2020 International Conference on Intelligent Computing and Human-Computer Interaction (ICHCI) | 978-1-6654-2316-8/20/$31.00 ©2020 IEEE | DOI: 10.1109/ICHCI51889.2020.00019

Educational Management System

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***Abstract*—With the development of university education, the demand for educational affairs is increasing, and university management has received more and more attention. It is urgent to improve the efficiency of managing universities. Educational Management Information System is a system designed for managing teaching affairs. This system turns the manual work management mode into a system management mode. This method not only saves time, but also improves the quality of teaching. The programming language used in the system is C#, the development environment is Visual Studio 2017, and the using database is SQL Server2012 database.**

Keywords: Educational Administration ;C#;SQL Server

I. INTRODUCTION

Today's society is an information age, and the development of higher education is inseparable from information technology like the development of many industries. The use of information technology to manage the educational affairs of colleges and universities not only conforms to the mainstream of the current information age, but also saves managers' time and energy. In addition, traditional teaching methods put faculty and teachers under tremendous work pressure, wasting unnecessary time and energy in educational administration (for example, teachers must manually calculate student scores, and then publish a paper list in the class). Therefore, how to make educational administration management efficient has become a hot topic. If there is a system that allows administrators to directly process various educational affairs in the system and put them in the system for students to view, for example, administrators can directly put school-related information in the system, and students can log in to the system to view the results, then This system can not only improve the quality of educational administration management, but also enable college management to enter the information age. It can be seen that the educational administration management system has a bright future.[1-12]

A. Project Overview

This system is called educational administration management information system. The administrator with the highest authority can operate the whole system. Administrator role under the modules are personal information maintenance module(User can modify their own information, including login information changes, modify the password), the user management(This module can manage teacher and student accounts, such as retrieve student passwords, modify the nature of student accounts, add teacher accounts), course management module, the teacher management module, student management module as well as department management module, teaching evaluation management module, class management module, course selection management, examination management, and score entry. Teachers can realize personal information maintenance, teaching evaluation query, grade entry, course selection status query;students can maintain personal information, online course selection, class schedule query, personal score query, course query, teaching evaluation. The teaching quality evaluation module of this system is a new highlight. In this module, students can give teacher evaluation "excellent", "good" "moderate" or "poor" four levels of scoring. The score of this level will be added to the teaching quality management table, and the evaluation of each student will be added to the corresponding field in the table, and finally the percentage will be calculated. This percentage is the teacher's evaluation result. [12-20].

978-1-6654-2316-8/20/$31.00 ©2020 IEEE
DOI 10.1109/ICHCI51889.2020.00019

II. Introduction of Development Tools and Feasibility Analysis

A. Compiler Environment and Database introduction

Microsoft Visual Studio is the full name of VS. VS is a series of development kits of Microsoft Corporation. VS is a basically complete set of development tools, which includes most of the tools needed in the entire software life cycle, such as UML tools, code control tools, integrated development environment (IDE), and so on.

SQL Server is a relational database management system launched by Microsoft. It has the advantages of convenient use, good scalability and high degree of integration with related software. Microsoft SQL Server uses integrated business intelligence (BI) tools to provide enterprise-level data management. The Microsoft SQL Server database engine provides more secure and reliable storage functions for relational data and structured data, allowing users to build and manage highly available and high-performance data applications for business.

B. Feasibility Analysis and Economic feasibility

This system is very simple and practical, only need to install Visual Studio 2017, Users directly choose their own roles to log in to the system (such as students or teachers), SQL Server 2012 database is also the most economical and easy to use among many databases, which is the main reason why this system adopts it.

C. Operation feasibility

This system user is targeted at college students, its operation is very simple, click the button set in the first interface of the system to choose the way of login, no matter which user as long as the database has this user information, you can log in to use. After logging in, the options are clear at a glance. For example, the content of the student login interface is to query personal information, teaching quality evaluation and examination query, etc.

III. System Analysis

A. Business process analysis

The main functions of the system are: user login, teaching evaluation module, class management module, course selection management module, examination management module and score entry module.

1) Business process Analysis of login module (Administrator)

The business process of the login module is as follows: the user or administrator chooses to log in, enters the user name and password, and then logs into the system through authentication. Because the business flow chart of the login plate is too simple, it is omitted here.

2) Business process Analysis of teaching Evaluation Module (Administrator)

The administrator can check the teaching evaluation of the teacher by the students after login and verification. The administrator can only check the evaluation here and cannot do any operation on the teaching evaluation.

3) Business process Analysis of class Management module (Administrator)

Administrator after authenticated, login to the system, if the new report, the new class, if there is a class have graduated, then you want to delete the class, the class selected, click the delete button, if the wrong is to modify the class information, class information, of course, the administrator can also see the class information.

4) Business process Analysis of course Selection Management module (Administrator)

The administrator can check the students' course selection, and add, delete, modify and query the students' course selection, which is generally a query. After entering the module, the administrator can click to query all the course selection, and can also click on the keyword search.

5) Business process Analysis of exam management module (Administrator)

This part is mainly arranged by the administrator. It mainly arranges which class and which course will start and close time of the exam location. After entering the module, the administrator will select the class, the course, the opening time, and the closing time. Location, click Save to add.

6) Business process analysis of score entry module (Administrator)

Administrators can submit up to the teacher's performance data query, modify, add, delete, and so on, in here, the administrator permissions is the highest, the administrator in achievements recorded the first class, second choose course, then you can retrieve all the students to the current class of the current curriculum, can adjust their grades for error correction.

B. User demand analysis

1) Functional requirements

According to user requirements, the system has three levels of identity, namely, the administrator with the highest administrative authority, the teacher with the second-level administrative authority and the student without administrative authority. The administrator can operate the whole system and has the highest authority. He can manage the system personnel (teachers and students), college courses and exams, etc.

2) System interface requirements

The interface must be concise and clear, showing the specific functions of the project. The administrator successfully enters the system and displays the administrator interface. There are 10 modules under the administrator, and each module has a drop-down box. In the drop-down menu, you can add, delete, modify, and query information according to the current module;

IV. System analysis

A. Overall system design

The function of the educational administration management system is that the system administrator fully

manages the educational administration management through the database. The administrator has 10 functional modules. Teachers have 4 functional modules, including student score input, information query and personal information maintenance. Students can check their personal grades, check course schedules, teaching evaluations, maintain personal information, etc. The following is the flowchart:

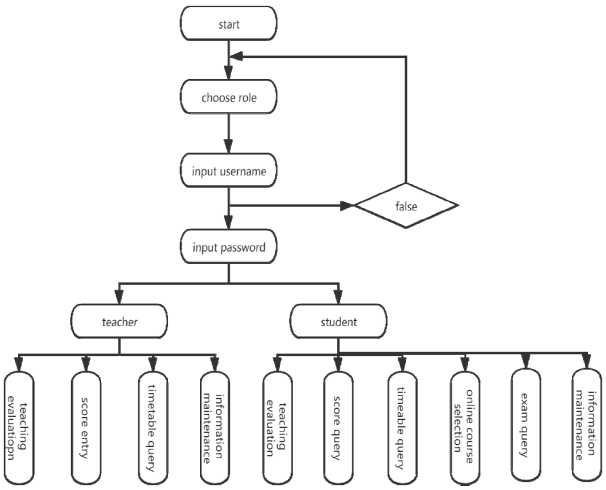

Figure 1. System flow chart

B. Database design

According to users' needs, the database needs to design 10 tables: Teacher table, Student table, TeachingAssessment table, Exam table, Class table, User table, Electivecourse table, Course table and Score table, Faculity table.The user name and password for the administrator login are set, not stored in the database, but kept in the code. The advantage of this is that no matter where the source code is obtained, or when someone drives our code, it is used He can log in to the system for any database, and the administrator can perform corresponding operations on each table in the database through the interface, and the corresponding database will receive the result of this operation.

1) ER figure

Overall ER diagram:

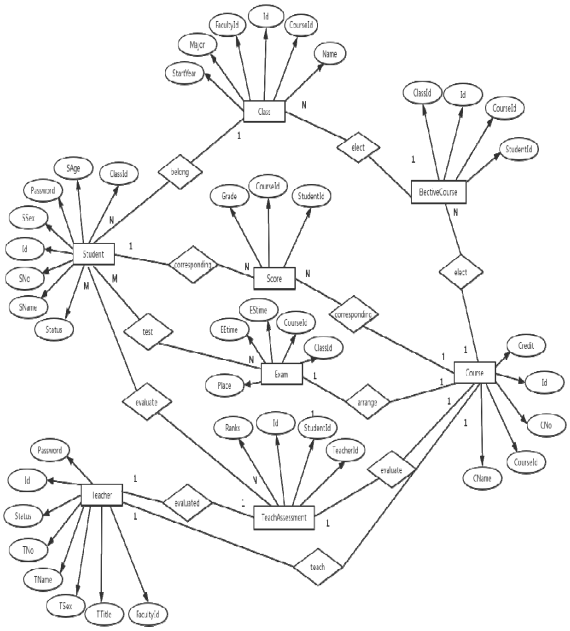

Figure 2. Overall er graph

V. SYSTEM TEST AND RUN

A. Module Testing

1) Test plan

This system adopts the method of module test, according to the internal logic of the program to test, test whether the connection between the logic can be carried out normally.

2) The testing process

When testing the system, by constantly logging in and out, walking between the modules, and entering each module to operate various functions, observe whether the logic is implemented, and whether the call of each module in the test process will appear the phenomenon of program interruption.

3) The test results

The test results show that each module can be used normally, each module can successfully call other modules, and other modules can also be called by related modules. Internal logical relationships can also be implemented.

B. The system test

1) Test plan

System test, that is, through the method of system test to see whether the function of the program you write can be realized, the program can normally receive user input data, this test is mainly for the system interface and function of the test.

2) The testing process

The focus of the system test is to verify that each function can be used as required by the requirements document and test whether the records of the SQL Server database tables are synchronized with the program. Therefore, during the test, login administrator, teacher and student respectively, and switch back and forth to check whether the function of

interface switch is realized, so as to detect whether each function of each user is really realized.

3) The test results

The test results show that the system can realize each module of each user, and all meet the design requirements, and the records generated in the database also meet the requirements of documents.

VI. CONCLUSIONS

The educational administration management system developed by us has played an irreplaceable role in both the management of students and the arrangement of daily educational administration. The educational administration management system developed this time has been put into use and we have seen more obvious effects, and the user experience is good. Ability to deal with daily affairs is relatively strong.

ACKNOWLEDGMENT

This job is supported by the National key R&D Program of China under Grant NO.2018YFB0203901 and the Key Research and Development Program of Shaanxi Province(No.2018ZDXM-GY-036) and Shaanxi Key Laboratory of Intelligent Processing for Big Energy Data(No.IPBED7).

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