Design of College English Course Examination Platform Based on Computer Network Platform

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Abstract

With the rapid development of computer technology, school teaching and management of information technology development has made great progress, which requires all aspects of a balanced development, both from the hardware and software to the school into a first-class information management, education, and teaching platform. This paper designs and develops the college English course examination platform based on the computer network platform to reduce the workload of teachers, improve the work efficiency, optimize the process of student examination, and enhance the students' identification. This paper introduces several development methods of the network test database, and introduces the scheme of designing the examination database, which saves the labor and financial resources and time than the traditional examination mode. This paper also introduces the system structure of the software, the detailed design of each function module of the system. Finally, the paper summarizes the test system, points out the technology and experience of the system, and points out the shortcomings of the system, and prospects for further improvement and research in the future.

Keywords: Traditional examination, English course, Teaching platform.

1. INTRODUCTION

With the popularization of computer and the extensive application of Internet, network teaching has become a development trend of teaching. The English examination system is an important content of auxiliary teaching and information construction. It is the basis of fairness, fairness, and reasonable examination of students' true level (Gottardo et al., 2001). It can greatly reduce the burden of teachers, improve work efficiency, and it can increase the scientific and objective examination. Test database system generally by the test library and test questions in two parts. The advantage of using the test question bank is that, first, it is helpful to realize the separation of teaching and teaching (García et al., 1991). Teachers should follow the requirements of the syllabus to improve and perfect the teaching methods continuously. Secondly, it helps to prevent the students from relying on the division of teachers. Finally, we will reduce the workload of the teachers' organization papers, avoid the subjectivity and one-sidedness of the manual process, and ensure the fairness of the multi-class examinations under the guidance of the same syllabus. Most of the examinations in schools and society use traditional examinations (Li, 2016). In this way, an examination is conducted at least five steps, namely, artificial examination, manual marking, performance evaluation, and test paper analysis. Obviously, as the type of exams continue to increase and the test requirements continue to increase, the workload of teachers will be more and more, and its work will be a very cumbersome and very easy to do things wrong, it can be said that the traditional examination cannot meet the needs of modern examinations. With the rapid development of computer applications, network applications continue to expand, such as distance education and the emergence of virtual universities, and so on, and these applications are gradually deep into the tens of thousands of households. There is an urgent need to use these technologies to conduct online examinations to reduce the burden on teachers and improve work efficiency, while also improving the quality of the examination, so that the examination tends to be more notarized, objective. Students that are more exciting interest in learning. Based on the Web database online examination management system and the traditional examination comparison, mainly has the following advantages (Kieffer and Lesaux, 2012). It can realize the separation of teaching and teaching, and it needs to provide technical support for distance education. It can improve the fairness and reduce the labor intensity of teachers; but it can also achieve data sharing.

Countries in the world have given unprecedented attention to the development of education, trying to make education in a future position in the information society, and thus walk in the forefront of social development,
for which many countries have applied information technology to education, as a nation, an important driving force for development. In foreign countries, the US government put forward the "educational technology planning", pointed out that the beginning of the 21st century to the United States every classroom and each library will be connected to the information highway, so that each child can enjoy the "21st century teachers" Internet service. The Australian National Public Resources Administration established the "Australian Education Network" in April 1995, and the Internet, which includes not only all institutions of higher learning, but also all primary and secondary schools in Australia. At the end of 1995, foreign began to support online teaching system and platform (Sun, 2015). The United States NTU, the UK OPEN COLLEGE are very typical examples of online education.

Network online examinations as an important part of online distance education and development branch, some developed countries have been booming in some countries, people choose courses and exams have carried out through the Internet (Lan et al., 2009). Especially the popularity of Internet business, helps to build high-performance, low-cost computer network online exam. The technical conditions and economic conditions have been mature. In the country, generally see, the vast majority of education exams remain in the traditional examination. In this way, the organization of an examination need to go through at least five steps, that is, artificial volume, examination, manual marking, test paper analysis and performance evaluation. Obviously, as the type of exams continue to increase and test requirements continue to increase, the workload of teachers will be more and more, and this work will be a very cumbersome and very easy to do things wrong. However, the real application of the Internet is also limited to online registration and online performance inquiries and other basic stage; it has not really formed the size of the Internet exam. In some countries abroad, online submission and online examinations have been quite popular. Therefore, the traditional way of examination has been unable to adapt to the needs of modern examinations. After 1998, with the rise of domestic online education, colleges and universities have developed their own network teaching platform, an important part of the network test system has also come out (Hei et al, 2015).

2. SYSTEM ANALYSIS

2.1 System requirements

The purpose of the establishment of the online English examination system is to use the computer-based modern equipment to complete the examination process of various information to add, modify, delete, query and use, the general examination business management, is thereby enhancing the efficiency of the education sector. The small and medium-sized institutions of the examination department need to carry out research, the development of the system function must be practical, and easy to operate, mainly in the following two aspects.

(1) The system requires the user must enter the correct user name, password to enter the system, and the use of permission to log, the user is divided into administrators and students.

(2) In the system administrator management module, the main function is to add, delete, query questions and candidates information and other functions.

(3) In the system of the candidates module, the main function is to have candidates to test, modify personal information, query results and other functions.

2.2 Main technical introduction

1 B/S mode

The system uses B/S three-tier architecture, that is, client browser, Web server and database (shown in Figure 1). All programs and databases are stored on the server, the client only need to install the operating system and the browser. The client runs the browser, and it provides the user interface, it is also responsible for generating the user's request, and accepts the Web page data that the Web server passes (Zhou, 2016). The Web server receives the request and transforms it into the SQL statement which the database server can recognize, passes to the database server, the database after the server is executed, the result is returned to the Web server, and the Web server returns the result to a browser-identifiable format and returns it to the client's browser.
2 JSP technology

JSP (Java Server Pages) is the establishment of a dynamic web technology standards. JSP technology is somewhat similar to ASP technology, JSP technology using the Java programming language to write class XML tags and scriptlets, to generate dynamic web page processing logic. Web pages can also use tags and scriptlets to access applications that exist on the server's resources. JSP separates web logic from web design and display, enabling reusable component-based design to make Web-based application development quick and easy. When the JSP container receives a JSP file request from a Web user, it parses the JSP file and generates the JavaServlet source file and then compiles it. In general, the generation and compilation of Servlet source files occurs only when the JSP is called for the first time. If the original JSP file is updated, the JSP container will detect the update and regenerate the servlet and compile it before executing it (Zhou, 2016). Figure 2 shows the JSP container for the initial implementation of the JSP process.

3. STRUTS FRAMEWORK

Struts advantages are mainly reflected in two aspects: Taglib and page navigation. Taglib is Struts tag library, which can greatly improve the development efficiency. In addition, the current domestic JSP developers, in addition to using the JSP comes with the commonly used mark, rarely develop their own mark, perhaps struts is a good starting point. On the page navigation, I think it will be a future direction of development, in fact, to do so, so that the system context is clearer. Through a configuration file, you can grasp the whole system between the various parts of the link, which for the late maintenance has great benefits. Especially when another group of developers take over the project, this advantage is more obvious.

Struts is essentially in the JSP Model2 based on the realization of an MVC framework, in the Struts framework, the model by the realization of business logic JavaBean or EJB components, the controller by ActionServlet and Action to achieve. A view consists of a set of JSP files (Chen, 2015). Figure 3 describes the image of the Struts implementation of the MVC framework.
4. SYSTEM DESIGN

4.1 System function structure

According to the characteristics of online English test system, it can be divided into front and back two parts of the design. For the front part can be divided into the following six functions.

(1) Candidates registration: Candidates fill in their names, gender, and identity card number and other information registered as a user of the site, the party can enter the system for examination.

(2) To retrieve the password: Candidates if you forget your registration password, you can answer the registration by setting the problem and retrieve the password.

(3) Online examination: the function is the most important function of the front desk, the candidates must first agree to the examination rules, you can choose to test the subjects, candidates can be prepared to answer, and then automatically read the system, and the results feedback to the user.

(4) Query results: Candidates can use this function to check their own subjects before the test results.

(5) To modify the personal information: Candidates through this feature can modify their registration fill in the information.

(6) Exit the system: exit the front, back to the landing page.

4.2 System workflow

As the flow chart, we can express the flow of data in the system among the various parts of the system. The image of the system needs to describe the workflow, so the online English test system helps to achieve the goal, as well as the analysis of the functional modules, the design of the entire test system of the flow chart. The main function of the online exam module is to allow candidates to take examinations for specified courses on the web. In this module, the candidates need to first read the examination rules, after selecting the course; the system will immediately extract a set of questions, and then enter the examination page to answer. When the candidates submit papers or to the big test time, the system will automatically submit the examination papers to the candidates, and give the final test scores, online test module flow chart shown in Figure 4.
4.3 Database design

The database should contain all kinds of questions table, student information table, subject selection table, test paper table, performance table. The student's information form should include the name, gender, professional, class, student number and password of the candidate. The subject selection table contains the subjects of the examination, the examination form, the examination form, the examination question. For the candidates to choose, test paper table contains the ID, test questions ID, test questions, and reference answers. Score table contains candidates answer the situation and scores for candidates to score inquiries.

Table 1. Candidates Information Form

<table>
<thead>
<tr>
<th>Field name</th>
<th>type of data</th>
<th>empty?</th>
<th>primary key</th>
<th>Defaults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Id</td>
<td>Bigint(8)</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>varchar(20)</td>
<td>No</td>
<td>No</td>
<td>Null</td>
</tr>
<tr>
<td>Pwd</td>
<td>varchar(20)</td>
<td>No</td>
<td>No</td>
<td>Null</td>
</tr>
<tr>
<td>Sex</td>
<td>varchar(2)</td>
<td>No</td>
<td>No</td>
<td>Null</td>
</tr>
<tr>
<td>joinTime</td>
<td>datetime(8)</td>
<td>No</td>
<td>No</td>
<td>getdate()</td>
</tr>
<tr>
<td>Question</td>
<td>varchar(50)</td>
<td>No</td>
<td>No</td>
<td>Null</td>
</tr>
<tr>
<td>Answer</td>
<td>varchar(50)</td>
<td>No</td>
<td>No</td>
<td>Null</td>
</tr>
<tr>
<td>profession</td>
<td>varchar(30)</td>
<td>Yes</td>
<td>No</td>
<td>Null</td>
</tr>
<tr>
<td>cardNo</td>
<td>varchar(18)</td>
<td>No</td>
<td>No</td>
<td>Null</td>
</tr>
</tbody>
</table>

4.4 Relationship between the data table design

The system designs the relationship between the database tables shown in Figure 5, which in fact also reflects the relationship between the entities in the system.
4.5 Results and discussion

The system uses the relational database system as the background database system to extract the data from the sub-database according to the request submitted by the user, and then it returns to the client, which is helpful to reduce the throughput time of the bulk data. A system management standardization, data integrity, security performance is guaranteed as a server-side database management. The users login the database with systematic security mechanism. The database login Level of the standard way helps to integrate database object level, which refers to the database table. The objects of the authorized control of the system involved in the database must be set in the user password, while establishing a backup mechanism to prevent hard and software failure to the system data caused by the loss.

After clicking on the "Online Exam" button, you will be taken to the examination rule page and then click "Agree" to enter the Select Test Course page. Select the course to be tested on this page and Click the "OK" button to enter the preparation test page, in this page, and then "Start exam" button will close the current window, and open a new window shows the test questions, as shown in Figure 6.

Figure 5. The relationship between the table

Figure 6. The Answer page
5. CONCLUSIONS

At present, the network test database has not been widely promoted in colleges and universities. This paper discusses the basic functions of the college English network test database, has strong practicality, can effectively solve the drawbacks of traditional examination, promote teaching reform, saving labor and resources to ensure that the coverage and correctness of the paper, you can achieve a strong interactive and constantly updated test methods. But the online test can not completely replace the traditional examination, with the continuous improvement of the test system, technology continues to introduce new, based on the network test system will become the mainstream of the development of the examination system, network test library will be more widely used. This paper builds an online English examination system based on B/S mode, adopts JSP development technology, SQL SERVER large database, Struts framework and Ajax technology. To achieve the online examination system of practicality and reliability, the above technology makes me practical website development technology has a better grasp. The online English test system designed in this paper mainly includes two subsystems: the candidate examination subsystem and the administrator management subsystem. The administrator management subsystem includes the following modules: administrator management module, student management module, curriculum management module. The administrator's login can be achieved on the management of the above modules.

REFERENCES


