

Design and implementation of online examination system for data structure

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Abstract: With the rapid development of computer and Internet technology, computers are used more and more widely in all walks of life. It has become more and more important to develop a new online examination system. This paper expounds the design and implementation of online examination system. Using MyEclipse6.5 as a development tool, using the MVC development model, the framework uses the current popular Struts+Spring+Hibernate. The system has three main modules: administrator module, including four kinds of examination questions, additions and deletions, changes, search operations. The teacher module is mainly to complete the students finished the examination marking the completion rate (not included here on the choice and determine the title scoring); student module is to modify the information, modify passwords, online examination, and check their exam results.

Key words: Data structure; online examination; MVC design pattern

1. Introduction

With the rapid development of computer and Internet technology, computers are used more and more widely in all walks of life, and networking is one of the important trends in the development of computer technology in the twenty-first Century. At present, China's computer network development has begun to take shape, most of the university campus network has been opened. Therefore, how to make full use of the campus network and give full play to its great function to serve the teaching and scientific research of colleges and universities has become a major problem that needs to be discussed and solved in front of us. With the maturity of network technology, the application of web technology has penetrated into every corner of life. The development of a new online examination system and the traditional examination mode than it has the advantages of convenient examination, without geographical restrictions, only to have the network may carry on the examination; save a large amount of cost, do not need to complete the paper and pen; saves time by automatic marking system has a massive database; but, random test.

In the face of the data structure of learning resources, lack of autonomous learning there are still many problems in the status and importance of data structure course, provide a self-help learning platform for students, is the most effective way for students to better learn the data structure.

2. system requirements analysis

2.1 system functional requirements

Software requirement analysis is the first stage of software development, and it is also the key step to the success of software development. Accurate, complete and standardized software requirements are the key to the success of software development. Its importance is to make the user fully aware of the exact requirements for the software system, which is not to determine how the system does its work, but to determine what the system must do. That is, the target system is complete, accurate, clear and specific requirements. Repeated investigations and studies, understanding the organizational details of the database, and understanding system requirements for

managing business processes are critical to the design of conceptual models. The quality of the demand analysis directly affects the quality of the system design. The system function is shown in figure 1.

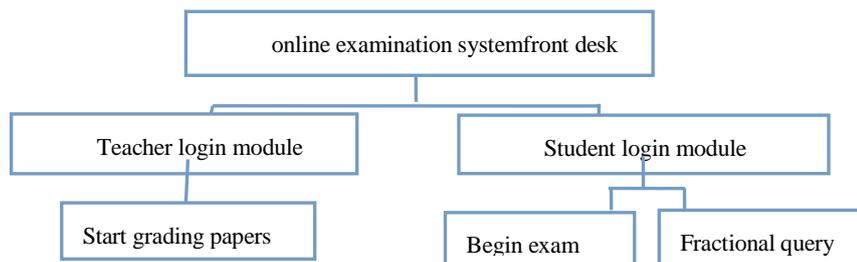


Figure 1 system function diagram

The administrator function module diagram is shown in figure 2.

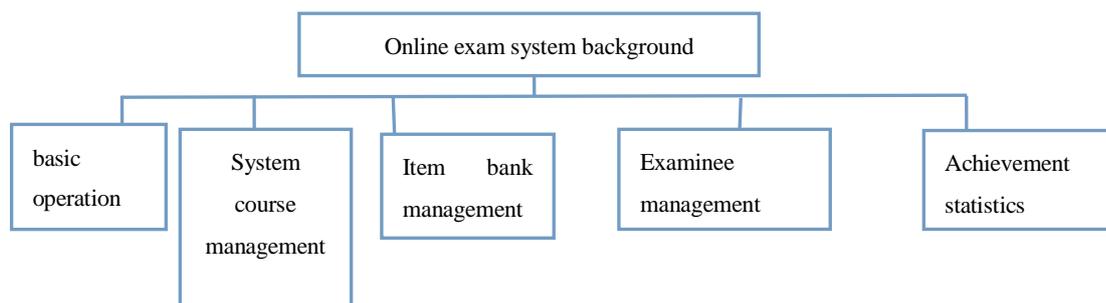


Figure 2 online examination system backstage function module diagram

2.2 system performance requirements

- (1) practical: convenient, quick, easy to manage, arouse the enthusiasm of students, and improve the quality of teaching.
- (2) simple operation: this system is suitable for different levels of users, the system is not too complex and cumbersome, so that the system operation as simple as possible.
- (3) adaptability: should be widely used in schools, students, modular design, users can self-according to their own conditions, reasonable use of the system.
- (4) the installation is simple and convenient: the installation of the server is simple and clear, the client does not need to install any software, so long as you can access the Internet, you can use the system.

3. system overall design

Candidates, teachers, users or administrators to enter their own user accounts, passwords, through authentication, you can enter the appropriate management interface home. The examinee management page is divided into test list, query results, my mistakes and my information, announcement list 5 modules. Teacher management page is divided into examination design, examination management, statistics, information release management, my information management of 5 modules. Administrator management page is divided into information management, examination management, and my information and information release 4 modules.

Examinee management module: test list module, list the candidates can participate in the exam, candidates can choose any exam to enter, start the exam, if no subjective questions, will be in the examination after the automatic scoring system. Results query module, candidates can participate in their own examination results query.

My wrong topic, candidates can query the fault of their own. My information module, candidates can modify my information. Announcement list, candidates can query the announcement.

Teacher management module: the examination design module is the platform for teachers to add, delete and test the questions, the examination paper and the test paper, and modify the questions in the existing question bank. Teachers can make use of multi-function query operations according to the actual situation or the needs of the test paper. They can also add, modify, delete and manage the question bank and the test paper library efficiently. The examination management module is used to add, delete and modify the teacher exam information platform, and the artificial evaluation can be used for artificial marking papers module performance management module of the subjective questions, all test results and scores of teachers of normal distribution generation can log into this page to view the test. Information release management modules, teachers can add, delete, modify, and can modify the announcement status. My information management module, the teacher can modify my information.

Administrator module: information management module, administrators can candidates, teachers, administrators, courses, professional add, delete, modify, and can set up courses. Examination management module, administrators can test questions, papers, exams to add, delete, modify. Information release management module, the administrator can add, deletes, modify, and can modify the announcement status. My information management module, the administrator can modify my information.

4. Conclusions

Based on the analysis of online examination system, this paper designs and completes online examination system with JSP and SQL2008 database. The system results show that the system has basically completed the functional requirements. In the whole design process, waterfall model and structured design method are adopted. The system interface is beautiful, friendly, easy to operate, and made its own features. But due to lack of time and lack of experience in system development, the system in the design process will inevitably encounter a variety of problems, such as: some data input is not timely to check the data format, data cannot guarantee absolute accuracy. Because of the time relation, the function of the system is not perfect, and the use of the system may be inconvenient. This system in the actual use of the process there may be some problems, through continuous optimization and improvement of the system, debugging can truly meet the actual situation of the online examination system, online examination system to form a unified and standardized, scientific and reasonable.

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