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## DESIGN OF CAMPUS ARCHIVES MANAGEMENT SYSTEM

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With the rapid development of information technology, the traditional archives management method has gradually been unable to meet the needs of modern colleges and universities for fast, accurate and efficient management of archives information. Therefore, building a university archives management system based on modern information technology is of great significance for improving the efficiency of archives management, optimizing service processes and promoting information sharing.

The system is mainly designed and implemented using Spring Boot [1], Thymeleaf [2], Layui [3], Apache Shiro, Redis and Mybatis Plus technologies. Spring Boot as the primary development framework; Thymeleaf as a Java development template engine; Layui as a front-end UI framework; Apache Shiro, as a Java security framework, can effectively protect the security of file information.

The main functional modules of the project include: authority management, document management, file management.

Authority management module includes: system administrator, staff, users (teachers and students).

The document management module mainly aims at the documents issued by the university administration department and the materials of teachers.

The file management module mainly aims at the management of graduate files.

References

1. Spring Boot [Electronic resource]. – Access mode: https://spring.io/projects/spring-boot. – Access date: 15.04.2024.
2. Thymeleaf [Electronic resource]. – Access mode: https://www.thymeleaf.org/. – Access date: 15.04.2024.
3. Layui [Electronic resource]. – Access mode: https://layui.dev. – Access date: 15.04.2024.

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## DEVELOPMENT OF THE UNIVERSITY LABORATORY MANAGEMENT SYSTEM

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With the development of college education, laboratory management efficiency needs to be improved urgently. In view of the limitations of traditional management methods, we urgently need to develop an efficient and intelligent laboratory management system that integrates advanced technology and databases and integrates information management, security management, equipment management, experimental teaching management, scientific research project management and user rights management. , comprehensively monitor laboratory work and improve operational efficiency to support the improvement of teaching and research quality.

1. Technology selection This system uses Node.js back-end framework and React front-end framework, combined with Git version control, and uses Vite.js to improve development efficiency. React-router-cache-route is introduced to implement route caching, Redux manages application status, and axios handles data interaction. At the same time, Ant Design is used as the UI component library to build a high-quality, high-performance user interface. The overall design is

designed to provide a high-performance, user-friendly laboratory management experience.

2. System architecture This system is developed using front-end and back-end separation, and the front-end interacts with the back-end through HTTP. The backend is based on MVC architecture to improve code maintainability and scalability. The database uses MySQL to ensure stability and scalability and meet the data storage needs of the laboratory management system.

3. System functions This system mainly includes the following functional modules: laboratory information management, laboratory safety management, equipment (assets) management, experimental teaching management, scientific research project management, and user rights management.

References

1. Spring Boot [Electronic resource]. – Access mode: https://spring.io/projects/spring-boot. – Access date: 08.05.2024.
2. React 中文网 [Electronic Resources]. – Access mode: https://react.nodejs.cn/ – Access date: 08.05.2024.

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## DEVELOPMENT OF THE TICKET SELLING MANAGEMENT SYSTEM

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This project designs an online electronic ticket management system, aiming to build an efficient, safe, and user-friendly system.

In order to realize the system functions, Spring Boot [1], Vue [2], QRCODE and APP [3] are used. The back-end uses the Spring Boot framework and the front-end uses the Vue.js framework for development. After the user successfully purchases the ticket, the system generates a unique QR code as an electronic ticket. The system also provides a mobile application based on Uniapp.

System functions include:

- user management, responsible for user registration, login, membership management, personal information management and other functions;
- ticket management, responsible for the entry, query, verification and deletion of ticket information;
- event management, responsible for the arrangement, query, release and cancellation of events;
- Data Analysis, responsible for collecting and analyzing system data to provide support for decision-making.

Customer service and feedback, responsible for customer inquiries, complaints or providing opinions, suggestions and feedback channels.

With the continuous development of mobile Internet technology and the constant change of user needs, the functional modules can be customized and adjusted according to the actual specific needs and scale. Applicable to all kinds of sports halls (including skating rink, football, basketball, etc.) management system.

References

1. Spring Boot [Electronic resource]. – Access mode: https://spring.io/projects/spring-boot. – Access date: 10.04.2024.
2. Vue.js – The Progressive JavaScript Framework [Electronic resource]. – Access mode: https://vuejs.org/. – Access date: 13.04.2024.
3. DCloud [Electronic resource]. – Access mode: https://dcloud.io/. – Access date: 13.04.2024.