



B/S Architecture of College English Distance Education

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Abstract. In this paper, the college English distance education system under the B/S architecture is designed in detail, the use of Web server and background database to build the English distance education service system, the realization of student registration, score query, examination release and other functions, basically meet the needs of students network learning, has broad application prospects. English teaching is a systematic and continuous teaching work, and students' English learning outside the classroom has a decisive influence on the final learning effect [1]. The establishment of college English distance teaching system through computer and Internet technology can help students acquire learning resources more conveniently, so that English learning is no longer limited by time and space, which plays a very important role in improving the efficiency of English teaching [2]. This requires in-depth research and development of English distance teaching system and targeted design of system functions, so as to establish a more complete solution for English online students [3].

Keywords: distance teaching · English · Institutions of higher learning · B/S architecture

1 Introduction

The rapid development of computer technology and network technology makes people's learning methods constantly change, network technology provides people with more ways and methods of learning, so that the teaching mode from the past face-to-face teaching of large classes gradually evolved to remote network teaching, multimedia teaching and so on. Distance network teaching based on computer technology has been developing rapidly. A large number of video, audio, video, video and other multimedia resources are transmitted to the eyes of students through the network, and the video and video information is spread through the network, which expands the audience range of network teaching and is conducive to realizing the new educational purpose of digitization, informatization and lifelong. Using streaming media technology to carry out video teaching in video teaching can effectively solve the current situation of slow network speed, solve the traditional downloading, playing and other problems, and can carry out streaming transmission through real-time interactive video resources, so as to improve learners' choice of learning time and place, so as to achieve online real-time interaction between teachers and students[4].

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2 Research Status of College English Distance Teaching System

Today, as human beings step into the information age, network, computing, communication, multimedia and other technologies have become indispensable in people’s life. With the popularity of the Internet, all kinds of information in People’s Daily life has been developed from the original text, pictures and other simple information to today’s audio, video and other content richer, richer content, larger capacity. Because of the large storage capacity of multimedia files, there is a problem of bandwidth and data synchronization in realizing smooth transmission of multimedia files on the network. Traditional multimedia files are downloaded from the server, but because the storage space is too large, the bandwidth is too small, the download time will be longer, not real-time, which restricts the application of multimedia technology. Streaming media technology is the multimedia information streaming processing, multimedia files into several groups, and sent to the client in a certain order, in this process, the user can play multimedia information at the same time, the multimedia file buffer, without waiting for a complete download, good real-time[5].

3 Overview of B/S Architecture

With the rapid development of the Internet technology, the traditional enterprise network based on the local area network also began to use the Internet technology to reconstruct the enterprise network, and B/S architecture came into being in this situation. B/S architecture, also known as the “thin client” design pattern. The user can send the request to the server using http only from the browser installed on the PC. The server then retrieves the data from the database and processes it according to the wrapped business logic. The B/S architecture based on TCP/IP conforms to the development trend of networking

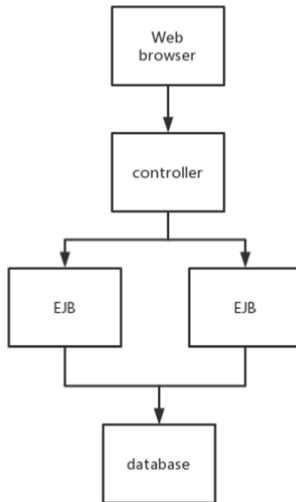


Fig. 1. B/S structure model

and informatization. The innovation of this design lies in that the overall function of this system does not need to be completed by the user, only Edge or Safari provided by PC or Mac can be used, which greatly improves the compatibility of English distance education system with various terminal devices. The B/S architecture model is shown in Fig. 1[6].

As shown in Fig. 1, the user requests access to the database from the browser on a PC or Mac device. The Servlet controller allocates the relevant service to the Javabeans when the request is received, calls the data in the database, and returns the processing result to the Servlet. Finally, it returns to the client in HTML format.

4 System Function Design

4.1 Student Registration Module

Student registration module is divided into two parts: one is student login, the other is student registration. During registration, the user must set an account and password. If the account entered by the user is already used, it will automatically show that the account cannot be logged in and the user must create a new account. Student account registration is to add a new record to the student's membership card, and then the system records the account number and password. After logging in the submodule, the user can log in to the trainee module and make further modifications after logging in.

4.2 Student Examination Module

In the Student Quizzes module, users can take quizzes and tests online. Students who log in to the test module will receive a random lottery. Users only need to fill in their school number online, then complete their tasks within a specified time, and then input their scores into the database.

5 Database Design

5.1 Database Entity Structure Design

This study describes the database design scheme of college English distance teaching system through the logical model, summarizes the entity relationship based on the system structure, and the E-R diagram of the database logical model is shown in Fig. 2.

5.2 Database Table Design

This study introduces in detail the curriculum table, question bank table and student information table in the design scheme of college English distance teaching system database table.

- (1) The course schedule is shown in Table 1:
- (2) The test bank table is shown in Table 2:
- (3) The student information table is shown in Table 3:

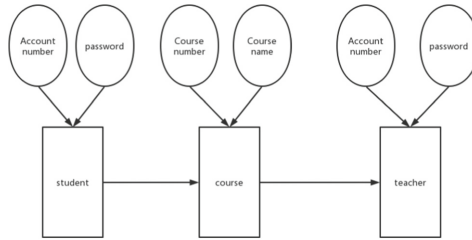


Fig. 2. E-R diagram of the database logical model

Table 1. Class schedule

Fieldname	Fieldwidth	Fieldtype
Course_type	10	Charactertype
Credit	2	Charactertype
Teacher_num	8	Charactertype
Course_name	10	Charactertype
Course_num	10	Charactertype

Table 2. Test bank table

Fieldname	Fieldwidth	Fieldtype
Date	2	Datetype
Subject_answer	50	Charactertype
Subject_content	8	Remarktype
Subject_num	10	Charactertype

6 System Functions

6.1 Implementation of Student Registration Module

After registering the account, the user can enter the account and the password under the account in the student login submodule and complete the login. If the user fills in the wrong information, the system will prompt and automatically return to the login page, requiring the user to log in again. The specific implementation result is shown in Fig. 3.

6.2 Implementation of Student Examination Module

According to the answers stored in the test bank, the system will compare the contents filled in by students and give corresponding grades. The specific results are shown as follows.

Table 3. Student data information table

Fieldname	Fieldwidth	Fieldtype
Reg_time	8	Datetype
Tel	11	Charactertype
E-mail	30	Charactertype
Address	50	Charactertype
Native_place	20	Charactertype
Date_birth	8	Datetype
Class	10	Charactertype
Password	10	Charactertype
Sex	2	Charactertype
Name	8	Charactertype
Account	10	Charactertype
Status_num	10	Charactertype

Personal data

User name :

name :

Class:

Home address :

Fig. 3. Student registration module

He was a very cute boy now he seems to have no interentin anything.

Clever

Honest

Brave

Dull

Data from Voyager I I have presented astronomer switha puzzle about why ourouter most planet exists.

Clevver

Honest

Brave

Dull

7 Closing Remarks

At present, our country has already entered the information age comprehensively, College English teaching should grasp the opportunity of the development of information technology closely, use the network server to combine network education resources and network communication technology, so that network English teaching more effective. In future studies, we also need to improve the applicability of English distance education on mobile terminals and extend it to a wider range of English education fields.

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