
《C语言程序设计》课程自测系统的设计与实现

摘要:目前,高校的教学环节中,大多采用传统的面授模式,随着计算机网络技术的逐渐发展,课程自测系统已经被越来越多的高校所接受,其中,“C语言程序设计”课程是理工科学校学生的必修课,每年学校都会有相应科目的期中考试,会投入巨大的人力物力财力,很多学生需要练习来提高考试成绩,因此,如何提高学生的考试成绩以及对学生的考试情况进行科学有效的管理已经成为了各大高校要面临的重要的问题。

本系统包括三类角色:系统管理员、教师、学生。不同的角色有着不同的功能,管理员主要实现对教师、学生进行用户信息管理,添加学生信息、课程信息,进行题库和试卷管理的以及班级管理功能。教师主要实现手动组卷、自动组卷,对题库进行管理以及对学 生答题之后的试卷成绩管理的功能。学生主要实现在线考试,查看错题,题库练习的功能。

课程自测系统的开发是基于B/S结构的,也就是通过浏览器来访问服务器的,开发过程利用MVC开发模式,层次分明。成功实现了该系统,采用java程序设计语言以及mysql数据库进行开发。课程自测系统使用了Spring技术,是一个轻量式、侵入式的框架,还使用了SpringMVC框架,使用了数据库连接技术,MyBatis是一个开放源代码的框架,是基于java的集成了定制化SQL、存储过程以及高级映射的持久层框架,它具有较强的灵活性、简单性、可维护性等特点。

关键词: 自测; 学生; 管理系统

The Design and Implementation of the Self-Test System of “C Language Programming”

Abstract: At present, most of the teaching links in colleges and universities adopt the traditional face-to-face mode. With the gradual development of computer network technology, the course self-test system has been accepted by more and more colleges. Among them, the "C language programming" course is a required course for students of science and engineering schools. Each year the school will have a mid-term exam in the corresponding subject, and will invest huge human, material and financial resources. Many students need to practice to improve the test scores. Therefore, how to improve the student's test scores and scientific effective management of the students' examinations has become an important issue facing all major universities.

The system includes three types of roles: system administrator, teacher, and student. Different roles have different functions. The administrator mainly implements user information management for teachers and students, adds student information and course information, and manages the question bank and test papers and class management functions. The teacher mainly realizes the functions of manual test paper and automatic test paper, the management of the question bank and the management of the test paper results after the students answer the questions. Students mainly realize the functions of online exam, view wrong questions, and practice questions.

The development of the course self-test system is based on the B/S structure, that is, the server is accessed through the browser, and the development process uses the MVC development model with a clear hierarchy. The system was successfully implemented and developed using Java programming language and MySQL database. The course self-test system uses Spring technology, which is a lightweight and intrusive framework. It also uses the SpringMVC framework and database connection technology. MyBatis is an open source framework that is based on Java and integrates customized SQL. Stored procedures and high-level mapping persistence layer framework, it has strong flexibility, simplicity, maintainability and other characteristics.

Key words: Self-test; Student; Management System

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