Conception and Implementation Strategy of Information Construction of University Asset Management System

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Abstract:As campus facilities expand and student populations grow, the management of university assets faces significant challenges. Effective management of these assets requires a robust records management system that integrates diverse data, manages lifecycles, mitigates risk, and ensures compliance. This paper proposes a systematic approach to designing and implementing such a system. Key considerations include defining clear responsibilities, integrating subsystems for seamless information flow, and aligning system development with organizational goals. By adopting a B/S architecture and implementing strong security measures, universities can improve operational efficiency and data integrity to support educational and research goals.

Keywords: Asset Identification; Data Integration; Lifecycle Management; Risk Mitigation; Compliance

1. INTRODUCTION

With the rapid progress of social economy and culture, more and more young people are able to receive higher education, which has led to a rapid increase in the number of students in various universities. In order to cope with the challenge of the surge in students, many universities have to expand campus facilities and invest a lot of money in campus construction. However, with the increase in the types and quantity of equipment, universities are facing unprecedented challenges in asset archive management. How to effectively manage and maintain various assets on campus has become an urgent problem for managers to solve. First of all, to establish an efficient asset archive management system, it is necessary to first sort out the relevant archives and asset management departments. These two are the core components of the system, and their respective responsibilities and tasks need to be clarified. It is necessary to ensure that the job functions of asset archive management personnel are clear and the work classification is divided according to their responsibilities, which is the basis for system construction. In addition, attention should be paid to the connection and distinction between different jobs to ensure that the entire management system runs in an orderly and efficient manner. Secondly, in the process of system planning, it is necessary to pay attention to the design and planning of subsystems, especially the coordination relationship between subjects and objects. The asset archive management system should be seamlessly connected with other related systems to ensure the smooth flow and sharing of information, improve management efficiency and data accuracy. Finally, universities should determine the relationship between the system and personnel according to the specific situation, and examine and decide the development direction of the asset archive management system from a global perspective. This requires comprehensive consideration of resource integration, process optimization and system sustainability.

2. PROPOSED METHODOLOGY

2.1 The Main Problems of Traditional Asset Management

In terms of asset archive management in colleges and universities, there are some additional challenges to overcome. These problems include not only high equipment idleness and low laboratory resource information integration, but also the following complex situations:

High equipment idleness: When purchasing laboratory equipment, some disciplines or research groups usually only consider its urgency, but ignore the full utilization of the equipment. This leads to the equipment usage time often being concentrated in certain periods, and the equipment is idle in other periods, resulting in a waste of resources. This situation not only increases the maintenance and operation costs of the equipment, but also affects the normal development of other scientific research or teaching activities.

Low laboratory resource information integration: Due to the differences in management methods and information dispersion among departments within the college or department, the laboratory resource information integration is low. The management systems used by various departments are not unified, and information cannot be effectively shared and utilized. At the same time, the long-term use of traditional management models, such as manual records and decentralized management, has increased human resource costs and reduced management efficiency.

Lack of adaptability and flexibility of the management system: The existing asset archive management system may lack sufficient adaptability and flexibility to meet the special needs of different departments and laboratories. Some system designs are too fixed and difficult to customize and expand according to specific needs, which limits the scope of application and efficiency of the system.

Increased demand for data security and privacy protection: With the promotion of information management, the asset archive management system of colleges and universities faces increasingly stringent requirements for data security and privacy protection. Managers need to ensure the confidentiality and integrity of data, while finding a balance between information sharing and confidentiality to meet the needs of all parties and the requirements of the laws and regulations.

2.2 The Asset Information Management System Deployment and Architecture

In the asset archive management system of colleges and universities, the B/S architecture mode based on server cluster

is usually adopted, and users access related application systems through browsers. The B/S architecture deploys applications and databases on the server. This mode simplifies the configuration and maintenance of the system and makes subsequent operation and maintenance work more convenient. Through load balancing devices, users can be assigned to different servers for access, which improves the delivery efficiency of applications, responds quickly to business changes, ensures the security and stability of services, and saves service maintenance time.

In the B/S architecture mode, the core part is the Model, which is responsible for processing core business data. The user's display results are implemented by the View layer, which feeds back the processed results to the user. The function of the Controller is to receive the user's instructions and send the instructions to the corresponding program for processing. After the processing is completed, the results are transmitted to the corresponding view for display to the user.

This architectural design effectively separates the function processing program and the result display program, ensuring the scalability, readability and stability of the system, and greatly improving the maintainability of the system. By optimizing the architecture, the asset archive management system of colleges and universities can better cope with increasingly complex management needs, ensure data security and operational efficiency, and provide solid technical support for education, teaching and scientific research.

2.3 The Security Analysis

In terms of network security, the campus network of colleges and universities connected to the Internet requires effective firewall devices and monitoring systems to ensure network security. These devices and systems can monitor and block potential network threats and protect the school's asset system from unauthorized access and attacks.

In terms of privilege management, network client user privileges must be strictly controlled. Ordinary users can perform query operations, while asset users have the right to declare, modify, or transfer asset information under their name. These declarations must be submitted through the desktop client and reviewed by secondary users designated by the asset management department. The desktop client is installed on a dedicated computer to ensure that only authorized system administrators and school asset managers can access and operate the system.

For data security, the system must record detailed information about all data changes, including the data status before the change, the time of the change, and the person who made the change. Even if an operational error causes errors in asset information, the data can be traced and restored to the correct state. In addition, regular incremental backups of local databases and offsite data backups are required to respond to equipment damage, natural disasters, or other abnormal situations to ensure data integrity and recoverability.

These measures effectively protect the security and reliability of the school's asset management system, ensure that sensitive information is not leaked or corrupted, and maintain the stability and credibility of the school's operations.

3. CONCLUSIONS

Implementing an integrated asset management system is essential for universities to meet the growing demands of modern educational environments. By addressing challenges such as equipment idleness, information integration, system

flexibility and data security, universities can streamline operations and improve resource utilization. The use of a B/S architecture ensures scalability and stability, facilitating effective asset life-cycle management. In addition, stringent security measures ensure data integrity and confidentiality, which are essential for regulatory compliance and organizational trust. In the future, continuous adaptation and optimization of these systems will be critical to supporting educational excellence and sustainable growth in higher education environments.

4. REFERENCES

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