



Construction of College Student Education Management Information System Based on Springmvc

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Abstract. With the continuous reform of the education system, the number of students in colleges and universities has expanded. How to manage students' educational information reasonably and develop students' potential scientifically has become the main problem to be solved urgently in colleges and universities. Therefore, this paper combines Web technology and computer application technology to build a college student education management information system based on Springmvc to solve a series of problems encountered in the current college student education information management. The operating system based on Linux is developed, Eclipse is selected as the underlying development tool, Springmvc is used as the development framework of the system, and the layered advantages of MVC are used to deploy each part of the content and set up another aspx page under the function module, so as to improve the detailed functions of the college student education management information system. The measured results of fuzzy comprehensive evaluation model show that the construction of college student education management information system provides a more convenient way for the integration of various information data.

Keywords: college education · information management system · Springmvc · Web technology

1 Introduction

With the deepening implementation of educational reform, higher education is gradually popularized. When colleges and universities expand their enrollment, their scale will also expand. At the same time, how to manage the educational information of college students scientifically has become the main problem to be solved urgently. The educational information management of college students is a complex systematic project, and its main work is to rationally plan the campus life of the student team, evaluate the students' learning effect on time, and analyze the students' learning situation on a regular basis, so as to rationally and scientifically manage the student team and improve the overall education level of colleges and universities. The educational information management of college students is the main content of administrative management in colleges and universities, and it is also an important symbol to measure the teaching

level in colleges and universities [1]. Traditional student education information management is mainly based on paper data registration and manual operation. Nowadays, the scale of running colleges and universities has expanded and the number of students has gradually increased, so it is no longer possible to manage them according to traditional methods. In the era of information technology with the development of science and technology, the modernization reform in China's education field has entered a formal stage. As the main place to cultivate talents, colleges and universities should make changes in the management mode of students' education information with the help of the development advantages of information technology. Based on this, this paper combines Web technology and computer application technology to build a college student education management information system based on Springmvc to solve a series of problems encountered in the current college student education information management [2].

2 Introduction of Key Technologies

2.1 Springmvc Pattern

Many enterprise-level application development is based on MVC pattern, and Springmvc is a tool specially designed for MVC architecture pattern. It can decouple the modules in WEB application according to MVC, which can effectively improve the efficiency of system development and reduce the complexity of application system expansion and maintenance [3].

2.2 Development Environment

According to the use requirements of the above related application technologies, the configuration and deployment of the development environment of college student education management information system are completed. First of all, Linux is chosen as the operating system, Tomcat 8.0 is chosen as the Web server, Eclipse is chosen as the underlying development tool, JDK1.8.0_91 is used as the Java language development toolkit, and MySQL5.8 is chosen as the database server. The selected version of Springmvc framework is Springmvc5.3.20, which needs to be downloaded from Spring official website. The development kit JDK1.8.0_9 needs to be downloaded from Oracle official website. After getting ready, configure Springmvc in Eclipse2020: build a new project in Eclipse2020, copy the jar package to the WEB-INF/lib directory, and configure the file web.xml, which is mainly divided into four aspects: writing the configuration file [servlet-name]-servlet.xml, configuring the front-end controller DispatcherServlet, contextConfigLocation initialization parameters, and configuring the listener Listener. When it is finished, it can start running. Through the description of the above environment, the overall framework of college students' education management information system is roughly planned, and the feasibility of establishing the system is clear [4].

3 Functional Implementation

In order to maintain the security of users' personal information and reduce the risks and problems caused by VPN account theft, the system will adopt two login methods: account number and code scanning. The user's account password is uniformly distributed by the

school. When the user logs in the system for the first time, the initial password needs to be modified to ensure the security of the account. After logging in, the administrator user can modify and maintain all the functions of the system, while the student user can only use the basic functions such as information inquiry, system course selection and comprehensive evaluation [5].

In the information query module, administrators can plan and arrange courses in detail with the help of system functions, and put the updated course information into course center for other users to consult. After receiving the information feedback from ordinary users, the administrator can jump to the information interface with the help of the keyword positioning function of the system, and can modify it after verification. When using the query function, student users only need to fill in keywords in the search bar to get relevant content [6]. The main contents of the inquiry are teachers' introduction, activity participation and curriculum arrangement. In this page, students can query the individual tuition payment and subsidy payment by entering their student numbers. The query methods in the system are all based on whether the operation data of the user object is null or not, and if it is not null, access other databases through the user's account id. Therefore, in the overall configuration, the system distinguishes security = "none" in detail to ensure the security of accounts and the independence of data [7]. Some key codes of information query function are as follows:

```
$map=array();
$map=$this->_search();
$total = $this->Model->where ($map)->where(array('status'
=>0,'print_status'=>0))->count();
if ($total == 0) {
$_list = "";
} else {
$_list = $this->Model->where ($map)->where(array('status'
=>0,'print_status'=>0))->limit( $post_
data ['first'] . ' . $post_data ['rows'] )->select();
}
```

In the course selection module, the administrator should first screen out the courses that meet the students' development according to the teaching requirements, and then divide the courses according to the grades. After setting the time and number of students, it can be put into the course selection center for students to use. Student users need to choose a course within a certain time. If the number of participants in this course has reached the upper limit, they can't follow up, so they can choose another course [8]. The simulation view of the course selection system is shown in Fig. 1.

In the comprehensive evaluation module, student users can check the detailed composition of grades. In the aspect of comprehensive performance evaluation, the system adopts AHP algorithm model to calculate. Administrators need to use the calculation function of the system to generate corresponding formulas, and then calculate according to the specific data of the assessment and various scores, so as to obtain the final comprehensive score and include it in the library [9]. Among them, the specific content of

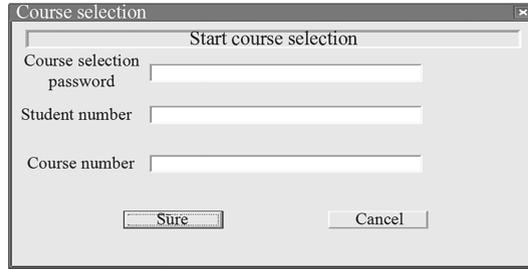


Fig. 1. Simulation view of course selection system

Table 1. Comprehensive evaluation scores of students

Measures layer	Weighted value	Item score	Final score
Course completion	$A1 = 0.271$	89	21.376
Homework completion	$A2 = 0.269$	85	21.498
Practice participation	$A3 = 0.256$	77	11.249
Competition awards	$A4 = 0.204$	60	9.672

students' comprehensive evaluation is composed of four parts: curriculum, homework, practice and competition, as shown in Table 1. When calculating the comprehensive score, the administrator first needs to obtain the data of student users' scores, and calculate the corresponding usual scores according to the weights, and then define the students' qualified goals and calculate the comprehensive scores according to the weights. [10] that is, the comprehensive evaluation score $Z =$ (individual score Z_i , overall score Z_j , weight value Q), the calculation formula is shown in Formula 1.

$$Z = \sum_{i=1, j=1}^n \frac{Z_i}{Z_j \cdot Q} \quad (1)$$

4 Conclusion

With the popularization of higher education, the traditional information management model can no longer meet the needs of current teaching management. Therefore, this paper combines Internet information technology with teaching management, constructs a college student education management information system based on Springmvc, realizes the intelligent management and storage of college student information, and innovates the teaching information management mode to further promote the construction of a smart campus integrating teaching and office. Due to space reasons, the remaining functions are not elaborated here. In the follow-up research, we will further expand the extensibility and applicability of the system and make the system function more perfect.

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