Design and Implementation of Ideological and Political Education Evaluation System

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Abstract. With the development of informatization, in order to improve office efficiency and manage students more effectively, universities have produced many management systems, such as library management systems and educational management systems. These systems mostly manage student information and other information in an integrated manner. The refinement of each module, due to the large number of colleges and universities, graduates and enrolls a large number of students every year, and the archiving of students' ideological and political courses and students' ideological and political evaluation is quite complicated. Some college management systems may only provide ideological and political courses. Course information and student test scores did not specifically manage the student's ideological and political education assessment and assess the student's psychological activities based on the student's daily performance, nor did they provide detailed course scheduling information for specific ideological and political related courses. Therefore, colleges and universities should also implement detailed information management for students' ideological and political education methods, which can improve management efficiency and reduce unnecessary human resources. The management system is developed by the Java[1-3] development language through Myeclipise as a development tool. The mysql database is used as the background to realize the information management of the ideological and political education of college students. It can promote the detailed management of all aspects of students' information management. Service school as well as students. And the machine learning algorithm is added. Through the previous students' data, the classification model is trained by Logistic regression algorithm to evaluate the students' ideological and political good condition.

1. Introduction
With the rapid development of China's economy, computer techniques such as mega data and AI technology have also got a remarkable progress. China's education industry has achieved unprecedented results. In order to keep up with the development of times, many management systems have emerged to improve the efficiency of school management efficiency.

The development of the times has also changed everyone. Therefore, our universities need to refine the management system as well to establish an ideological and political evaluation management
system which can analyze and predict each student's situation through the management data of the students. It's useful to better understand the students' ideological trends, and at the same time to help the school to manage students, as well as to establish a good relationship between students and teachers, to make the school more human, beyond that the students will prefer schools.

The design of the system has changed the vague system design in the past. It seems that the refinement does not mean that the effect is not great, but it also covers various college ideological and political related courses and information. The system can also be said to be university management. The subsystem of the system. Its most prominent feature is based on the scores of different students' ideological and political courses, as well as daily performance data, the evaluation characteristics are selected using the SVM algorithm of machine learning to train, and a classification evaluation model that is excellent for students' mental evaluation is trained. An assessment of the student is based on the model so that the student's mind can be scientifically understood.

2. The overall architecture of the system

The overall structure of the system will adopt the MVC[4, 5] model. The MVC refers to the three-tier architecture including the Model layer, the View layer, and the Controller layer.

The three-tier architecture divides the entire project application into the presentation layer (UI), the business logic layer (BLL), and the data access layer (DAL). The distinction between layers is to implement the idea of high cohesion and low coupling in system development.

The presentation layer refers to the user interface where the teachers, the students and the administrator operate.

The business logic layer refers to the process of responding and processing the actions of teachers and students as well as administrators.

The data access layer refers to the operation process of the database, including adding, deleting, modifying and querying.

![MVC model deployment diagram](image)

**Figure 1.** MVC model deployment diagram.

3. Functional design of the system

According to the analysis of system requirements, the system has designed three user roles: system administrator, teacher and student. Different roles have different permissions. The system administrator has the highest authority to manage teacher information, student information, class information, student ideological and political information, ideological and political education examination arrangements, and ideological and political curriculum. Teachers are mainly responsible for the teaching of the ideological and political education and functional management of the students such as ideological and political education evaluation. Students have the right to view their ideological and political education achievements and ideological and political education functions[6].

The detailed functional analysis of each user is introduced as follows:

3.1. System administrator

3.1.1. Login, logout of the system, modifying personal information, changing the password, and retrieving the password when you forget the password.

3.1.2. Class management: adding, deleting and checking the class information.

3.1.3. Teacher management: adding, deleting and checking the teacher information.
3.1.4. Student management: adding, deleting and checking the student information.

3.1.5. Course management of ideological and political education: adding, deleting and revising course information.

3.1.6. Teaching plan: management of the teaching arrangement, setting the courses for each class and the course instructors.

3.1.7. Class management: the management of the curriculum, according to the class, the curriculum is compulsory.

3.1.8. Evaluation management: summaries about the students' ideological and political situations, showing the teacher's assessment about the students.

3.2. Teacher

3.2.1. Login, logout of the system, modifying personal information, changing the password, and retrieving the password when you forget the password.

3.2.2. Performance management.

3.2.3. Results input: the use of excel to input and output students’ results.

3.2.4. Results inquiry: the query to all students' ideological and political education exam results.

3.2.5. Checking schedules: checking the curriculum information.

3.2.6. Education evaluation: viewing your own educational assessments.

3.3. Student

3.3.1. Login, logout of the system, modifying personal information, changing the password, and retrieving the password when you forget the password.

3.3.2. Course-selecting management: online course selection, dropping the course and checking their own course selection.

3.3.3. Results inquiry: check the results of the courses you have studied.

3.3.4. Course selection query: checking the curriculum.

3.3.5. Evaluation of students' ideological and political education: checking their own ideological and political education evaluation.

4. System logic structure design

The system adopts B/S mode[7] as the system platform mode, and B/S mode is a MIS system platform mode based on Web technology. It breaks down the server part of the traditional C/S[8] mode into a data server and one or more application servers, thus forming a three-tiered client server system. First of all, the B/S mode does not need to install different computer applications on different computers like the C/S mode, but only the general browser software can be used. Secondly, it simplifies the development and maintenance of the system which only needs to implement all the functions on the Web server, and sets permissions for each role for different functions. It’s very simple and convenient for users to use[9].
5. System database design
MySQL[10] is an open source SQL database management software which is especially popular because of its small size, easy operation, and good installation. It is developed, released, and supported by MySQL AB company. MySQL is a multi-user, multi-threaded, robust, and fast SQL database server that can handle large data with tens of millions of records and supports common SQL statement specifications. In addition, it also has the features of high portability, simple and compact installation, good operational efficiency, rich information network support, debugging, management, and simple optimization (compared to other large databases). The entities planned according to the database requirements analysis include: user information entity, class information entity, course information entity, teaching plan information entity, class course information entity, student course selection information entity, student achievement information entity, and teacher evaluation information entity. Entity information. Based on the theory of database design, we will construct an optimal database schema in a given application environment and establish a database and its application system, so that it can effectively store data to meet the application needs of various users. It will change the conceptual structure of the information entity to the logical structure of the database supported by Mysql. A total of eight database tables have been designed in this system, namely user, class, course, plan, cplan, scourse, score, evaluate[11].

In the student evaluation function, the machine learning algorithm is added. By collecting the data of the students’ usual test scores, the scores of the students’ various ideological and political courses, the scores of the students’ comprehensive scores, the students' scores in classroom performance, as well as the performance scores of daily courses activities are selected. Logistic Regression[15] algorithm is applied to training, in addition, 60% of the student data is trained; 20% of the student data is cross-validated. The purpose of this is to add a logistic regression model of the regularization term to better prevent the model from overfitting; 20% of the data Verification of the generalization ability of the model, the final effect reached 98%, basically in line with the student’s ideological and political evaluation.

6. The function realization of the ideological and political education management system
The management system web page uses Dreamweaver[12] as a development tool, combining with html[13] and CSS styles for background layout and design, and Java[14] code partly is implemented by using MyEclipse8.6 as a development tool, and the database is mySQL. Through the development of the system, the school can better manage the students. The system implements eight functional modules: personal center, class management, course management, teacher management, teaching plan, class schedule, student management and students’ ideological and political education evaluation. After entering the system, the user will be brought to a login interface, and only the right user name, password and authority can enter after verification. System administrators, teachers, and students have different permissions. System administrators have the permissions for all modules to add, delete, and modify teachers and students’ information. Students can select course online, viewing their ideological and political curriculum, and the teacher's ideological and political assessment results can be viewed through the system. Teachers can use this system to check when they have classes, what courses they can take, and they can also conduct ideological and political evaluations of students based on a series of reference such as students' daily performance, ideological and political awareness and test scores.

7. Functional realization interface

7.1.
The user first enters the system through the login interface. The login interface has a statement for judging the user name, password and authority. After verification, the user can enter, and different functional modules will appear in different permissions. At the same time, the login interface also includes a password recovery function. When the user forgets the password, the password can be retrieved through this function.
7.2. In the administrator's authority, the curriculum management, teacher management, student management, curriculum management, and curriculum management are basically the same, and all of them are added, deleted, and changed. The difference is that the student management module can import and export the student information EXCEL. When the course management module adds the elective course, the teacher should be selected to facilitate the teacher's entry of the elective course. Let's take the student information as an example to introduce the implementation process of this part.

7.3. The teaching plan interface is mainly to realize the teaching arrangement of the compulsory courses, where the administrator determines the courses required by each class and the corresponding class teachers, so as to help determine the list of students who need the entered grades of the teachers.
7.4. The module mainly summarizes the students’ evaluation information, and uses the Logistic regression trained prediction model to predict and analyze the students’ ideological and political conditions.

8. Conclusion
The ideological and political education evaluation management system not only realizes the functions of querying, adding, modifying and deleting of data information, but also realizes the students’ online course selection, results query, teachers’ online assessment of students’ courses, the input and output of data excel functions. The ideological and political education management of colleges and universities has entered the era of network, information and data, which has improved the efficiency of information management and reduced the management cost. In addition, it will help to promote the courses management of colleges to be scientific and standardized. There are many advantages to using computers to manage information, such as high stability, long service life, fast retrieval, good confidentiality, large storage, and low overhead. These advantages can lessen the efforts of relevant personnel and greatly enhance productivity of ideological and political education management.

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