization have not been followed up. ^[2] Although some files are confidential, most of the files have been evaluated and can be used and opened to the outside world, such as propaganda, raising the popularity of the school, or ideological and political education for students, and cultivating the consciousness of winning schools. University archives are undoubtedly excellent resources or materials. Moreover, the low open rate of archives has also caused the burden of archives inquirers. Archives inquirers often have to obtain the archives by phone, email, or even go to the school archives, and the archives work hours and the service attitude of the staff in the archives make archives inquiries. Economic costs and time costs are uncontrollable, which also increases the burden on both parties.

2.4. Lack of file management system functions

According to the survey, most of the colleges and universities in China have insufficient file management systems, which can only meet the basic entry and classification functions. ^[3] Most systems cannot achieve the functions of retrieval, borrowing, and display. The system is updated and replaced,

which makes it difficult for the existing system to meet today's requirements for information management of archives, and causes unnecessary waste of manpower and financial resources for the maintenance of the old system.

3. Design of University Archives Management Information System

3.1. System function design

This system is divided into five major function modules, which are system management module, personal management module, security management module, configuration management module, and file management module. Each business is interconnected.

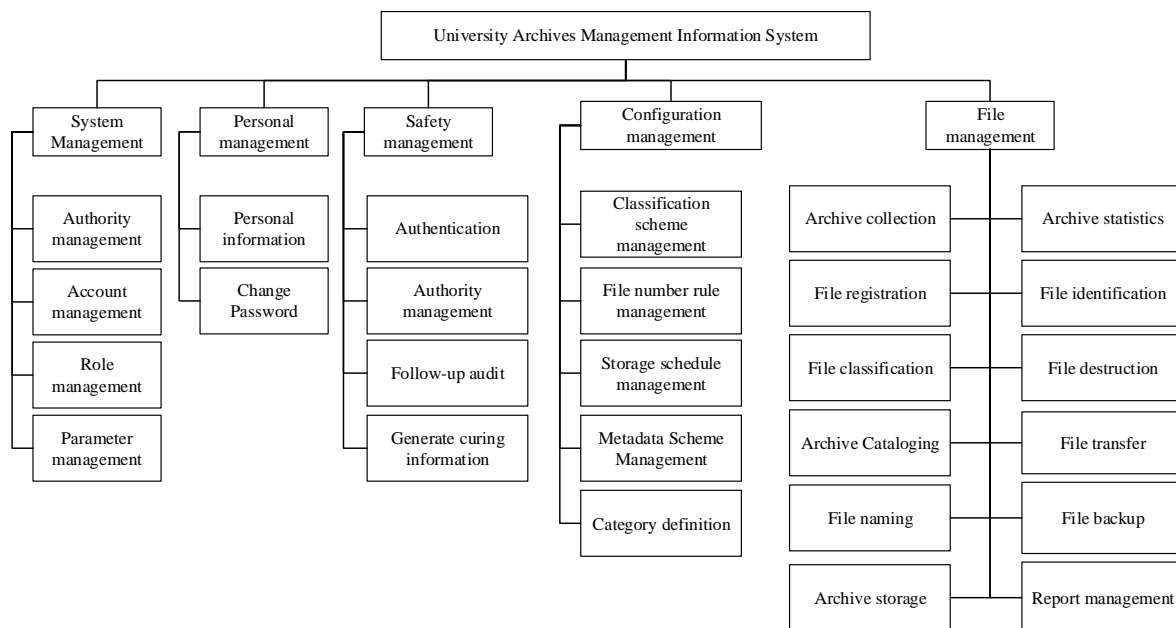


Figure 1 Functional Structure of University Archives Management Information System

4. Implementation of University Archives Management Information System

This article chooses the open source code system DSpace as a tool for building a college archives management information system, and realizes the effective management and hierarchical utilization of college archives resources. The DSpace system has functions of self-storage and long-term preservation, resource aggregation, integrated retrieval and resource acquisition. User-oriented service functions include resource discovery services, use of data services, personalized customization and push services, support for scientific research evaluation, knowledge audit services, and access and identity authentication services, etc., which meet the functional requirements of university file management information systems.

The architecture of the DSpace system can be divided into three layers: the storage layer, the business layer, and the application layer.

Each layer in the DSpace system structure is connected through a public API interface. The upper layer can only call the components below it. It cannot call across layers. The application layer cannot directly call the storage layer components.

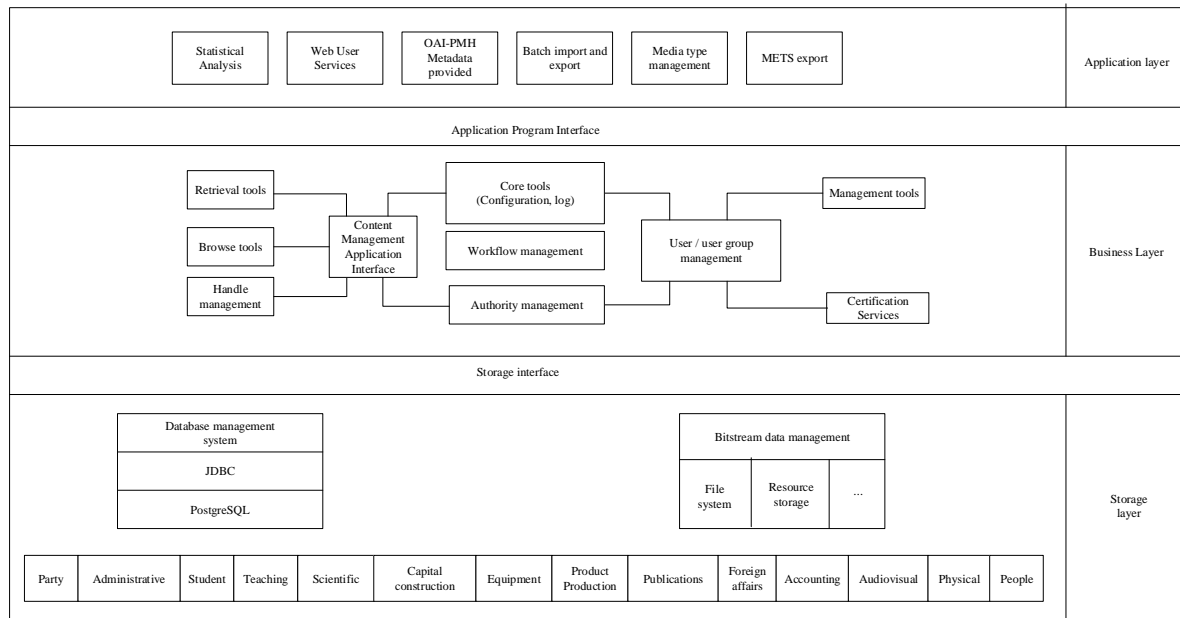


Figure 2 Hierarchical structure of the DSpace system

4.1. Storage layer design

The storage layer manages the back-end database, organizes and stores digital content and metadata, and is the basic support layer of the system. DSpace uses the local file system to store the received digital content in any format. It uses JDBC to run the relational database PostgreSQL for storage, and uses SQL to implement data insertion, query, and modification operations.

In the university archives management information system, the data stored in the system are mainly high and small archive information. According to China's "Measures for the Management of College Archives", college archives can be divided into the following fourteen categories for management: Party and mass, Administration, Students, Teaching, Scientific research, Infrastructure, Equipment, Products, and Publication, Foreign affairs, Accounting, Audiovisual, Physical, People.

4.2. Business layer design

The business layer is mainly responsible for system user management, rights management, uploaded resource management, and other system management services.

Among them, the system uses the API of the DSpace system to create indexes according to different classifications, and to support field and full-text search. The handle management creates a permanent URL for each data entry, which can achieve the cataloging and naming of the archive, ensuring the uniqueness of the archive cataloging and name. Workflow management covers the entire process from uploading to publishing resources, including the workflow of steps such as selecting resource ownership, submitting resource information, and data review. It is convenient to check the file processing steps at any time to ensure the standardization of file processing. The authority management and authentication service prevents unauthorized users from entering the system by setting user identity authentication and hierarchical management of authority, ensuring legal operations by legitimate users, and ensuring system security.

4.3. Application layer design

The application layer is a layer for interaction between the system and the user. All functions of the system interact with the user through the application layer to provide services for the user. Users can enter the system through the Web user interface, and convert various electronic resources through the active document open protocol through the data input / output port to a unified format, complete operations such as uploading and downloading, and also perform batch access. Includes functions such as metadata submission and data statistics tools.

5. Conclusion

This paper collects and integrates problems in the management of university archives at the current stage, analyzes the causes of the problems in depth, and combines the practical experience of major universities to build an "information system-based university archives management system." We have established a global data sharing center to enable university file management to achieve resource integration and data sharing normalization, avoiding information silos and waste of data resources.

The establishment of a university archives management information system platform enables college archives to flexibly complete personal management, security management, configuration management, archive management and other services according to the actual application environment. It improves the efficiency of archives staff, reduces the burden on staff, and increases the utilization rate of college archives.

With the advent of the information age, university archives management platforms are also continuously developing towards digitalization and platform functions are constantly being improved. The openness of university archives is constantly improved, which is conducive to promoting the inheritance of university culture and fostering the consciousness of school love for teachers and students.

References

- [1] Yi Weijie 2018 *Research on the construction of a university's audiovisual archive management platform based on DSpace* (Northeast Normal University)
- [2] Yu Zidan 2018 *Thoughts on the Construction of University Digital Archives in the Big Data Era* (Lantai World) pp 50–53
- [3] Lin Jian 2018 *Design and Application Research of University Alumni Archive Service Platform* (Zhejiang Archives) pp 55–56
- [4] Song Huiyu 2019 *Thinking on the Integration of University Archives Information Resources under the Big Data Environment* (Industry Innovation Research) pp 292–294
- [5] Yu Haojie and Gao Xiang 2019 *Security certification design of university file information system under big data* (Automation Technology and Application) pp 29–36
- [6] Cheng Meng 2019 *Research on the Digital Construction of University Archives Information Resources* (China Management Informationization) pp 184–185
- [7] Lin Jianguo and Ren Feifei and Ai Xu 2019 *Research on Archives Construction and Development Countermeasures of Small and Medium-sized Universities in the Information Age* (Industry and Science Forum) pp 274–275

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