

The online examination system of random questions based on ASP.NET

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Abstract: With the rapid development of China's economy in recent years, the Internet and computers are becoming more and more popular, and they play a great role in our lives. They are also playing an increasingly important role in education. With the rapid upgrade and update of computer technology, network technology and corresponding software technology in recent years, most schools have carried out some school education modes on network, such as network teaching, online course selection, online question answering, online academic exchange platform and other related academic teaching and research. It can be seen that modern schools, whether primary and secondary schools or universities carrying out higher education, need strong support of computer technology. Necessary teaching activities in schools, such as student teaching, information management of teachers and students, and evaluation and storage of relevant examination results have become more and more dependent on computers. On the one hand, many colleges and universities have set up their own computer-aided education and computer-aided teaching systems, so as to better carry out and evaluate the related work of student education and school educational affairs; on the other hand, they also reduce the complex examination process faced by many teachers.

Based on asp.net technology, the online examination system for random questions adopts the mainstream development mode, that is, using asp.net technology as the framework, using its C development language to carry out basic development, which is not only easy to operate, but also belongs to Microsoft's development system, so it has a more stable and matching development process. In addition, in the aspect of managing and storing the database of questions and information, we use the database sql2008 to design and implement the online examination system of random questions.

Keywords: ASP.NET C #; student management; question bank management; online examination system.

1. INTRODUCTION

Be based on ASP.NET The online examination system of random questions based on Internet technology is a mode of using the Internet B / s management system. It takes the network as the platform, and its main purpose is to simplify the cost and inconvenience of human and material

resources brought by the traditional examination process to the majority of teachers and students. The production of the random question system starts from the actual needs of reality, and uses today's mature computer technology to solve practical problems.

2. RESEARCH STATUS AND SIGNIFICANCE OF BE BASED ON ASP.NET THE ONLINE EXAMINATION SYSTEM OF RANDOM QUESTIONS OF TECHNOLOGY

From the perspective of schools in most areas of China, whether it is the evaluation of students' professional quality or the final examination, it still depends on the traditional examination mode in the past. The main steps are as follows: teachers first make their own questions; distribute and organize students to take the examination in the classroom; after the examination, teachers manually mark the papers; finally, they have to analyze the results and evaluate the students' ability. Generally speaking, the workload is quite large. Therefore, in order to alleviate the pressure of related processes and teachers, with the rapid rise of domestic education and computer development, this kind of examination process which is completely simulated and controlled by intelligent computer is gradually produced, and even more standard and strict than traditional manual examination.

This development is based on ASP.NET. Based on the actual needs of users, the online examination system of random test questions based on Internet technology has properly considered and dealt with each relevant examination step, so as to achieve a high degree of information management and control. be based on ASP.NET. The online examination system based on B / S mode enables students to answer questions conveniently through desktop or notebook computers and only need their own browser. Therefore, in order to effectively alleviate the pressure of the traditional examination process, there is the birth of online examination system with random questions.

3. INTRODUCTION TO THE SYSTEM

3.1 Requirement analysis

In China, generally speaking, the vast majority of distance education examinations still stay in the traditional way. In this way, the organization of an examination must go through at least five steps, that is, manual paper, examinee examination, manual marking, performance evaluation, paper analysis. Obviously, the workload is considerable. In recent years, with the rise of domestic education, colleges and universities have developed their own network teaching platform. As an important part of network courses, network examination system has come out one after another. The online examination system provides an automatic platform for examination, which not only saves resources, but also facilitates examination and score query. And can also change the question independently, so that the examination to achieve a true sense of fairness and justice. The system is mainly divided into four modules: administrator module, teacher module, student module, scoring module.

To solve the problem: through the setting of randomly generated test paper to make the original cumbersome examinee process more simple, the generated questions mainly include: multiple choice questions, judgment questions, fill in the blank questions, answer questions and so on. After the examination, the system will automatically score the multiple-choice questions, judgment questions and blank filling questions according to the answers stored in the database, and finally get the objective question score. The teacher can judge the answer part online to get the subjective question

score, and then the system will automatically add all the scores to get the final total score and the average score of the whole class.

The system has four functional modules:

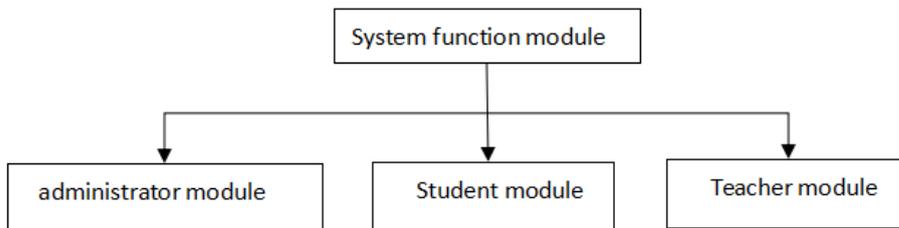
examinee module, question module, teacher module and examination paper audit module.

User login. Provide candidates, teachers and administrators registration, login function. Different identities have corresponding user rights, and the system needs user authentication.

3. In the summary design and detailed design of the system, each module has corresponding sub functions: (1) test attributes: type (single choice, fill in the blank, judgment, short answer), difficulty coefficient, score, test content. (2) The system can determine the difficulty coefficient of the questions. (3) the system should be able to generate the corresponding questions according to the difficulty of the questions

3.2 The working principle of the system

The working principle of the system is shown in the figure:



First of all, the requirements are analyzed, users can be roughly divided into three categories: system managers, students and teachers, and then from the perspective of different personnel possible needs analysis. In the system manager module: the system administrator mainly has its own information management, teacher and student information management (including the courses and grades), all kinds of question bank information management (including the difficulty of questions, random questions) and so on. Student module: there are personal information management, online examination and view results. Teacher user module: personal information management, examination database management, view student performance management, online scoring mechanism, etc.

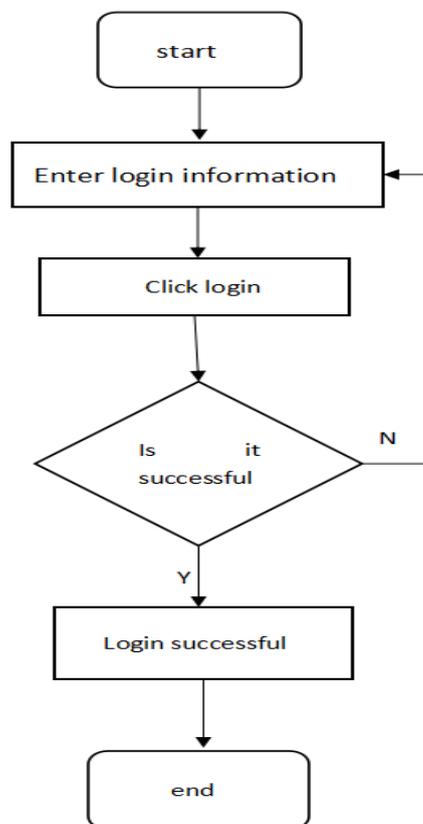
3.3 Target Machine Controller Workflow.
 be based on ASP.NET Microsoft Visual Studio is the development environment of the online examination system of random questions based on Microsoft Visual Studio. First of all, the platform is a platform that can ASP.NET Technology, hardware platform, C # a complete development system tools integrated development platform, through the use of Microsoft Visual Studio development system can greatly reduce the compatibility of various technologies and languages related issues, so only need to consider the system development steps and implementation. Secondly, Microsoft Visual Studio contains a large number of related functions needed in the process of developing program system, which is also very simple and convenient to use. In addition, it also supports the retrieval and query functions of various types of open source products, including the query of C # files with

problems. Microsoft Visual Studio also has a wide range of programming languages, so that developers can freely choose the most suitable type for themselves.

3.3 Overall composition of the system

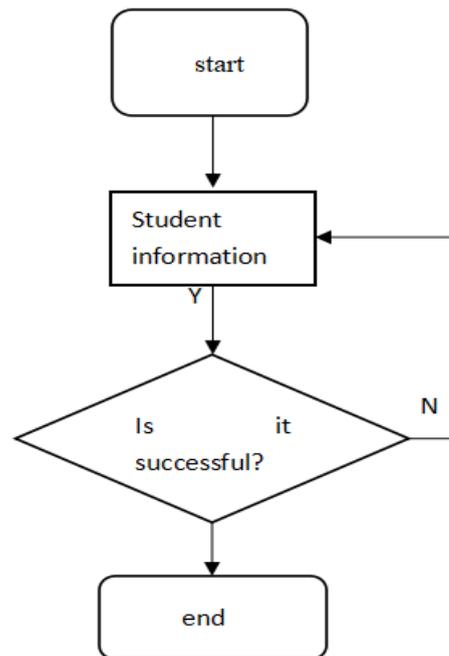
(1) Detailed design of login module

The specific process of user login function module is shown in Figure 4.1. First, open the login page, the input box with account number, password and role input will be displayed. According to your personal information and follow the requirements, you can login successfully. If the input information is wrong or there is no input information, as long as the corresponding information can not be retrieved in the database, the prompt box of login failure will be prompted. After that, the login interface will still be stuck, and the login will be successful only after the correct user information is input.



(2) Student management module

The module belongs to the basic module of the system module, and its main function is to store and manage students' information. The authorization of adding student information function should be for everyone, that is, system administrators, teachers and students have the authority to add student information. The main function of the student management module is to add and input students' related information, improve and modify information, and delete information. The main process is: first log in to the system to add information interface, according to the relevant tips to add, modify and delete information is the student's database table corresponding changes.

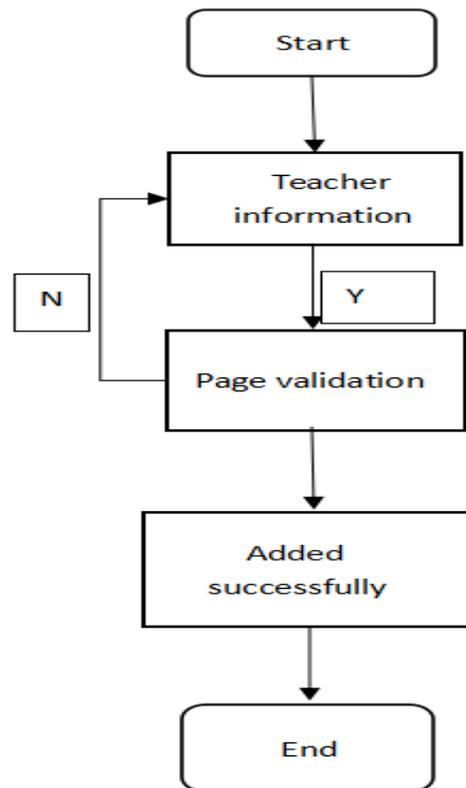


(3) Course management module

The main function of the course information management function module is to set the corresponding course permissions in the system, which requires that teachers and students of different majors and classes can only access their own course information, and the system administrator can manage all the course information. Course management includes the addition, deletion and modification of course information, which also needs to be realized by changing the corresponding tables in the database. When adding course information, it is mainly to fill in the course name and course description, and ensure that the course information name cannot be repeated. If the added course information name already exists, it cannot be added successfully again, otherwise it can be added correctly, and the added information needs to be saved in the database.

Teacher management function module

The function module of teacher information management is the management and storage of teacher information. System administrators can add, modify and delete all teachers' information, while teachers can only modify and manage their own information, while students have no authority to change information. In adding teacher information, first fill in the relevant information according to the prompts on the page. If the information is completely duplicate with the information item in the database, it will show that it cannot be added, otherwise it can be added successfully. After adding, you can modify and delete the information.



4. SYSTEM TEST

4.1 System test objectives

The black box test is chosen as the test method of the online test system based on asp.net technology. The common types of tests are usually divided into two categories: black box test and white box test. White box test is simply to test through the internal system, mainly testing the implementation of specific code and the errors that may occur in the compilation process. Obviously, the way to use white box test for this system is not simple and the effect is not ideal. So we do black box test, which is to check the function of the product through testing when we don't know the internal structure of the product. Obviously, black box testing is more consistent with the user's use. The obvious advantage of using black box test is that all the functions to be tested can be tested one by one, and the test results can be obtained more intuitively, so the designed system can meet the needs of users.

4.2 System function module test

Module test is the real result of system operation determined by actual test. Standard module test should test all the functions realized by all relevant modules in the system and check whether the test results are the same as expected results. If there is a big difference, further improvement is needed. The following will introduce the detailed test flow and results of the key test modules of the system. Add a basic test module of test question base, and it is also an important module that can be realized by the test system. We choose the black box test method to test the module. We test in two different ways from the correct and wrong directions and then see if there will be different results. First, open the system to the page of adding question bank and input the information of question bank correctly according to the prompt to see if it can be added successfully.

Then we add irregular question bank information, such as adding duplicate questions or applying for adding without filling in the information of the title. Check whether the system will prompt for the error or the result that cannot be added. If both tests produce results that meet the expected requirements, pass the test, otherwise, the modification should continue to be improved.

REFERENCES

- [1] Yu zhanqiu, Wen Jingjing. Design and development of online examination database management system based on Hadoop cloud computing [J]. Journal of Ezhou University, 2019,26 (06): 98-100.
- [2] Wang Liyan, Guo Chun, Li Li, Bing Lujun. Research and design of online examination system for medical electron microscope based on asp.net technology [J]. Chinese Journal of histochemistry and cytochemistry, 2019,28 (04): 388-392.
- [3] Yang Huimin. Analysis of online examination system based on asp.net developed by Web [J]. Computer products and circulation, 2020 (01): 32.
- [4] Lu Xiaodong. Discussion on the application of anti cheating measures in online examination system with random questions based on asp.net technology [J]. Science and technology wind, 2019 (36): 65.
- [5] Yang Xiaodong, Hao Jie, Guo Xinxiang. Online examination system based on SSH framework and asp.net technology [J]. Popular science and technology, 2019,21 (08): 7-10.
- [6] Liu Lan, he GAODA. Innovative construction of teachers' teaching ability from the perspective of College English online examination [J]. Audio visual foreign language teaching, 2019 (06): 59-66.
- [7] Liu Shiliang, Wang Shuyan, Jia Fuyun. Research and development of online examination management system [J]. Computer knowledge and technology, 2019,15 (32): 89-90.
- [8] LAN Zhenqi, Liu Wei, Zhang Lusi, Wang Ziyi, Wu Huamin, Zhang Lei, Zhang Hui, Wang Kun, Wei Yufen. Design of online examination evaluation system based on C / S model [J]. Science and technology innovation, 2019 (19): 85-86.
- [9] Li Yang. Design and implementation of online examination system for computer information technology course based on asp.net technology [J]. Science and technology wind, 2019 (22): 94.
- [10] Yang Jing. Design and development of web based online examination system with random questions based on asp.net technology [J]. Journal of Xi'an University of Arts and Sciences (NATURAL SCIENCE EDITION), 2019,22 (04): 55-59.
- [11] Liu Chengxia. Data structure. Research on online examination system of random questions based on asp.net technology [J]. Computer education, 2019 (07): 128-132.
- [12] Zhu Jianhua. Design and implementation of web based network examination system [J]. Information and computer (THEORY EDITION), 2019 (14): 127-129.