Poor University Students Management System Based on Web

Tuo Zhou1*, Defang Liu2
1 College of Information Engineering, Fuyang Normal University, Fuyang, China
2 School of Computer and Information Engineering, Fuyang Normal University, Fuyang, China
*Corresponding author’s e-mail: 200911003@fynu.edu.cn

Abstract. Combining with the actual work of the poverty aid management in F University, this paper analyzes the work flow of the poverty aid management in University, designs and develops the Poor University Students Management System. The system uses web architecture mode, JSP programming technology and SQL Server database management technology. The system is composed of four modules: system management module, institute management module, class management module and student management module. It realizes the functions of poor students' information collection, poor students' application, students' information query and poverty level audit. It improves the efficiency of poor students' management and realizes the networking, automation and informatization of poor students' management.

1. Introduction

With the popularization of higher education, more and more students with family difficulties have the opportunity to enter the University, and the number of students is also increasing rapidly. In order to make students with family difficulties study at ease, the Chinese government provides special subsidies to poor students. The State Council of the People's Republic of China clearly pointed out in the document [2007] No. 13: In order to truly solve the academic problems of poor students from families in regular universities, the State Council decided to establish and improve the subsidy policy system for poor students from families in regular universities.

The management of poor students' information is an important work of school students' management. At present, most of the poor students' information management is based on the traditional paper media management, because there are a lot of proof materials that need to be sealed by the local government. With the accumulation of time and the expansion of enrollment scale, it is more and more difficult to manage these increasingly huge information of poor students, even the accuracy and integrity of paper data are difficult to guarantee. Although the materials stored in paper are not easy to be altered and read, the paper information transmission is not convenient, difficult to share, difficult to retrieve, and with the passage of time, the cost is getting higher and higher. In addition, the paper is also difficult to store multimedia information such as animation and sound. Obviously, the original information management method of poor students has not adapted to the development of the times.

We can see the shortcomings of the traditional way of saving information, it not only wastes a lot of resources, but also is not conducive to the improvement of work efficiency. At present, some schools begin to use computers to manage data materials, but this is mainly based on the management and query of a single computer, which is in the charge of the management and operation personnel. Although this is also based on the use of computers to manage data, compared with the previous paper
management, it has made obvious progress, it still has shortcomings: low efficiency, data sharing, security and integrity can not be guaranteed, and often accompanied by a higher error rate, which wastes a lot of talents and financial resources to maintain a single computer system.

In order to solve the above problems, this topic through the design of "University Poor Student Management System" to achieve the unified management of poor students' information, improve the efficiency of information management and data sharing performance.

2. System Demand Analysis
The identification of poor students in colleges and universities is an important part of the funding work for poor students in colleges and universities. The identification of poor students in colleges and universities is a necessary condition to ensure the implementation of many policies such as national inspirational scholarships, student loans, grants, subsidies for difficulties and tuition fee remission. The identification of poor students in colleges and universities mainly includes the identification of poor students and the identification of poverty level. According to the opinions of the State Council on Establishing and Improving the Financial Aid Policy System for Students From Poor Families in Higher Vocational Schools and Secondary Vocational Schools, the general process of identifying poor students in colleges and universities is as follows: Poor students issue poverty certificate from their own civil affairs department; students fill in The Application Form for Identifying Students From Poor Families in Colleges and Universities and The Application Form Questionnaire on Students and Families in Colleges and Universities; class evaluation team composed of counselors hold democratic appraisal to confirm students' difficulty degree and publicize it in class for one week; working group of secondary college (Department) identification verifies it and publicize it in college for one week; assessment team of student aid leaders organized by Student Department reviews and finally determines the identity and difficulty level of poor students, and make it public at school for a week. In the process of identifying poor students, the relevant data of poor students are as follows: ID number, gender, registered residence, birth date, nationality, name, political affiliation, and basic information of household economy: household registration status, population size, children's condition, wage level, etc. The above data will become the basic basis for the poor students to evaluate their self-help scholarships, grants, student loans, difficulties subsidies and tuition fee relief.

Taking F University as an example, according to the investigation and research, the management system should have the following function modules.

(1) System Management Module: Also known as the School Management Module, this module is used at the school level (Student Department). All the information in the system is managed by the system administrator, including system maintenance, Institute management, user management, ultimate audit of poor students, etc.

(2) Institute Management Module: It is used for the management and audit of students' information. If the students' information and poverty level information are incorrect, they will be returned to the students themselves, and the students will modify them; if the students' information is correct and meets the conditions, they will be submitted to the school for audit.

(3) Class Management Module: Also known as the Counselor Management Module, The module is used for counselors to manage the class students' information and audit the poor students' application.

(4) Student Management Module: For students to edit their own information and submit student applications. Students enter their own information after landing. Students login to their ID number as user name, and log in to improve their information. Then submit it to their class for review, and the submitted information can be modified before review. After verification, unless students apply for redemption, they can not modify their own information.

3. System Design
The system is a complex system, mainly including user login module, student management module, class management module, secondary college management module and system management module. The overall design of the system is shown in Figure 1.
3.1. User Login Module
The user login module is used for different types of users to enter different modules: student users enter the student management module, counselor users enter the class management module, college administrators enter the college management module, and system administrators enter the system management module.

3.2. Student Management Module
(1) Personal Information Management
Students’ information is divided into two kinds, one is the information that students can modify by themselves, such as home address, postal code, telephone number, etc., and the other is not allowed to modify the information, such as name, gender, ID Card number. This module is mainly used for students to manage personal information.

![Figure 1 Overall Design of the System](image)

When the student information module is registered, the system will first query the student ID number. If the personal information is in the database, it will query the database and display the student's personal information. If there is no relevant student information, it will return to the student login interface. After entering the system, students can manage some of their own information, including adding, modifying, deleting, and querying, etc. When students modify personal information, the management system should check the security and integrity of the data entered by students. If the
data is legal, it will be saved to the database. If the data is illegal, it will prompt the reason for the illegal, and return to the "student information" modification interface; when the data submitted by the students is saved successfully, the system will prompt that the operation is successful, and return to the main interface of the student information management module. The student information module includes student personal information management, family communication information, family member information, civil affairs department information, operator information, etc.

(2) Poverty Application

When the students input their basic information, family communication information, family member information, civil affairs department information and other information, they can choose the corresponding level to apply according to the difficulty level identified by the class. The premise of poverty application is to improve the information. The poverty Application module includes student application, class identification and college identification, as shown in Figure 2.

![Figure 2 Poverty Application](image)

The application of difficulty level is checked step by step. Only when the students' basic information and the difficulty level applied are correct can they apply step by step, and finally pass the identification of the school. If there is any error, you can terminate the application at the current level, return it to the students themselves, and let them modify it. When the information is correct, you can ask them to re apply. Of course, in order to reduce the work of students, when the class or college has the exact information of students, after checking, the class or college can directly modify the basic information of students, including the difficulty level.

(3) Information Redemption

Before the college submits the information to the school, the students find that the submitted information or difficulty level is wrong, they can apply to the higher level for redemption information and reedit it. After the students redeem the information, they can edit the entered information (including deletion and modification), and they can also add new information. The function of application redemption module is that after the class (counselor) and secondary college (department) audit, before the school audit the student's application, the student needs to modify the information due to personal reasons, including information error, incorrect difficulty level and other reasons. At this time, they can apply to the higher level to redeem their own information. Note that the student's personal application information can be directly modified before it is reviewed, and there is no need to apply for redemption.

3.3. Class Management Module

Class Management Module is also called Counselor Management Module. Counselors need to use the class account to log in to the class system. After entering the system, they need to maintain the basic information of the class and review the application of poor students. There are two kinds of audit
results: one is that the counselor has passed the audit; the other is that if the application fails to pass the audit, the application will be returned and the prompt information will be given, and the students will apply again according to the prompt information. When the student's basic information is complete and the difficulty level applied for is correct, the student's information can be marked as approved, otherwise it will be returned. When the student information is approved, the student information can be submitted to the Secondary College (Department) for approval. The application for redemption function is after the college has reviewed the reported information, and before the school's review. If the class (counselor) finds that the data submitted is incorrect, it can redeem the data. As shown in Figure 3 is the class management module, which mainly includes class information management, information query, difficulty level audit, submission of information, application for redemption and other sub modules.

Figure 3 Class Management Module

3.4. Institute Management Module
The main function of the institute management module is to maintain all the information of the institute. It not only includes the basic functions of the class, but also reviews the information submitted by the class. Institute management module includes institute information management, information query, class difficulty application review, submitting college information and class basic information maintenance, as shown in Figure 4.
3.5. System Management Module

In addition to the functions of the institute management module, the system management module also needs to confirm the information submitted by each college and maintain the basic information of each class in each college. The system management module includes school information management, information query, college difficulty application audit, college basic information maintenance and other sub modules, as shown in Figure 5.

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**Figure 4 Institute Management Module**

**Figure 5 System Management Module**
4. System Implementation
The Poor University Students Management System adopts the web architecture mode, and is developed by using JSP programming technology and SQL Server database management technology. In terms of function, it realizes the functions of student information collection, application, information query, student management, difficulty level audit, class management, institute management and school management. In terms of process, it reasonably analyzes the work process of poverty aid management according to the actual situation of poverty aid management. Taking the process of poverty-stricken student aid management as the main clue, we should make rational use of existing resources and closely combine various functions with the process. To realize the unified management of the poor students' information, improve the efficiency of information management and data sharing performance, reduce the actual cost and data repetition rate, make the poor students' managers, counselors and leaders of various colleges understand the specific situation and funding situation of each poor student as a whole, so as to make the difficult financial aid work more fair and equal, and realize the network and integration of the poor students' financial aid management Automation and informatization.

5. Summary
The poverty aid management system realizes the "one application and three check" of students, counselors, institute administrators and system administrators, that is, students' application, counselors' first level audit, institute's second level audit and school's final audit. It not only reduces the workload of poverty aid management personnel, greatly improves the work efficiency of management personnel, but also further standardizes the information management of poverty-stricken students It improves the management level of student work and provides powerful help for the information construction of colleges and universities.

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