Design and Research of Web-Based Assistant Teaching System

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ABSTRACT

Web-based assistant teaching system is a virtual teaching environment built by the use of computer and network technology. It completes the system with the uses of B/S three-tier architecture, ASP.NET technology and SQL Server as its background database. Base on requirements analysis in network teaching of Cangzhou medical college, it designs the access control of the system with the user-task-role ideology. The system functions into administrator space, teacher space, student space, and teaching interactive space. This paper states the functions in detail.

Keywords: Network Technology, User-Task-Role, Virtual Environment, Virtual Teaching Environment, Web, Web-Based Assistant Teaching System

1. THE RESEARCH BACKGROUND AND MEANING

With the rapid development of computer network technology, the traditional teaching mode can not meet the demand of current education. As a new teaching method, Web-based assistant teaching system fully combined with computer technology, network technology. It makes easier for students to play to their initiative and creativity in learning (Severance, 2007). Changing the traditional teaching mode, it promotes students’ active learning capability. Web-based education provides real effective realization way for personalized teaching. It is help for global-resources-sharing in education. And it helps to eliminate the diaphragm between teachers and students, and they can communicate each other in time (Yang, 2010).

At present, universities in china have been concerned about the application and research of web-based assistant system (Huanjun, 2011).

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There are two kinds of the system: direct use of the existing large system, or independent to develop the system. But most of the auxiliary teaching system has all kinds of defects. For example, it is not accord with the teaching process, some interface not friendly to the operation for the teachers and students. Some function is simple, can’t satisfy the need in teaching.

So, it has important significance for us to create a suitable web-based assistant teaching system, it can satisfy the need of teaching, have more function, the interface is simple, easy to operate, safe and reliable.

2. THE SYSTEM’S DESIGN GOAL

According to the construction requirements, the system construction goal is as follows.

1. Curriculum construction is the most important function. Course-product, maintenance and update as its routine work, the system should have convenient interaction interface for teachers and students. It has friendly and simple interface, good development and compatibility. And it can use in each subject.
2. The system should also support the existing campus web-based assistant teaching system. And it can Work with the other network system configuration cooperation, full use of the present teaching resources, improve the utilization rate of resources.
3. To provide tools for teachers and students to create a relaxed, happy teaching and learning environment.

3. SYSTEM STRUCTURE

The system based on B/S structure, it is composed of the user management layer, application service layer and the database resource layer.

The system uses the ASP.NET technology to develop script, using SQL Server based on database applications, using ASF streaming media technology to image and sound processing. Based on the user-task-role access control strategy, the system is divided into administrators, teachers, students and ordinary visitors as a variety of identity of the role.

4. SYSTEM FUNCTION MODULE

4.1. Administrator Space

Administrator manages the whole system. His works include user management, network curriculum management, system curriculum resources construction and teaching interaction management, etc.

1. User Management: The administrator can add, delete, query and alter all the basic information of the user. Administrators can also restrict illegal user entrance, in order to ensure the security of the system. Role management and casting is also administrator’s work.
2. Curriculum Management: Course approval, curriculum audit, curriculum release all work by administrator. Before the Development of a course, the teacher put forward to apply. Not allow teachers cannot make course. Complete a course, the teacher give it to administrator, after audit, the course release.
3. Resource Management: Administrator unified management system in a large number of teaching resources, such as course material database, examination database, course material resource, courseware resources, cases, questionnaire single, software resources, etc.
4. News Management: Class notification, course introduction, operation instructions information released to the web site. So that teachers and students can learn the basic dynamic web site. Administrators can also add, modify, and update news in time.
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