



Design of Aided Teaching System Based on WEB

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Abstract: With the increasing development of the Internet and various problems caused by repeated epidemics, the existing teaching equipment is no longer sufficient to meet the teaching needs of teachers and students. Online assisted teaching has become the main choice for teachers and students. The online auxiliary teaching system has enriched the teaching form and formed a new teaching and learning mode.

Keywords: Loading Assisted teaching system, Java, Web, MVC.

1. Introduction

With the development and popularization of the Internet and the emergence of the problem that the epidemic repeatedly makes it difficult for students to enter the campus for centralized offline teaching, online assisted teaching has become the main choice of many colleges and universities. At the same time, offline teaching is also faced with the problems of short teaching hours and teachers' one-to-many teaching is difficult to fully take care of students' learning status. Under this background, this paper designs and implements an online auxiliary teaching system based on the Web. It is hoped that to a certain extent, the problem of offline teaching delaying courses due to personal reasons can be solved, and another learning method of independent learning can be provided for students.

2. System function design

Design and implementation of web-based online assistant teaching system. Online assisted instruction system is mainly to enable students to obtain the latest and most suitable teaching resources from the Internet through the browser at any time through online teaching, to solve the problem that it is difficult to unify the teaching time and space between teachers and students due to the epidemic. At the same time, through the online auxiliary teaching system, students can also choose test questions with different difficulties to conduct more targeted tests on their learned contents, so as to

improve the teaching efficiency.

2.1 Student user function design

The system provides the following functions for the user: the user login: the student needs to register first, add account information and personal data, including account number, password and identity, and nicknames, gender, age, ID card number, student ID number, and then log in to the system through the login page. Video viewing: Student users can enter the free area to watch videos after logging in, or they can enter the student area, that is, student users have unique courses for video viewing; Note management: student users can add notes when watching videos, and modify and delete notes in my notes section; Exercise test: after watching the course video, student users can test the exercise of this course in this interface, or intelligently generate test papers in the course directory interface to test the whole course; Submit feedback: student users can submit feedback to the system, but the submitted feedback information cannot be viewed by users.

2.2 Use case model of ordinary personnel

The system provides teacher users with the following functions: user login, video viewing, note management, exercise test, and submission of feedback. Unlike student users, watching videos is that they cannot watch the video in the Student Area.

2.3 Teacher user function design

The system provides the following functions for teacher users: Course Management: teacher users can create new courses or delete existing courses. At the same time, teacher users can add, modify and delete chapters of courses. Teacher users can also add or delete exercises and files to the course. Teacher users also have the functions of user login, video viewing, note management, exercise testing, and submitting feedback.

2.4 Administrator user function design

Administrator users are divided into ordinary administrator users and super administrator users; the system provides the following functions for ordinary administrator users: user login; user management: ordinary administrators can view the personal information of the front-end user. You can disable user accounts so that users cannot log in. You can also unblock user accounts; file management: Ordinary administrators review the files uploaded by users and determine violations of files. feedback management: Ordinary administrators can view the feedback information submitted by the foreground user to the system. The system provides the following functions for super administrator users: user login and administrator management, and super administrators can manage the accounts of other administrators.

3. System technology

In order to enable users to use the system on a variety of operating systems, the teaching management platform should adopt B / S structure (browser and server architecture mode). The main technologies include the SSM framework, Java programming language, and MySQL database is used to ensure the security and stability of the database.

3.1 MVC mode

MVC, where M refers to Model, generally speaking, the model is the entity class. The model layer can reduce the duplication of code to a certain extent. V refers to View, referring to the interface that the user can see and interact with. Transactions that occur in the system are not inherently handled in the user view, it is merely a way of allowing user operations. C refers to Controller. The controller is mainly used to call the model and view to complete the user's requirements and does not output and process the content. Using the MVC development model to develop projects, the code has the characteristics of low coupling to realize the separation of the front and back ends of the project. When the developer updates the content of the page, he does not need to change the business logic and interface design of the back-end of the project, but only needs to add the interface that implements the request of the front-end to complete the change of the specific functions of the project. In addition, front-end development and back-end development can be carried out at the same time after the division of labor, which improves the development efficiency of the project.

3.2 Introduction to SSM

SSM framework is a collection of spring framework and Mybatis framework, and spring MVC is a part of spring framework. Web projects with simple data sources often use the SSM framework as the project framework. The spring framework acts as an adhesive in the SSM framework. In the configuration file, developers use specific parameters to instantiate objects as needed. The existence of spring MVC completely divides the controller and user view into two layers. Precisely because of this layer, when adding page functions, you don't need to rewrite the written business logic. You only need to add corresponding interfaces to realize new page functions, which greatly reduces the cost of updating. Mybatis framework is a persistence layer framework that encapsulates JDBC. It is mainly responsible for interacting with the database and optimizing the performance of the database, making the underlying operation of the database clearer.

3.3 Database design and Implementation

The key to operational efficiency lies in the efficiency of data processing, and the key to improving the efficiency lies in improving the ability of data processing and the rationality of data structure. Therefore, a clear and reasonable database is very

important for the system. By storing data in different tables, a relational database not only increases the operation speed of the database but also improves operational flexibility. The MySQL database used by the system, as one of the most popular and commonly used relational database management systems by developers, has many advantages in web applications.

4. Conclusion

The auxiliary teaching system solves the problem that it is difficult to unify the teaching time and space between teachers and students due to the epidemic. At the same time, it also solves the problem that many adults still need to constantly learn new knowledge to supplement themselves after leaving school and entering society, or because of hobbies or because of workplace needs. The offline teaching method can not meet the needs of adults in terms of time and safety. Therefore, online assisted teaching provides a good solution for this, promotes the development of education, and has a good prospect.

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