

Design and Implementation of Distance Education System

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Abstract: The fixed nature of the traditional teaching time and place contributed to the development of distance education, which led to the distance education to become the promotion of colleges and universities and social trends must be carried out. In this distance education system, Jsp/Servlet as the basis of the design, in the system design before the full social survey, put forward the basic scheme of the design of the modules of the distance education system, in order to consider the practical needs of the various educational roles of the point of view, divided into different functional modules, and the sub-modules in the system according to the function of the classification of the detailed division, completed the design of the system. Myeclipse and Mysql complete the design of the system, realizing the interactive function of teachers and students' courseware, interactive function of homework, and the function of answering questions and leaving messages, etc., and the system realizes the application function of distance education.

Keywords: Education; Database; Computer; Development

1. Introduction

Distance education system is a very promising and highly regarded type of education system. It originated from electrochemical education, and nowadays, under the environment of ever-improving information technology, distance education has also developed rapidly, with ever-improving equipment, the scope of resource sharing expanding day by day, and students enjoying more and more ways of accessing high-quality teachers' resources, which are also more and more convenient.

1.1 Background of the Study

The present society has admittedly entered the computer-centered era. Education is a topic that will never go out of fashion, and the traditional offline education is about to usher in the biggest

impact and opportunity, so as to have new vitality.

Distance education system is based on the traditional way of education but is an innovative mode of development, traditional colleges and universities are still using a few years ago, the Web system, the system has many shortcomings, such as the interface is not beautiful enough, the operation process is cumbersome, inefficient and poor confidentiality, the browser is not good enough compatibility, it is not convenient for the user to view the management of various types of information at any time and any place.

Based on the creation and implementation of jsp distance education system is conducive to break through the traditional sense of students in the educational resources of the equipment limitations, teacher power and a single lecture type of education in terms of a certain improvement, can allow students to have their own disposable learning time, so as to improve the students' motivation, mobility.

1.2 Domestic and International Status

From the 1970s, the United States has begun to develop, and the second generation of the Internet mega-engineering to provide a higher speed information platform and higher running speed. Now every citizen of the United States of all the information can be any library and school on the internet reasonable and legal access.

The next neighboring country, Japan, has also taken a series of actions on information technology education for a long time, and each student and another classmate in public elementary schools can have a computer at the same time, and after the 20th century, all schools have been connected to the Internet.

1.3 Significance of the Study

With the economic development, GDP increasing and people's living standard improving, education has ushered in its spring, and after traditional education, many new types of education methods have appeared, and distance education is one of them. The

promotion of distance education system promotes the fairness, universality and sharing of education. Computer technology has changed the mode of education, and various colleges and universities are realizing information-based education through distance education systems.

2. Feasibility Analysis

This chapter provides a specific and comprehensive analysis from a number of perspectives that can lead to a precise conclusion as to whether or not the system has any application value.

2.1 Operational Feasibility

In short, the system does not require high computer skills, a wide range of users, a large audience, easy to start, very conducive to the implementation of distance education.

2.2 Technical Feasibility

The system uses jsp, Javabeen and other technologies. The system adopts B/S structure, which is realized by the user's browser in his own computer, and the query is carried out in the server side of the system. Which eclipse can be cross-platform, can reduce the burden of developers, can improve the speed and efficiency of the operation. servlet is a gateway interface formed using java language, the advantages are security, mobile, very flexible, very durable and so on. The technology can watch and correct the data and eventually form a dynamic web page. javabeen is a reusable formation technology that can be written in java language to be utilized over and over again. It is very usable.

2.3 Economic Feasibility

The administrator of the system is replaced by the teacher user, thus greatly reducing the management cost, secondly, the funding of the system is not high, within the acceptable range, and lastly, the utilization value of the system is high, which can play a role in promoting the new type of information technology education, and improve the imbalance of education in the region.

2.4 Legal Feasibility

The system will only be used for academic exchanges on a smaller scale and will not involve the economic sphere, so there are no disputes such as commercial economics.

Thus, there is no infringement, and the system is not legally viable as it does not cause infringement and some liability consequences.

3. Needs Analysis

3.1 Background Analysis of Needs

Distance learning has always been a controversial form of education. Although it is widespread and fits in well with contemporary information-based education. The disadvantage is that it tests students' self-control and learning initiative. Without the supervision of teachers and the checking of schools, it is still hard to conclude whether students can still be as systematic and well-planned in acquiring knowledge as they are educated in schools. This is also a major problem that distance education needs to overcome, how to interact the emotions of students and teachers, how to make teachers and students interact with knowledge, how to make the teacher's rhythm of the class and student interaction, these are all issues worth thinking about and analyzing.

3.2 Functional Requirements Analysis

The basic functions of distance education need to be available:

The system includes two user roles, teacher and student, with the following features:

3.2.1 Teachers have the following authority functions:

Personal management: personal login registration, login password information modification.

Uploading and management of courseware content, operation of assignment release, and addition, deletion, and modification of assignments: the content of the teaching and related assignments are released to the corresponding columns of the system, and the cut-off point is the possession of the right to operate on them, such as increasing the operation, and so on.

Q&A information management: Respond to the content of student questions.

3.2.2 Students have the following permission functions:

Personal management: personal login registration, login password information modification.

Learning the contents of teaching courseware and the operation of uploading assignments: Students read or download online the

attachments of teaching contents released by the teacher as well as the attachments of assignments.

Q&A information management: You can leave a message on the place where there is a doubt and wait for the teacher to handle it.

Online test: multiple-choice questions are the main part of the test, and students are self-tested. The system comes with a timing function that must be completed within 30 minutes. After completing the test, the system announces the results.

In order to realize these functions, I divided into the following modules:

1. Entitlement module

Different roles have different rights, and in this system, teachers are allowed to act as administrators.

2. Teaching content release and notification module

Since the teacher acts as an administrator, content publishing and notifications are done by the teacher, who uploads, publishes, and assigns homework for the course.

3. Teaching assignment release module

Teachers can upload relevant assignments after the corresponding teaching courseware, and at a later stage when there is too much content, teachers have the right to delete and modify them. At the same time, students can also search for assignments through the search related assignments function at a later stage, so as to complete the assignments.

4. Teaching test module

This module is mainly responsible for managing the registration of test paper information as well as the teacher's management of test paper information, adding, deleting and changing operations on test papers.

5. Question and Answer Module

This is also a module for relative interaction between teachers and students, where students can ask questions to the teacher as in traditional education, and the teacher can answer students' questions and exchange opinions in a non-real-time manner when logged into the system.

3.3 Security Requirements

The system is open, so firewalls are needed to prevent viruses and hackers, and to prevent malicious attacks of a human nature, with the teacher acting as an administrator, reducing the risk of the administrator's role to some extent.

4. System Design

4.1 General Design

The system adopts jsp to realize static html and dynamic html, presenting the webpage with html language; the service side uses servlet to realize the user's demand and the user's interaction. Through the above technology and function module subdivision, as well as the connection with reality, the B/S structure of mainstream status is adopted to complete the overall design of the system.

4.2 System Functional Architecture

System Functional Structure Diagram is shown in Figure 1.

5. Distance Education System Implementation

A schematic of the login screen is shown in Figure 2.

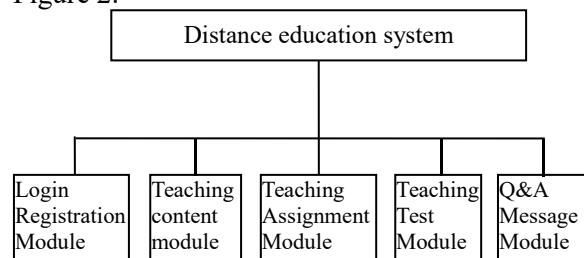


Figure 1. System Functional Structure Diagram



Figure2. System Home Screen

6. Conclusion

This paper is based on the business requirements of the distance education system, combined with the theory of scientific management, for the distance education system based on jsp. The use of this system can easily realize the educational knowledge information and query, and can timely and accurately provide users with the latest educational data dynamics.

The design of the distance education system is a common design method, object-oriented and modular, analyzing from multiple perspectives, from feasibility analysis, requirements analysis,

overall design, system implementation, according to the user's needs, the detailed division of the system modules, so that the system's business processes are more clear and accurate, the use of the B/S structure, the separation of the system's three layers, so that the system's flexibility and standardization is greatly enhanced. Combined with the Java programming language and Mysql database, a distance learning system based on the Web platform is finally realized.

References

- [1] Liu Hongxing, Xie Yushan. Eclipse development platform and its application[J]. Journal of Wuhan University of Technology, 2005, 4(2): 27.
- [2] South. Eclipse-based embedded integrated development environment [D]. Xi'an: Xi'an University of Electronic Science and Technology, 2009: 124.
- [3] Xie Wenge, Zhi Yanqiang et al. JDK Installation and Configuration of Java Development Environment under Windows[J]. Popular Science and Technology, 2011, 8(2): 19.
- [4] Bian Qinggang, Pan Donghua. Tomcat and Apache Integration to Support JSP Technology[J]. Computer Application Research, 2010, 9(6): 12.
- [5] Akgiray et al. An effective way to do network marketing [J]. UNIONS., 2009(9): 84-95.
- [6] Loped. Discuss online book sales website design and implementation [J]. J union expo, 2010(11): 18-21