CHAPTER 1
INTRODUCTION

Background of the Study

An academic institution like Mary the Queen College (Pampanga), Inc. (MQCPI) is one of the many companies that experiences duplication of data and that needs of data sharing from one office to another, especially in the Admission Office, Registrar's Office and Finance Office.

Certain inconveniences are being experienced in the Admission Office during the enrollment period such as unorganized filing of the applicants' records, difficulties in monitoring student requirements, inaccurate computation of students' examination results, and unreliable reports generated due to inaccurate results.

The Finance Office is responsible for computing, processing and monitoring the students' financial balances and obligations. The Finance Office personnel are also experiencing problems during the enrollment period such as manual computation of student assessments, manual preparation of Official Receipts, manual tallying of total number of enrolled students and total number of registered students, and delayed reports due to inaccurate computation of total collections.

Student academic records such as enlisted subjects, registration forms, schedules and grades are being managed at the Registrar's Office. Oftentimes, the Registrar's Office is having difficulties managing its records. The evaluation forms and registration forms often get lost due to unsystematic filing. Furthermore, schedules and conflicts are very hard to resolve, preparing the students' Transcript of Records takes too much time, enrollment statistics are inaccurate due to manual counting of enrollment records.

In lieu of these, the researcher has developed a Centralized Information System for Mary the Queen College (Pampanga), Inc. (CIS-MQCPI). The centralized data processing will bring efficiency in the enrollment process of the Admission, Registrar and Finance Office of MQCPI.

General Objective

The general objective of the study was to develop a Centralized Information System for Mary the Queen College (Pampanga), Inc.

The following are the specific objectives and modules of the CIS-MQCPI:

1. To develop an admission module that would:
    a. Manage and monitor applicants' records (personal information and academic requirements).
    b. Manage students' scholarship applications.
    c. Generate inventory reports such as:
        i. Total number of applicants.
        ii. Total number of applicants per program.
2. To design a registration module that would:
    a. Manage subjects and curricula.
    b. Manage schedules and faculty subject loading.
    c. Enlist and enroll students.
    d. Manage students' academic records.
    e. Generate reports such as:
        i. Subject Schedules
        ii. Class Lists
        iii. Total number of enrolled and enlisted students per program.
        iv. Registration Forms

v. Transcript of Records

3. To develop a billing module that would:
    a. Assess students' tuition fees.
    b. Manage and monitor students' financial records and obligations.
    c. Manage students' promissory note applications.
    d. Process student payments such as:
        i. Tuition Fee
        ii. Promissory Note
        iii. Other Payments
    e. Generate reports such as:
        i. Total Collections
        ii. Assessment Forms
        iii. Statement of Account
4. To develop a grading module for the faculty to record the students' grades (Preliminary, Midterm and Final Periods)
5. To provide a human resource module that would manage employees' personal profile.
6. To design an administrator module that would manage user accounts, user restrictions and database back-ups.
7. The system will be evaluated in terms of Functionality, Usability, Reliability, Performance, Supportability and Maintainability.

Scope and Delimitation

The study focused on bringing together the different offices of MQCPI that are affected during the enrollment process into a single system to ensure that the offices will function as one to provide quality enrollment procedures.

The centralized information system focused and integrated information systems for the Admission, Registrar and Finance Office of MQCPI; the study also focused on the activities and tasks of the aforementioned offices during the enrollment period.

System evaluation was conducted to ensure the efficiency of the system before implementation; the respective personnel and selected students were issued evaluation forms to rate the system's performance.

The study did not include the Income Statement, Statement of Retained Earnings, Balance Sheet, Trial Balance, Statement of Owners' Equity, Statement of Cash Flows, and Bank Reconciliation Statement of the Accounting Office.

The network layout and configuration of the system integrations was not included in the study.

The grading module did not cover the grading system of the school.

The human resource module did not cover the attendance monitoring and payroll process of the institution.

The study is also limited to desktop application and did not include web application modules and functionalities.

Significance of the study

Locale. The study aimed to help MQCPI to maximize its resources and provide a cost-effective centralized information system that will speed up the process of the enrollment system of the school.

Admission Office. The study was developed to aid the Admission Office in handling the applicants' information efficiently during the enrollment period.

Registrar's Office. The study assisted the Registrar's Office by providing organized records and conveniently processed student credentials.

Finance Office. The study was designed to help the Finance Office by providing an error-free assessment of students' tuition fees and school related payments. Students' financial obligations such as unpaid tuition fees and promissory notes would be monitored efficiently.

Students. The study would minimize the inconveniences being encountered by the students during the enrollment period.

Future Researchers. The study would serve the future researchers as a reference in conducting any related study.

CHAPTER 2
THEORETICAL FRAMEWORK

The review of related studies familiarizes the readers with the points of agreement and disagreement among the previous studies, as well as with the relevance of each to the present study. It served as a guide to the researcher in the formulation of the topic and suggests strategies for making operational the independent and dependent variables considered in the study.

Review of Related Literatures

H. L. Capron and D. Perron (1993) stated that client-server is one of the two models for organizing resources of a Local Area Network (LAN). A client-server involves a server, which is actually a dedicated computer that controls all the programs and the peripherals in a network and offers access to all PCs or workstations that have a client program.

An article entitled "What is System Integration" discussed that System Integration is the process of bringing two or more systems; each specialized in their field, into one system that harnesses the power of its parts. Examples of this would be a Client Relation Manager (CRM) and a Document Management System (DMS). The company focused on performance and quality, and valued the strengths in each system but found it counterintuitive to duplicate data between the two systems. Using System Integration, the company could bring the power of the DMS into the CRM.

As stated in the Britannica website, an information system is an integrated set of components for collecting, storing, and processing data and for delivering information, knowledge, and digital products. Business firms and other organizations rely on information systems to carry out and manage their operations, interact with their customers and suppliers, and compete in the marketplace.

Ralph M. Stair and George W. Reynolds (2001) mentioned that, when an organization needs to use two or more computer systems, one of the three basic processing strategies may be followed: centralized, decentralized or distributed. With centralized processing, all processing occurs in a single location or facility. This approach offers the highest degree of control. As such, centralized processing is useful for a financial institution that requires a high degree of security.

Peter Rob and Carlos Coronel (2000) said that different people in different offices for different reasons use data. Therefore, data management must address the concept of shared data; an organization's managerial structure might be divided into three levels: top, middle, and operational.

Philip J. Pratt and Joseph J. Adamski (2010) stated that the data of various users can be combined and shared among authorized users, allowing all users to access a greater pool of data. Several users can have access to the same piece of data—for example, a customer's address—and still use it in a variety of ways.

The researcher selected the statement of Ralph M. Stair and George W. Reynolds to be the most related among the six related literatures stated.

Review of Related Studies

A conference about systems integration in 1990 by D. R. Khun discussed that systems integration is the practice of joining the functions of a set of subsystems, software or hardware, to result in a single unified system that supports the requirements of an organization.

In 2003, a study by Zaitun Abu Bakar said that businesses today need a global, an open and a distributed computational capability. In other words, the demand is for a large scale, complex and integrated systems.

Kirova D. Vasilka (1995) mentioned that the software have a huge amount of processing capabilities. However, these software applications are like ‘islands of processing systems’ even within an organization and across business boundaries. In order to meet the challenges presented by today’s competitive atmosphere, organizations need the ability to solve problems that cannot be solve on its own.

Richard Heeks discussed that in dealing with information systems, public sector organizations have to cover eight main areas of responsibility: information systems planning, organizational structures and staffing, data management, computing and data management architecture, information systems development, information technology acquisition, training, and technical support. Adopting a centralized approach to these responsibilities can bring efficiency benefits, but requires some severe constraints to be overcome. Adopting a decentralized approach can help spread computing in the organization, but is often wasteful. A ‘core-periphery’ approach to public information systems, combining both central and local action, is therefore recommended as being most effective.

As stated in http://www.atp.nist.gov/eao/sp950-3/accenture.pdf in the early 1990s, the nation’s priorities shifted toward a universal healthcare system. This shift drew the practitioners’ attention to the need to control costs, reduce duplicative testing, transfer medical records easily, and provide quality patient care across a patient’s entire life. Critical elements of a new information infrastructure would include an easily transferable medical record, standardized best-practice care paths, and methods of documenting utilization.

As discussed in Center for Technology in Government (2011), one of the trends that is shaping the nature of intergovernmental relations is the public demand for sensible and cost effective services. Increasingly, members of the public demand

that the government programs make sense, work predictably and efficiently. Citizens expect one-stop, same-day customized services instead of the fragmented, duplicative and lengthy processes.

A study by Yang Tung-Mou mentioned that information sharing and integration has long been considered an important approach for increasing organizational efficiency and performance. With advancements in information and communication technologies, sharing and integrating information across organizations become more attractive and practical to organizations.

Yares Ali Chava Kaufman discussed that information is everywhere and finding the best method to manage it is a problem that all types of organizations have to deal with. Schools use Student Information Systems (SIS) to manage Student Data, Financial Information, Development, Human Resources, Admission, Financial Aid, Enrollment, Scheduling, and Health Information.

The researcher selected the study of Yares Ali Chava Kaufman to be the most related among the eight related studies stated.

Database

Microsoft defined, access is a database tool for gathering and understanding all your information—your phone numbers, inventory, guest lists, whatever you're tracking—and providing a convenient way to enter, navigate, and report out your data. Although the maximum size for a single database file is 2GB, you can work around this limitation by using a split database. A front-end database file can point to thousands of back-end database files, each of which could be as large as 2GB.

SQL Server is a Relational Database Management System (RDBMS) from Microsoft that is designed for the enterprise environment. SQL Server runs on T-SQL

(Transact-SQL), a set of programming extensions from Sybase and Microsoft that adds several features to standard SQL, including transaction control, exception and error handling, row processing, and declared variables. (http://searchsqlserver.techtarget.com/definition/SQL-Server defined)

MySQL is an open source Relational Database Management System. MySQL is a fast, reliable and flexible Database Management System. It provides a very high performance and it is a multi-threaded and multi-user Relational Database Management System. MySQL is one of the most popular Relational Database Management System on the web. The MySQL Database has become the world's most popular open source database, because it is free and available on almost all the platforms. MySQL can run on Unix, Windows, and Mac OS. MySQL is used for the Internet applications as it provides good speed and is very secure. MySQL was developed to manage large volumes of data at a very high speed to overcome the problems of existing solutions. (http://www.roseindia.net/mysql/mysql5/what-is-mysql.shtml)

The researcher used MySQL as the database of the CIS-MQCPI, the advantage of MySQL over the other database management system programs is that it is an open source database management system which makes it free to use.

Programming Language

Visual FoxPro is a relational database with an object-oriented programming environment from Microsoft that comes with prewritten classes. Visual FoxPro is part of Microsoft's Visual Studio suite of products. Visual FoxPro is relatively easy to learn and fast for developing reusable code. A programmer can write code to access a FoxPro database or as well as to connect to such databases as SQL Server and Oracle.

Microsoft says that there are at least 500,000 developers using Visual FoxPro. (http://searchsqlserver.techtarget.com/definition/Visual-FoxPro)

As stated, Visual Basic was one of the first systems that made it practical to write programs for the Windows operating system. This was possible because VB included software tools to automatically create the detailed programming required by Windows. These software tools not only create Windows programs, they also take full advantage of the graphical way that Windows works by letting programmers "draw" their systems with a mouse on the computer. This is why it's called "Visual" Basic. (http://visualbasic.about.com/od/applications/a/whatisvb.htm)

The researcher used Visual Basic 6.0 in developing the CIS-MQCPI, the expertise and proficiency of the researcher in Visual Basic 6.0 gave the researcher the advantage to complete the system.

Conceptual Framework

The conceptual framework illustrates the structure and variables of the existing system. The Input-Process-Output (IPO) model shows the inputs and the processing of the necessary inputs of the current system of Mary the Queen College (Pampanga), Inc. leading to the development of the CIS-MQCPI.

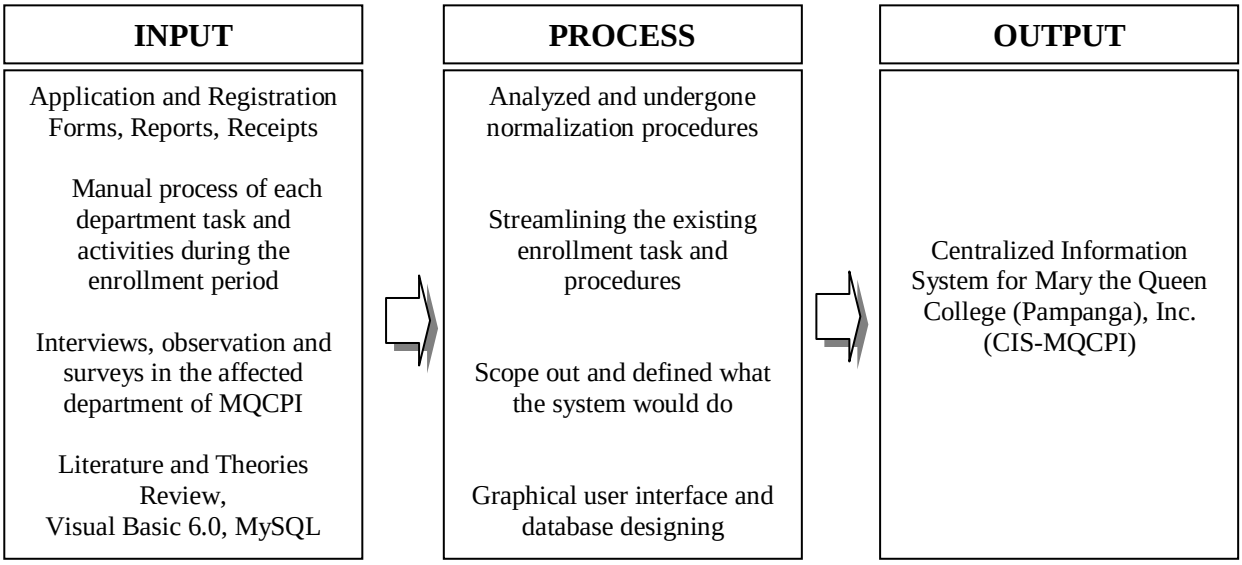

Figure 1.1 Conceptual Framework

Definition of Terms

Database – a program that allows the frontend of the application to store and retrieve data.

Front End – the user interface of the system that interacts to the users.

Decentralized Data Processing – an arrangement comprising a data-processing center for each division or location of a single organization.

Web-Based – an application that is accessed by users over a network such as the Internet or an intranet.

Module – the sub-systems of the CIS-MQCPI.

Network Layout – the layout of cabling, the locations of nodes, and the interconnections between the nodes and the cabling.

Centralized Data Processing – the processing of all the data concerned with a given in a single database.

CHAPTER 3
METHODOLOGY

This chapter deals with the methods of research that have been used, the population, sample size and sampling technique. The descriptions of the respondents and the instruments needed to gather data and statistical treatment of data is also covered in this chapter.

Project Design

Analytical tools are used to assist the researcher in the creation of the model to have an efficient, accurate and fruitful study and to avoid possible errors before coding the program.

Data Flow Diagram

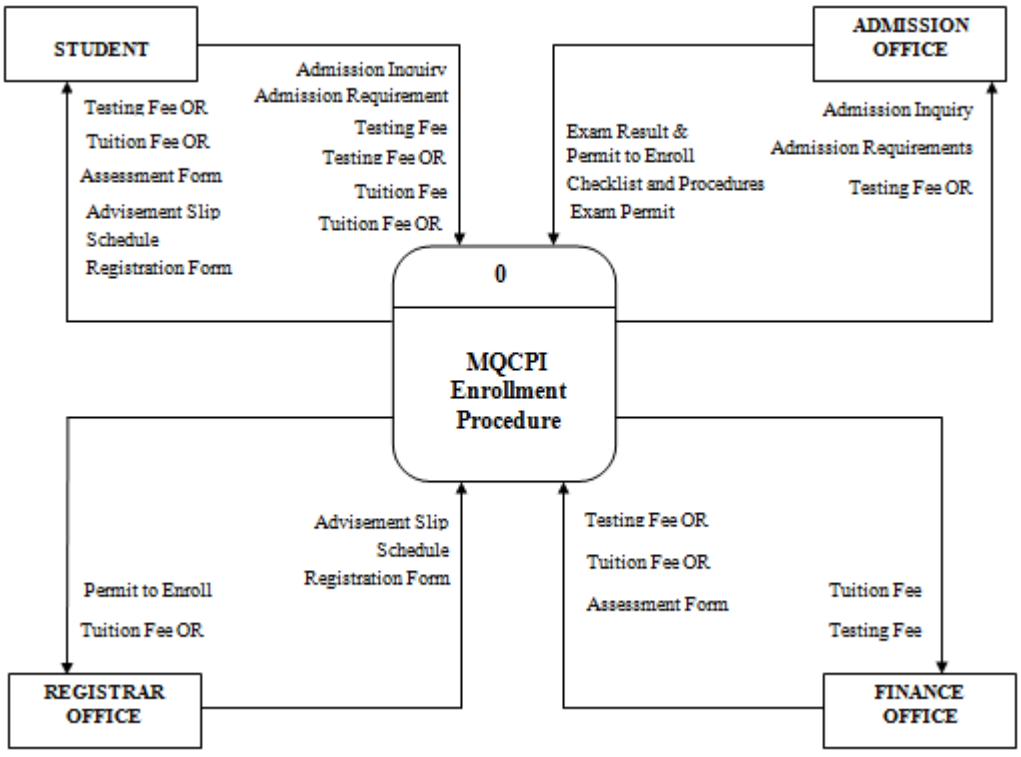

Figure 3.1 Context Data Flow Diagram

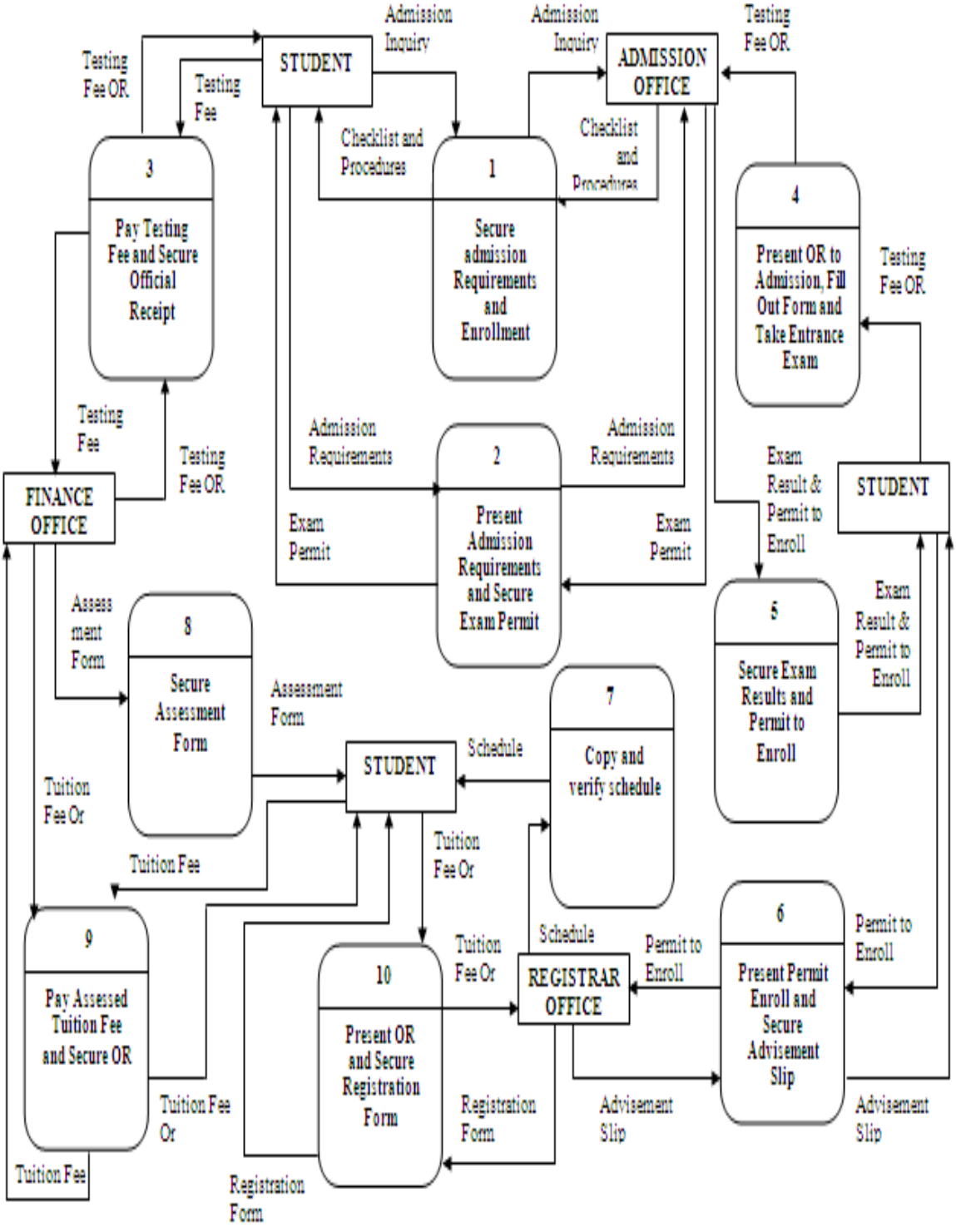

Figure 3.2 Exploded Data Flow Diagram

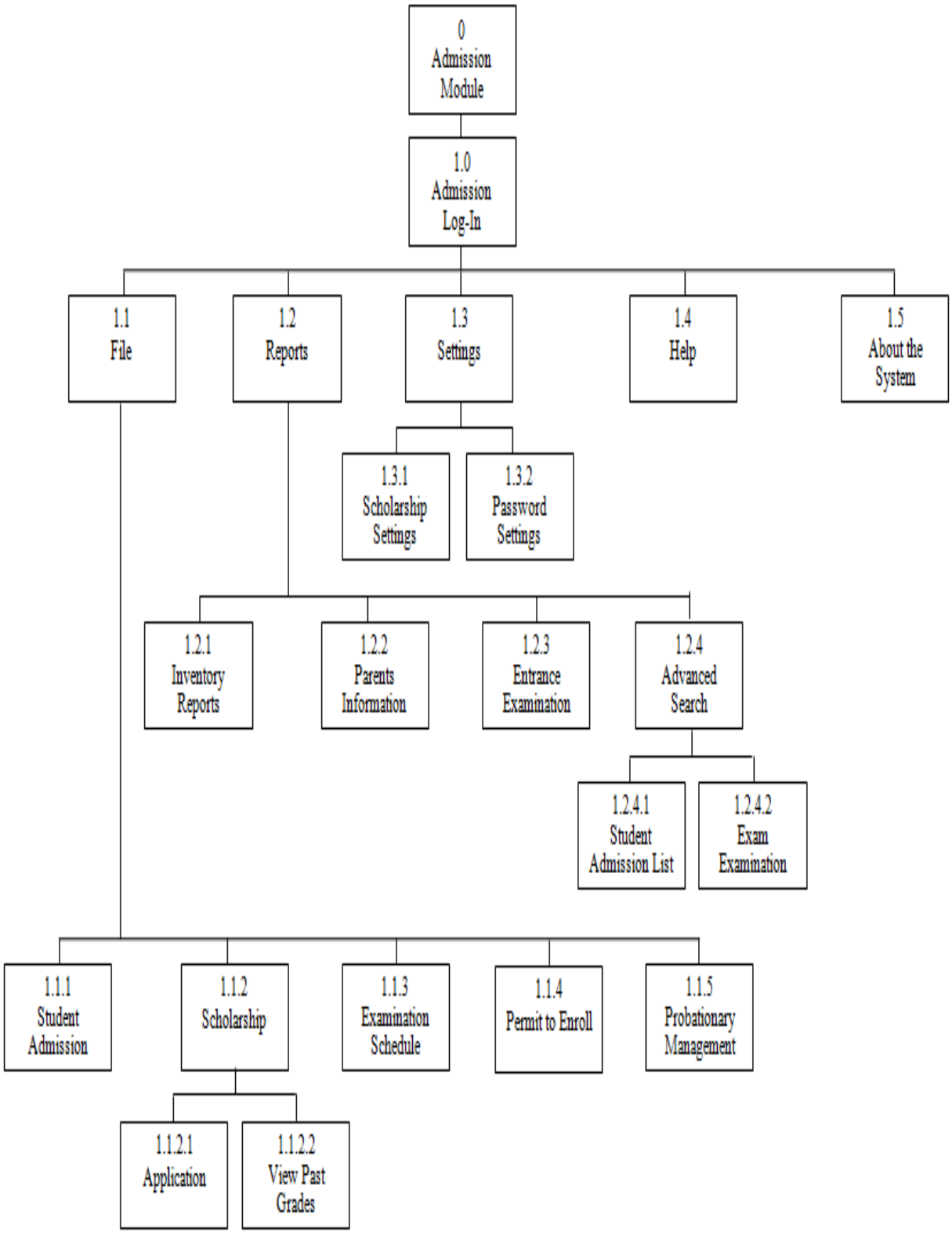

Figure 3.3 HIPO Admission Module

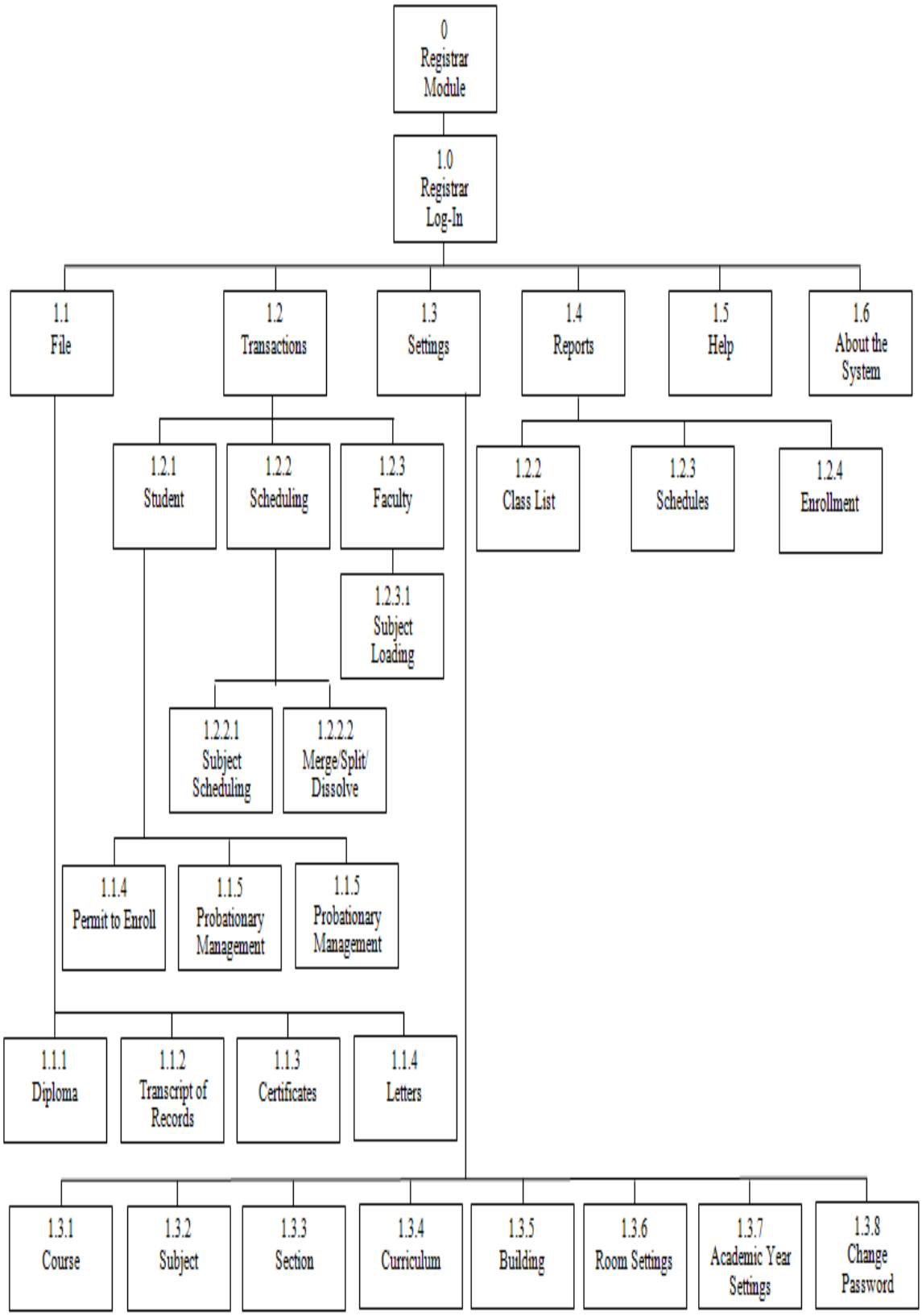

Figure 3.4 HIPO Registration Module

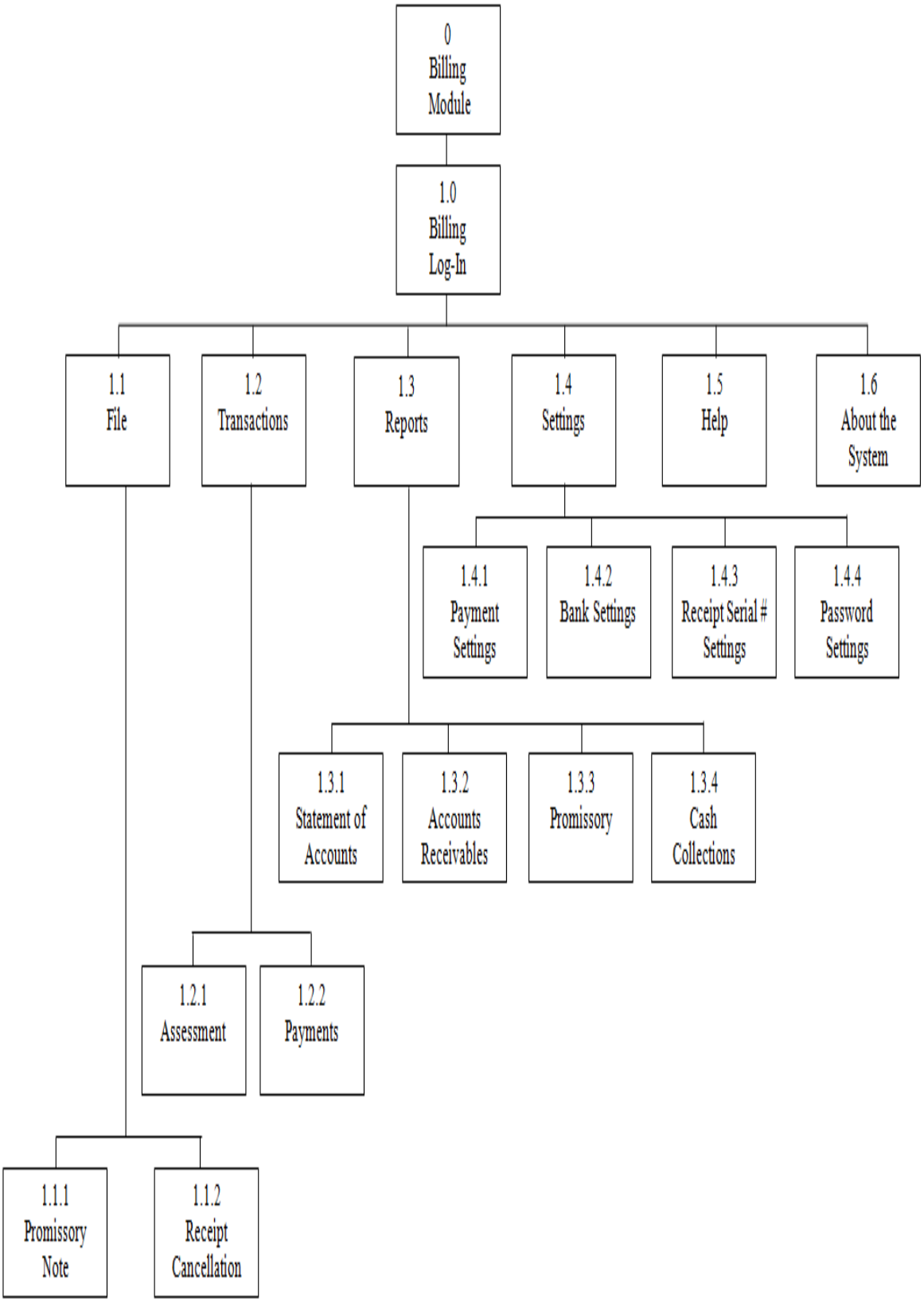

Figure 3.5 HIPO Billing Module

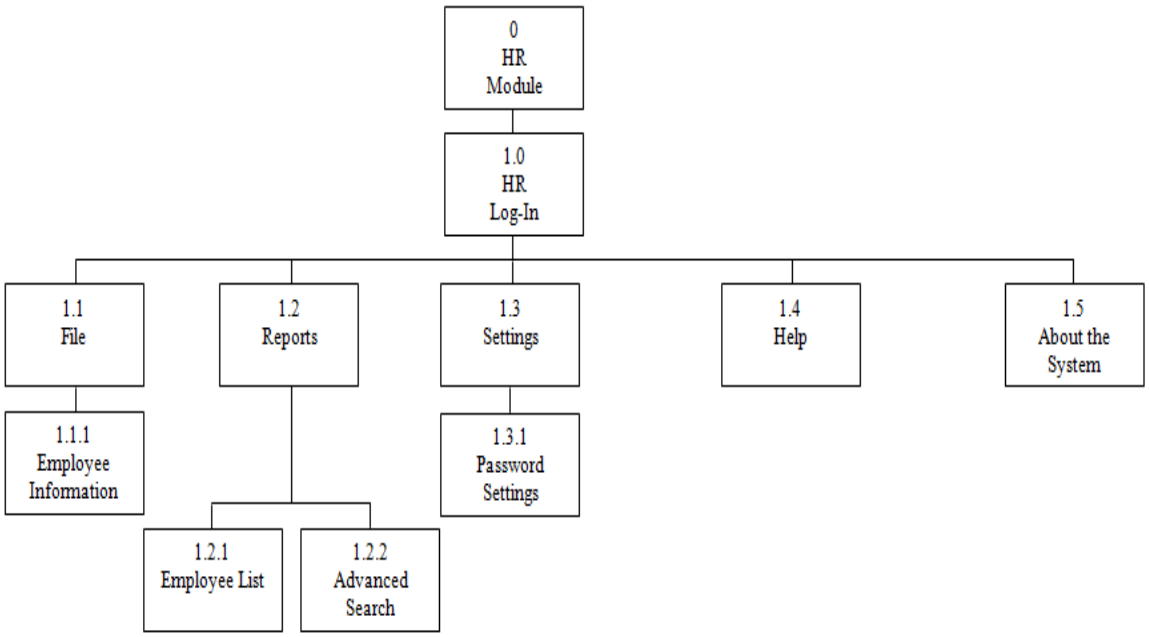

Figure 3.6 HIPO HR Module

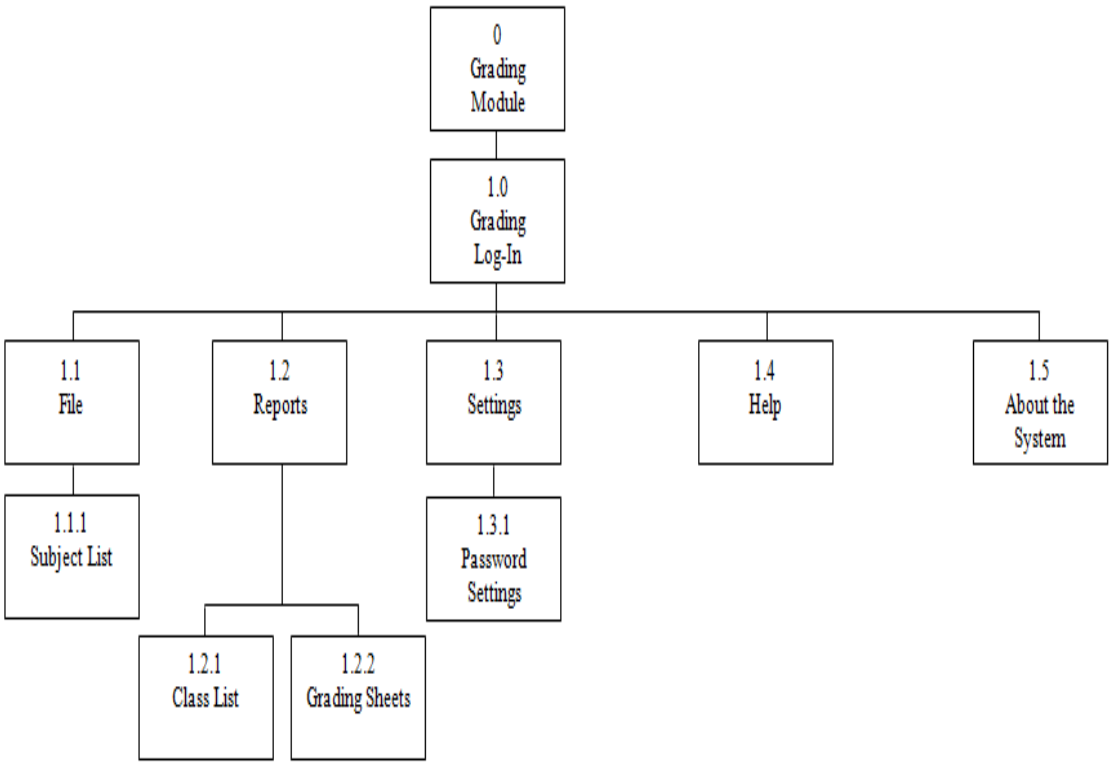

Figure 3.7 HIPO Grading Module

Program Flowchart

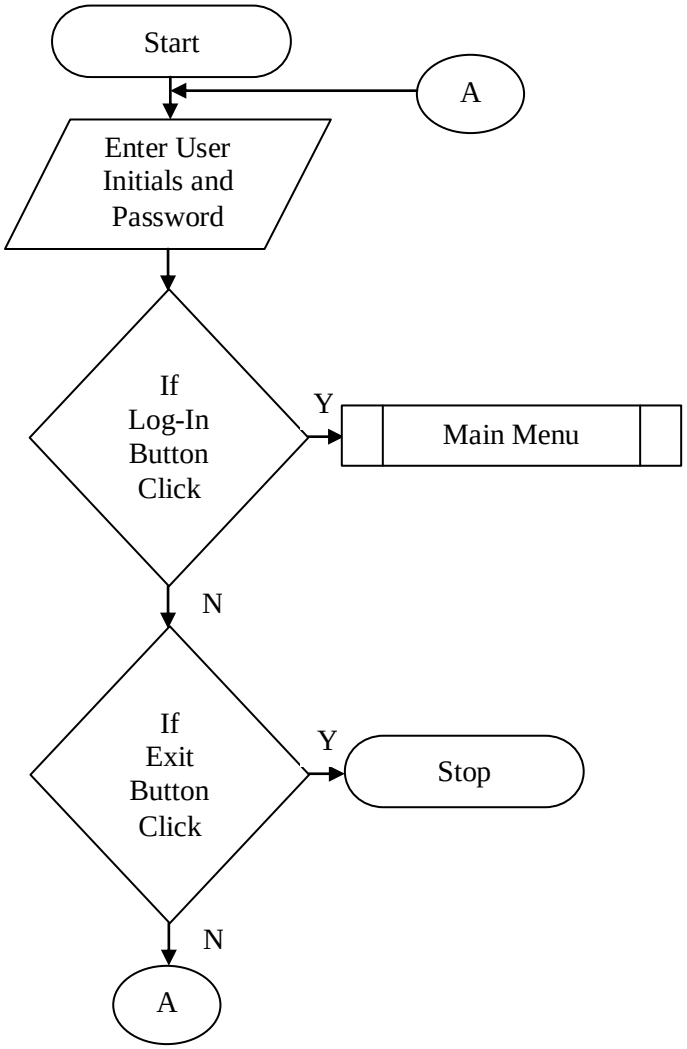

Figure 3.8 User Log-In

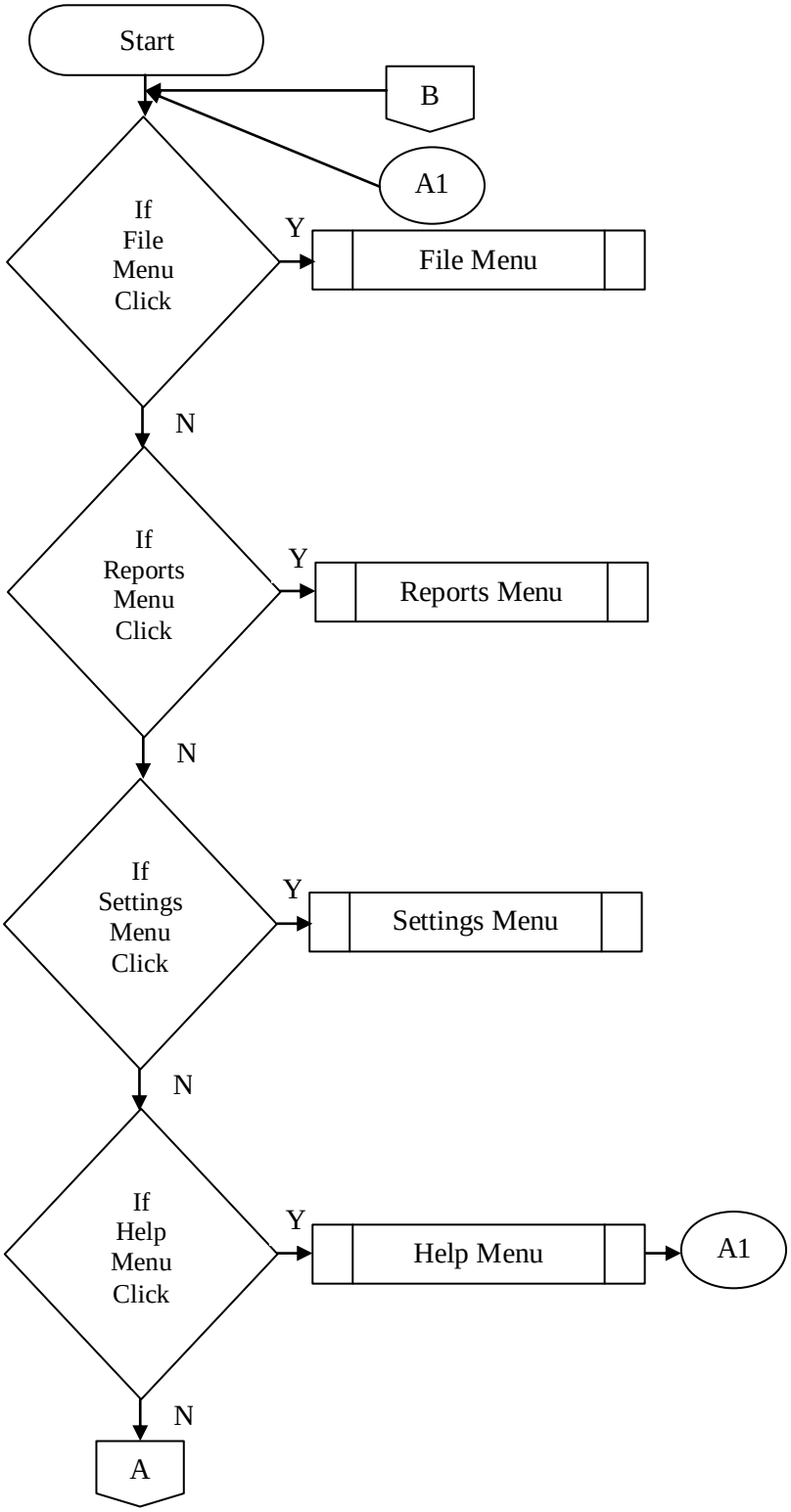

Figure 3.9 Main Menu

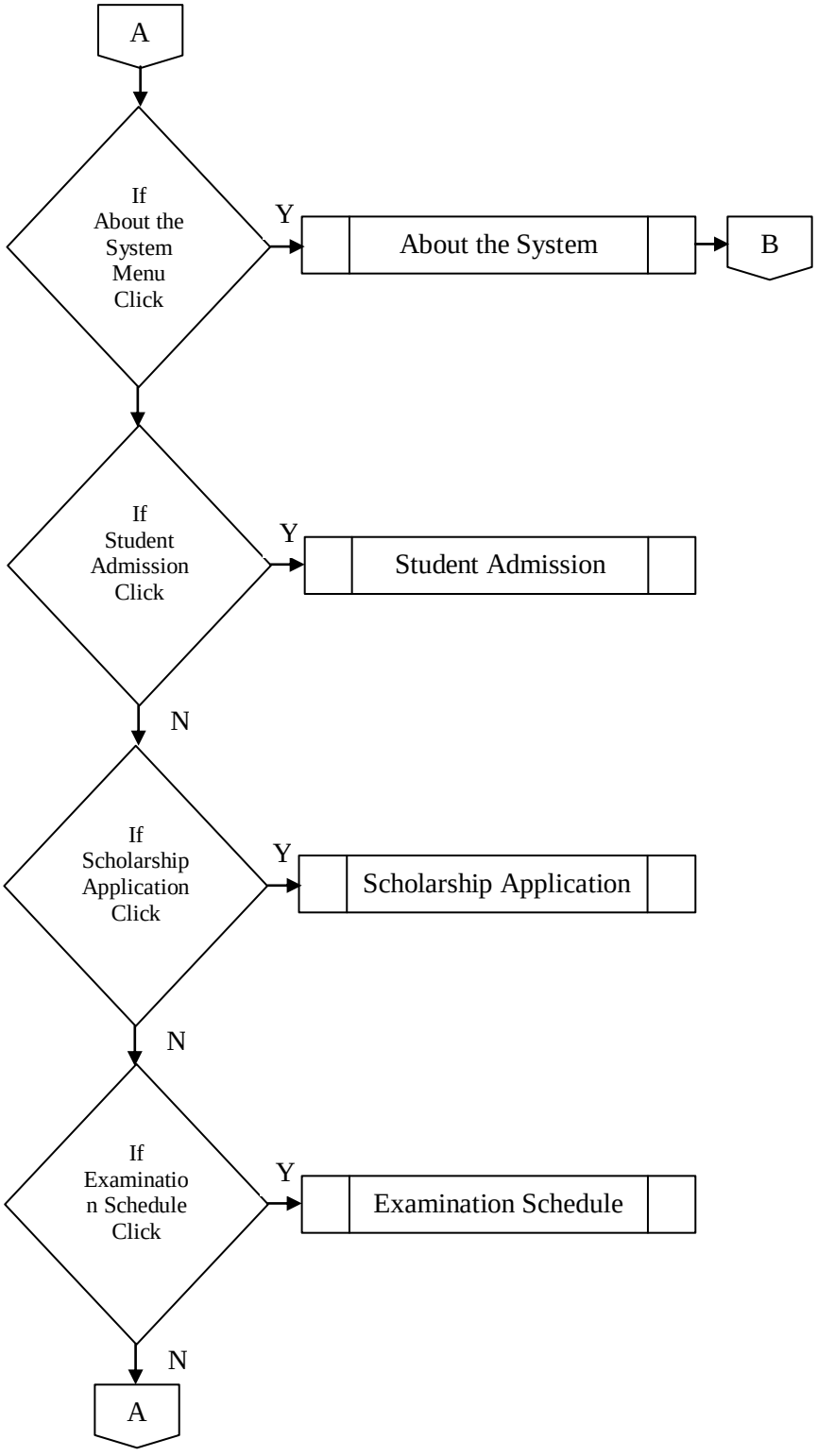

Figure 3.10 Main Menu (Continuation)

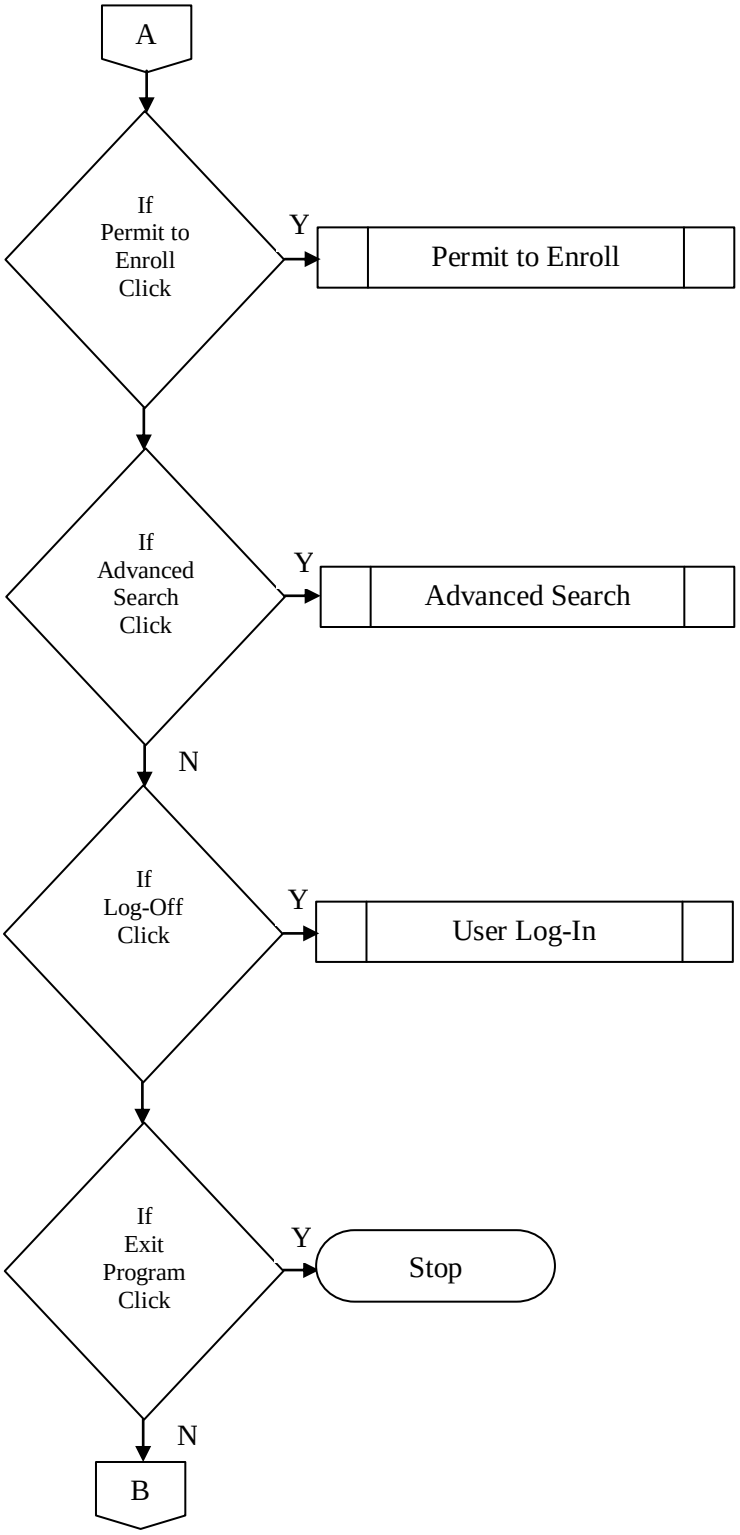

Figure 3.11 Main Menu (Continuation)

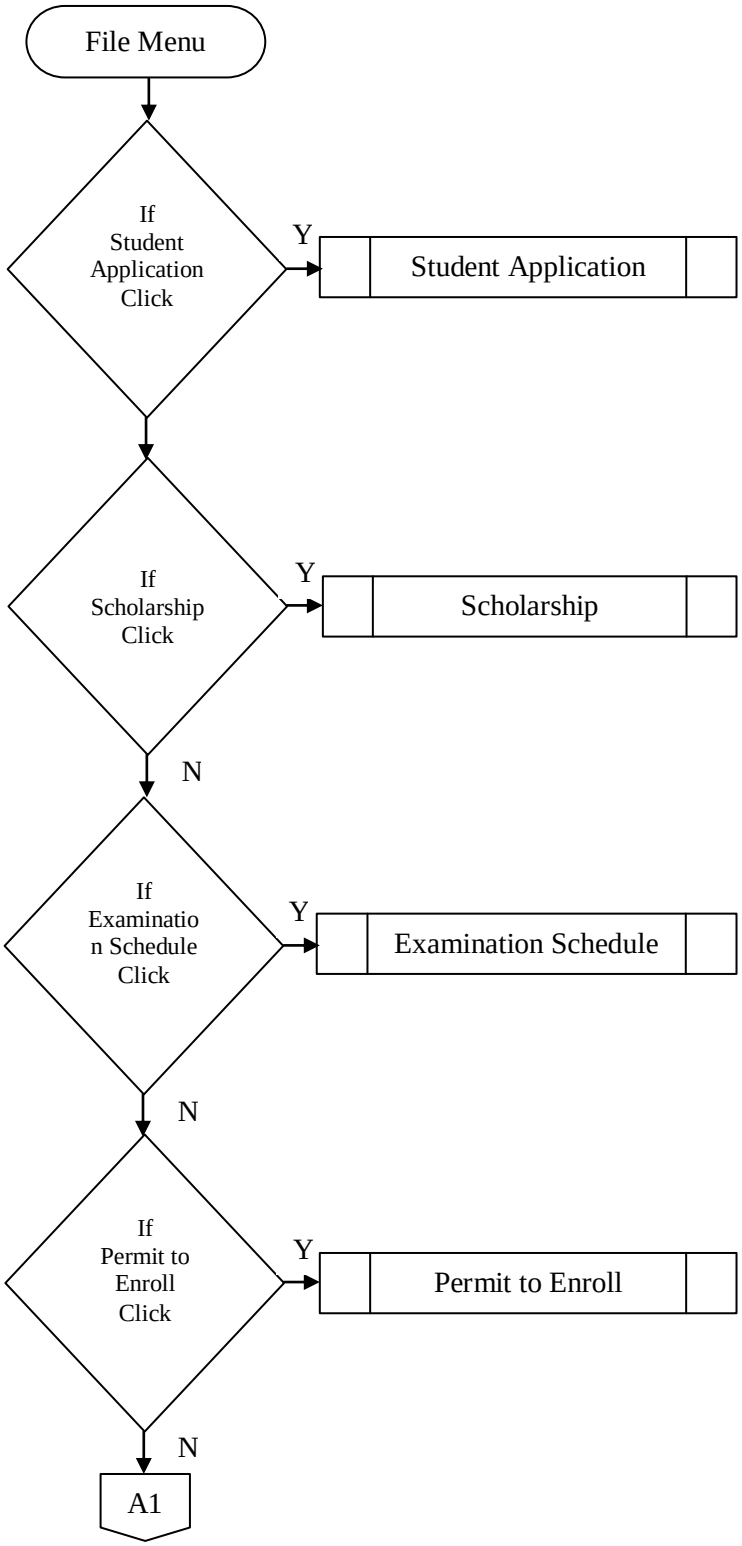

Figure 3.12 File Menu

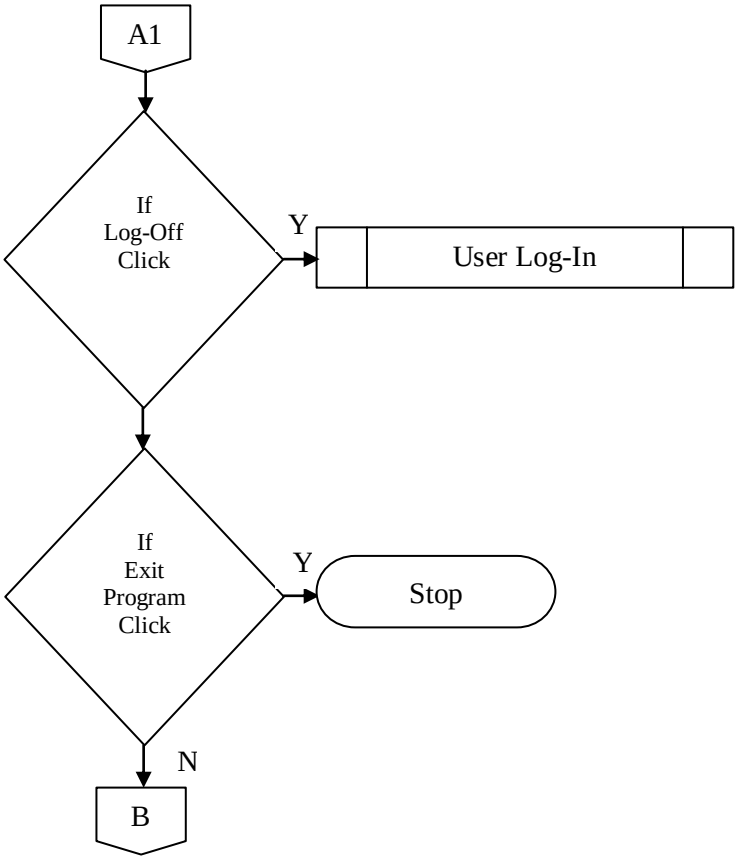

Figure 3.13 File Menu (Continuation)

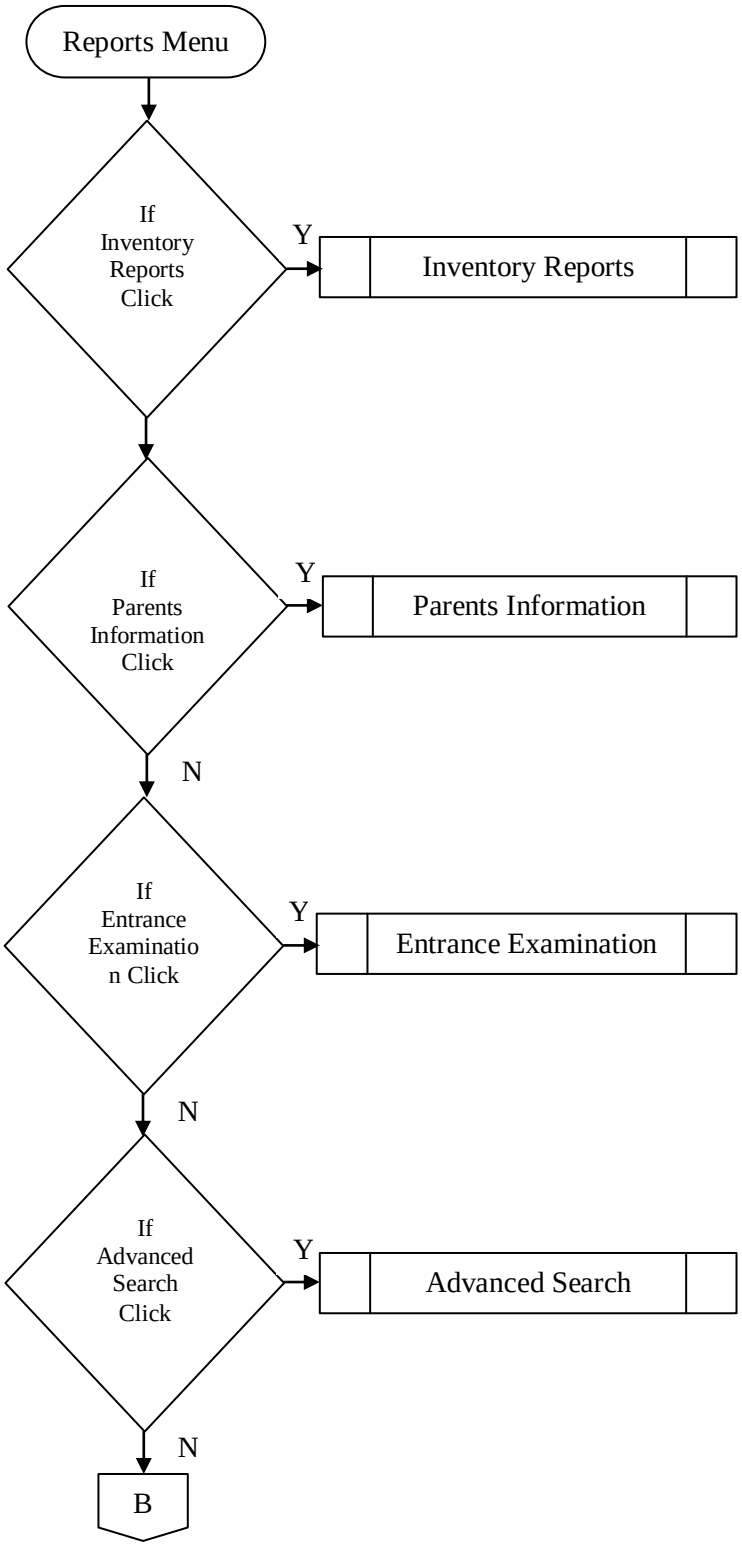

Figure 3.14 Reports Menu

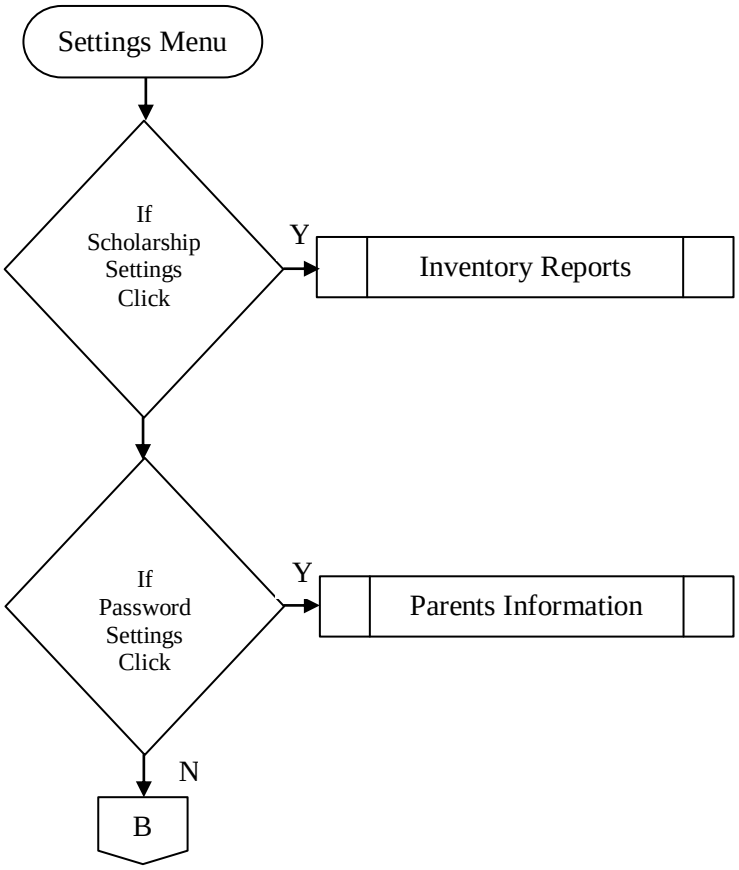

Figure 3.15 Settings Menu

Project Development

The researcher designed and developed the system using Visual Basic 6.0, MySQL and other useful software needed in the development of the system. The System Development Life Cycle (SDLC) serves as a foundation and structure in developing the system. It is the most common and traditional system development methodologies in system analysis and design.

Planning Phase. The researcher observed the activities involves in the locale that tends to solve the problems being encountered in the existing system. The researcher also gathered data and several forms and documents were also collected in each office such as application forms, registrations forms and sample receipts.

Analysis Phase. The researcher analyzed the activities, sample forms and documents in the current system.

Design Phase. The researcher designed user interface forms and normalized the sample forms and documents for the database layout and design.

Development Phase. The researcher used Visual Basic 6.0 for the front end and MySQL as the back end of the system.

Testing Phase. Pilot testing was conducted by the researcher to evaluate the feasibility and acceptance of the system.

Maintenance Phase. The researcher will monitor and update system requirements in the need of current trends and will also fix possible errors that the system might encounter upon implementation.

Evaluation Procedure

The system evaluation was conducted in one of the computer laboratories of Mary the Queen College (Pampanga), Inc. Stratification is the process of dividing members of the population into homogeneous subgroups before sampling. The primary respondents of the study were the forty (40) students out of the total population of 1,900, three (3) Admission Office personnel, three (3) Registrar's Office personnel and three (3) Finance Office personnel. The main objective of selecting the aforementioned respondents is to ensure the validity of the results in the evaluation to be conducted by the researcher.

Respondents	Number
Admission Office	3
Registrar's Office	3
Finance Office	3
Students	1,900

Table 3.1 Population of the Respondents

Evaluation Criteria

The researcher used the FURPS Model. The FURPS Model is used to identify most important attributes of a product and define them in measurable terms. It can help developers establish their priorities to achieve better customer satisfaction. The FURPS stands for functionality, usability, reliability, performance, and supportability.

Functionality. This is the feature set and capabilities of the program, generalities of the functions that are delivered, and the security of the overall system.

Usability. This is the attribute that considers human factors, overall aesthetics, consistency and documentation.

Reliability. This is evaluated by measuring the frequency and severity of failure, the accuracy of output results, the mean time between failures, the ability to recover from failure, and the predictability of the program.

Performance. This is measured by evaluating processing speed, response time, resources consumption, throughput and efficiency.

Supportability. This combines the ability to extend the program (extensibility), adaptability, and serviceability (these three attributes represent a more common term - **Maintainability**), in addition to testability, compatibility, configurability, the ease with which a system can be accessed, and the ease with which problems can be localized.

The researcher used the Likert scale to address the measurement of the perception of the respondents about a computer-based care management system. A Likert scale is a psychometric response scale often used in questionnaires, and is the most widely used scale in survey research. The researcher used ranks from one to five: five being the highest and one being the lowest rank. Table 3.2 shows the Likert scale to quantify the responses to the questions with the following criteria used.

Mean Value	Criteria
4.21 – 5.00	Strongly Agree
3.41 – 4.20	Agree
2.61 – 3.40	Neutral
1.81 – 2.60	Disagree
1.0 – 1.80	Strongly Disagree

Table 3.2 Rating Scale Criteria

Instrument and Technique Used

This section mentions the instruments and materials used by the researcher in order to acquire information and to analyze the problems of the existing system.

Questionnaires. These are sets of questions to acquire statistical and relevant information. These are pre-planned questions addressed to the users and beneficiaries in relation with the development of the system. The researcher formulated questions to gather information that are necessary in the study and in the development of the system.

Interview. It requires the personal encounters between the researcher and their respective informants to gain a better understanding of the existing system and certain problems that are being encountered. The researcher conducted individual interviews to the respective personnel of each office.

Observation. It is the attentive watching and careful recording of something that is happening. This is one of the most important parts in research and in any other subject that correlates with it. Keen observation in MQCPI is necessary to gather information and to gather different characteristics of policies and system.

Evaluation Form. It is a form with criteria that evaluates the feasibility of the system; these forms were given to the target users and respondents that will evaluate the system with respect to its accuracy, convenience, efficiency, security, and speed (See Appendix A).

Statistical Treatment of Data. Weighted Mean is an average computed by giving different weights to some of the individual values. If all the weights are equal, then the weighted mean is the same as the arithmetic mean. Whereas weighted means generally behave in a similar approach to arithmetic means,

they do have a few counter instinctive properties. Data elements with a high weight contribute more to the weighted mean than do elements with a low weight. The weights cannot be negative. Some may be zero, but not all of them; since division by zero is not allowed. Weighted means play an important role in the systems of data analysis, weighted differential and integral calculus

Weighted Mean Formula:

The weighted mean for a given set of non negative data {x1, x2, x3, ...xn} with non-negative weights {w1, w2, w3, ...wn} can be derived from the formula

$$\bar{x} = \frac{w_1 x_1 + w_2 x_2 + \cdots + w_n x_n}{w_1 + w_2 + \cdots + w_n}$$

Where:

x is the repeating value

w is the number of occurrences of x (weight)

$\bar{x}$ is the weighted mean

CHAPTER 4
RESULTS AND DISCUSSIONS

This chapter deals with hardware and software specifications of the CIS-MQCPI, project structured organization with defined capabilities and limitations and the result of the system evaluation.

Project Technical Descriptions

In order for the system to perform well, the following hardware and software requirements must be met.

SOFTWARE REQUIREMENTS	HARDWARE REQUIREMENTS
• Windows operating system • MySQL-essential-5.0.24-win32 • SQLYOG 521 • MySQL -connector-odbc-3.51.14-win32	• RAM (512 MB or Higher) • Hard Disk (80 GB) Clients • Hard Disk (160 GB or Higher) Server • Monitor • Mouse • Keyboard • Printer (for report generation) • LAN Card • Switch/Router

Table 4.1 Hardware and Software Requirements

Project Structured Organization

Figure 4.1 shows the Admission Log-In that restricts unauthorized personnel in accessing the system by asking a valid User Initials and Password.

Figure 4.1 Admission Log-In

Figure 4.2 displays the Student Admission Form windows that allow the user to manage students' admission records such as applicants' profile, educational background, family background, entrance examination and requirement checklist.

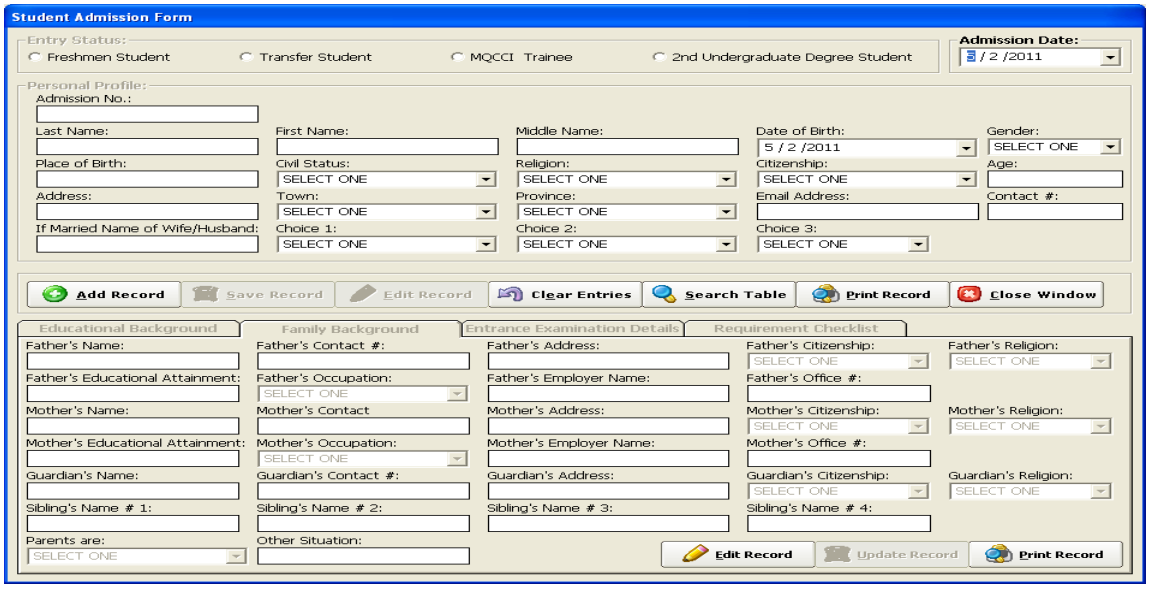

Figure 4.2 Student Admission Form

Figure 4.3 illustrates the Application for Scholarship Form window that manages and processes the students' scholarship applications.

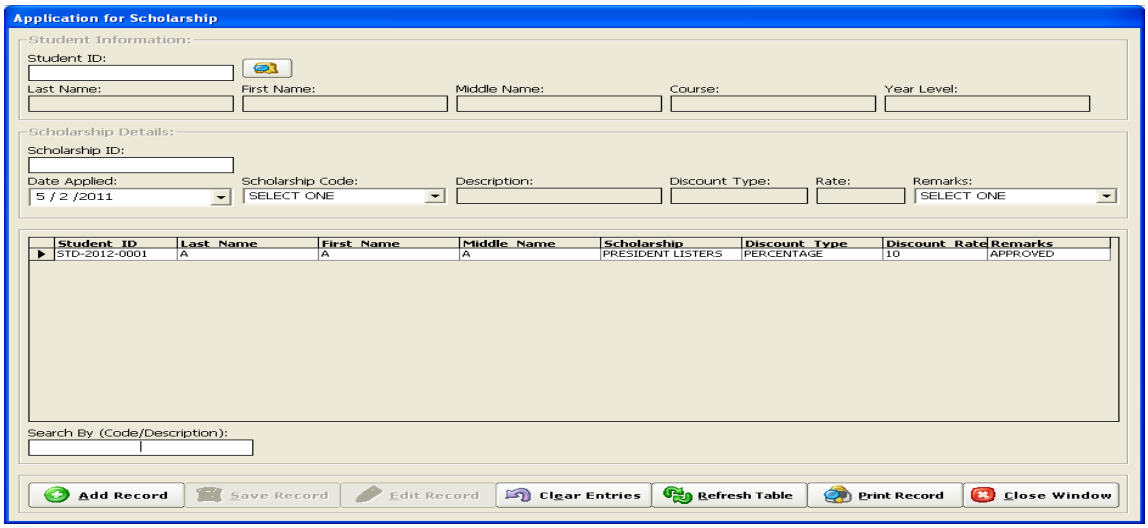

Figure 4.3 Application for Scholarship

Figure 4.4 shows the View Past Grades window that allows the user to check previous academic performance of the students for scholarship renewal.

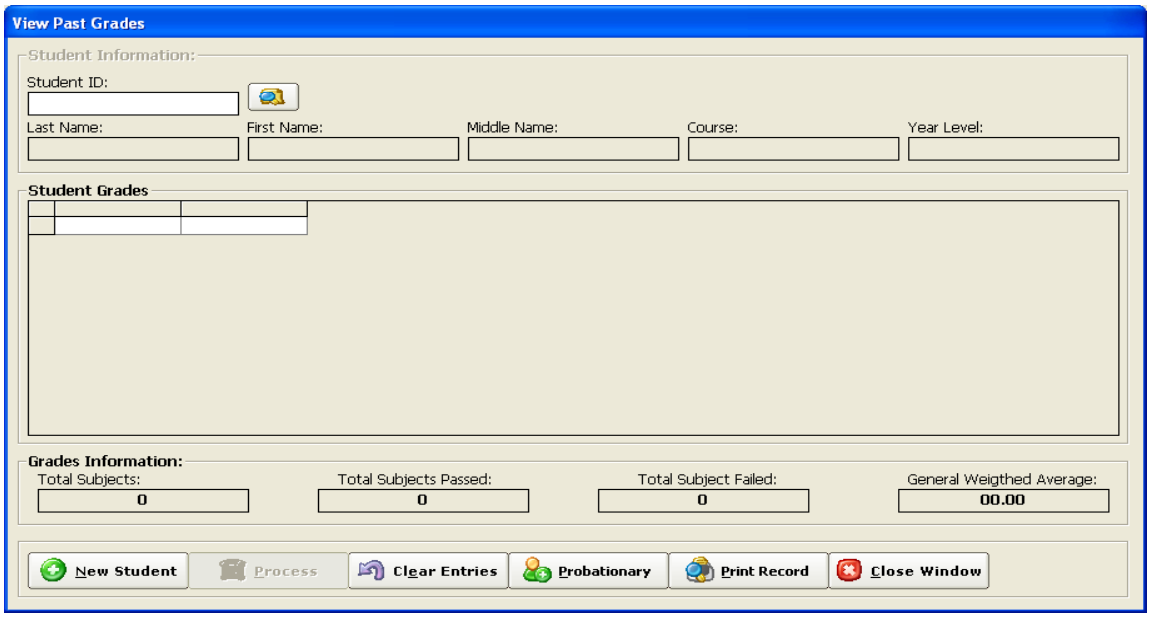

Figure 4.3 View Past Grades

Figure 4.4 displays the Examination Management window that allows the user to manage entrance examination records and scheduling.

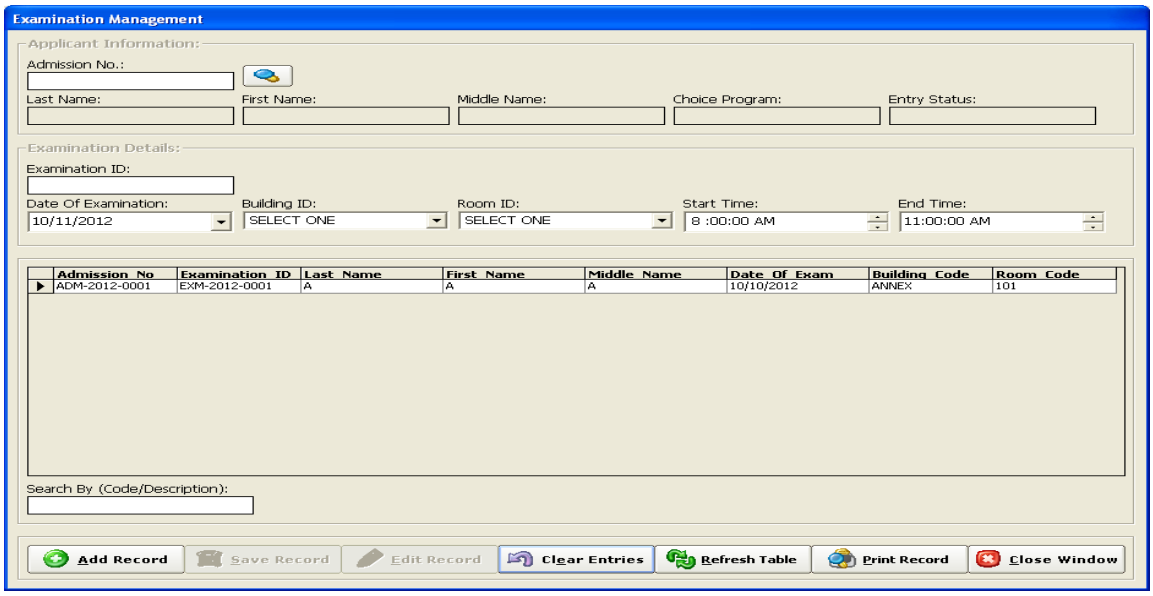

Figure 4.4 Examination Management

Figure 4.5 displays the Permit to Enroll window that allows the user to print the permit to enroll of a student.

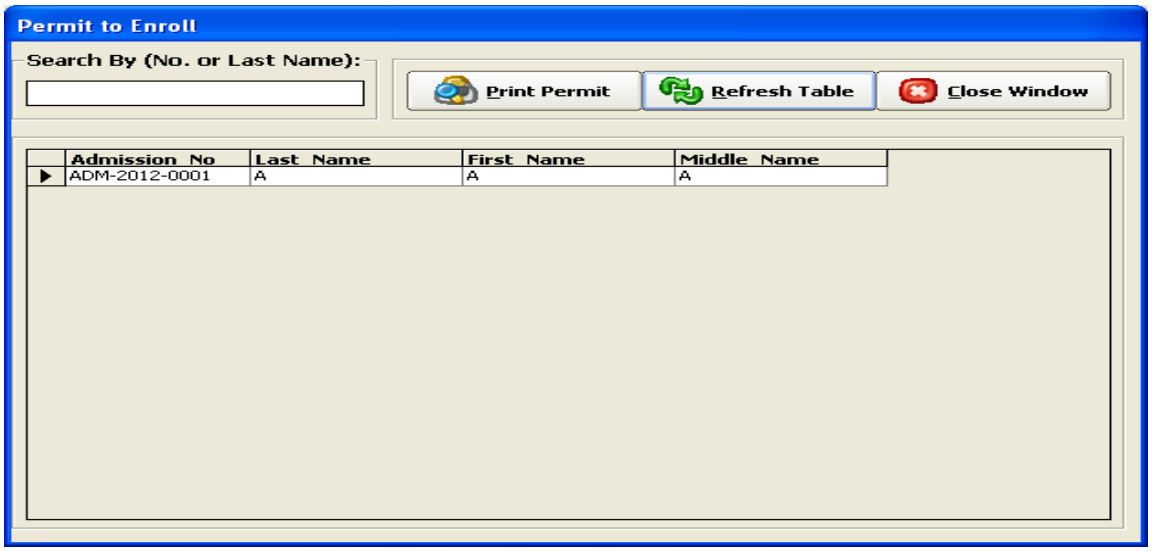

Figure 4.5 Permit to Enroll

Figure 4.6 shows the Probationary Management window that allows the user to manage a student's behavioral status.

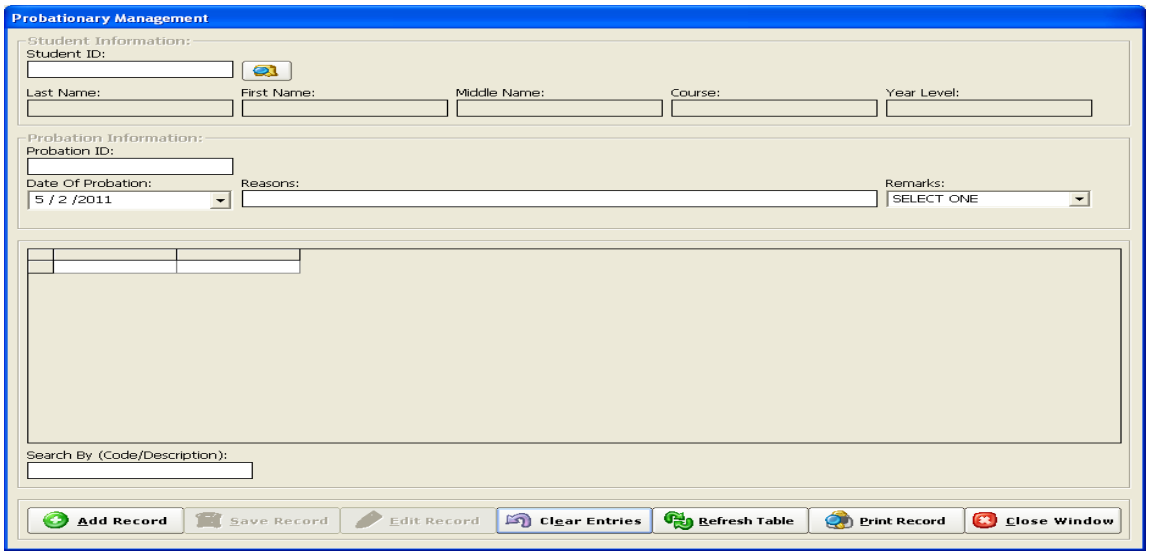

Figure 4.6 Probationary Management

Figure 4.7 illustrates the Student Admission List window. It allows extensive searching of application information through different search criteria and print search results.

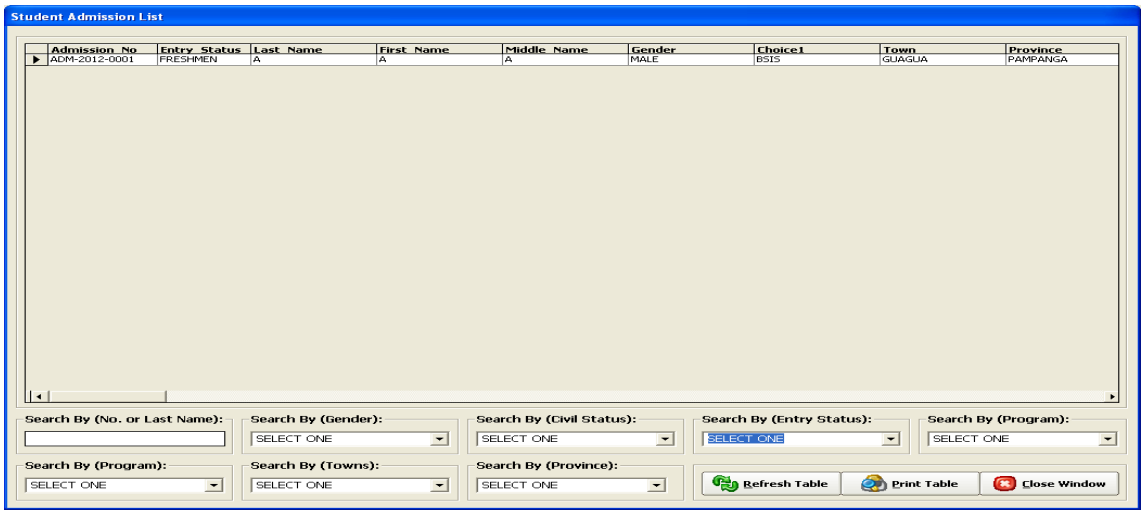

Figure 4.7 Student Admission List

Figure 4.8 displays the Entrance Examination List window that allows extensive searching of application information through different search criteria and print search results.

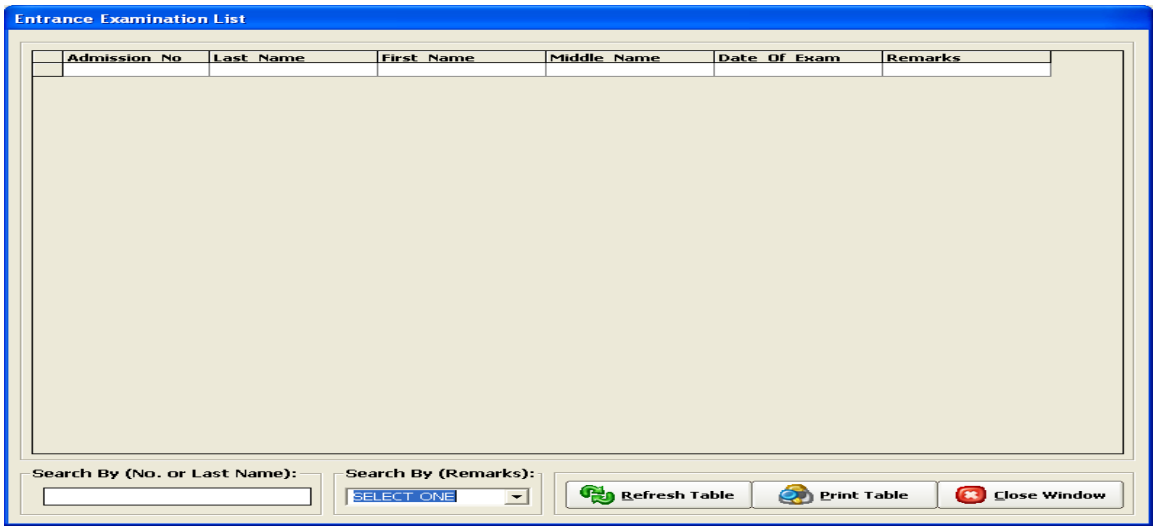

Figure 4.8 Entrance Examination List

Figure 4.9 the Scholarship Management window allows extensive searching of application information through different search criteria and print search results.

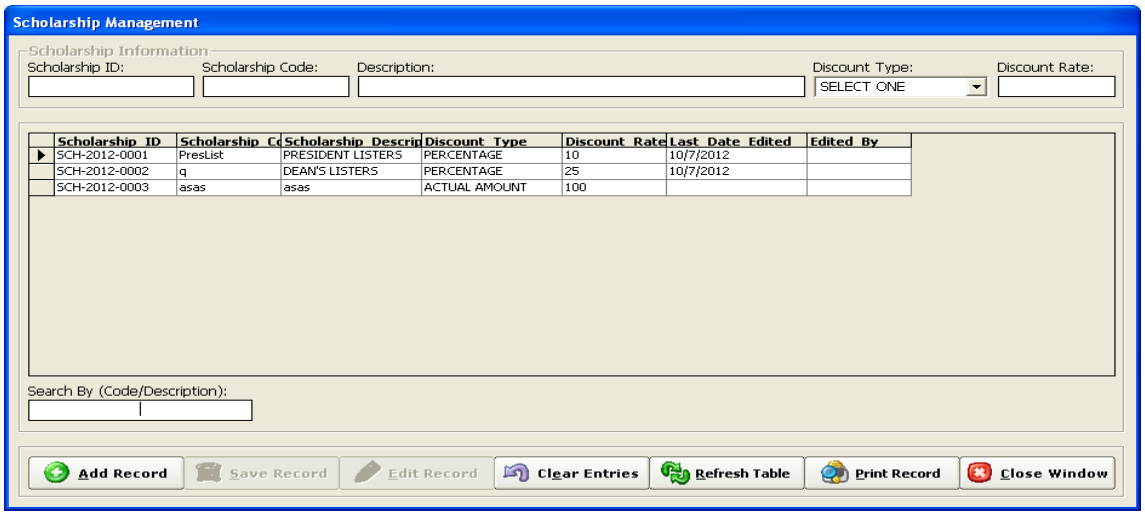

Figure 4.9 Scholarship Management

Figure 4.10 displays the Registrar Log-In window that restricts unauthorized personnel in accessing the system by asking a valid User Initials and Password.

Figure 4.10 Registrar Log-In

Figure 4.11 demonstrates the Curriculum Developer window that allows the user to add and remove subjects in the curriculum.

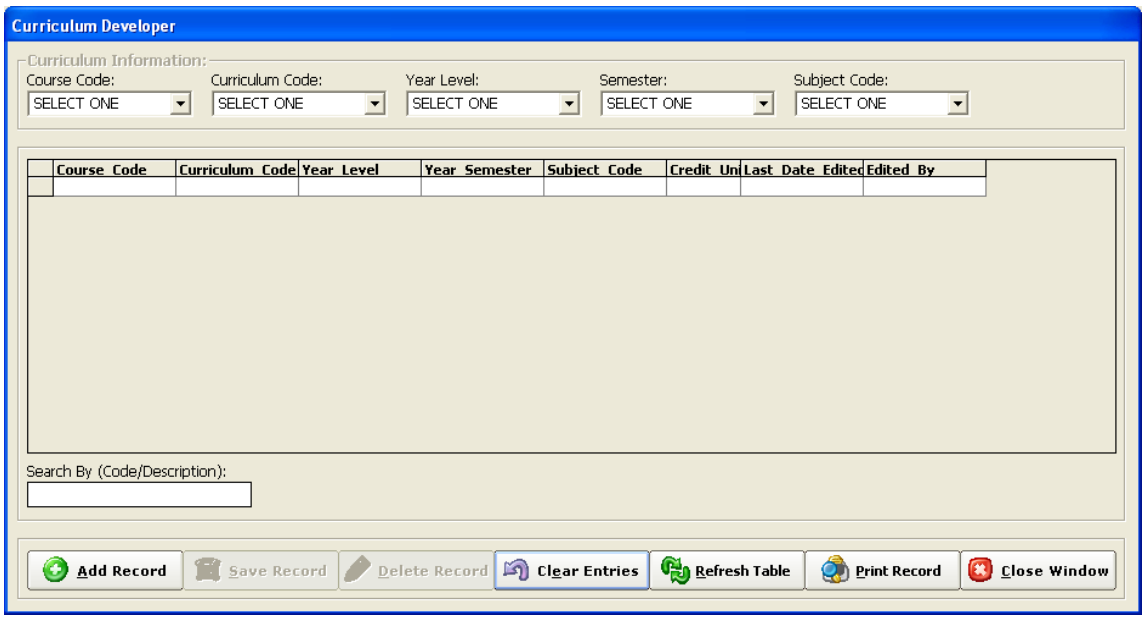

Figure 4.11 Curriculum Developer

Figure 4.12 shows the Student ID/Exemptions/Course Shift window that allows the user to set student exemptions, set the Student ID and to shift students.

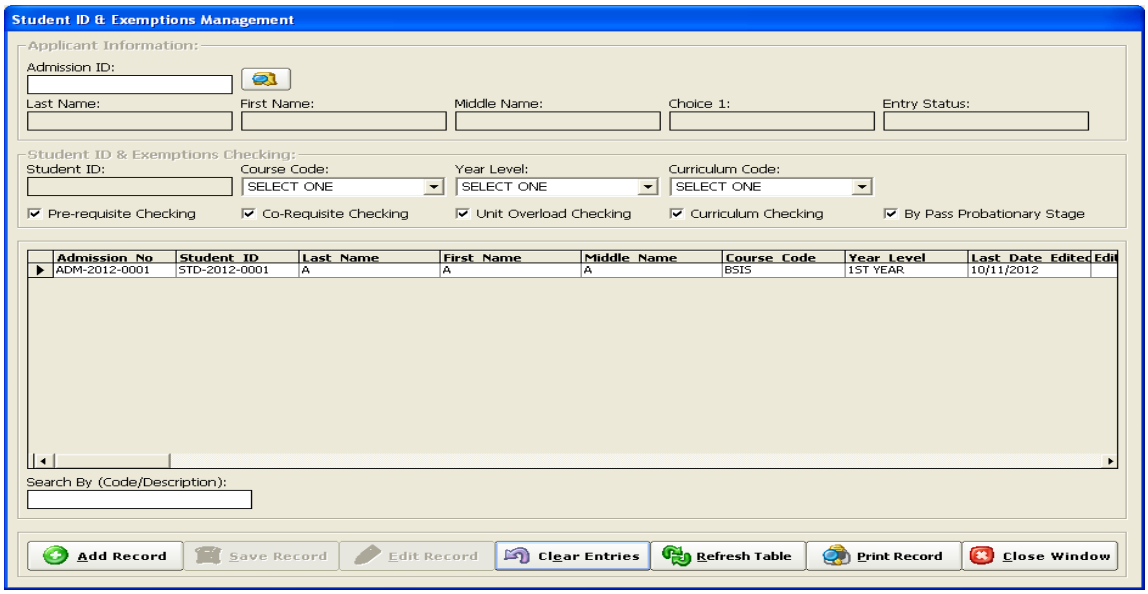

Figure 4.12 Student ID/Exemptions/Course Shift

Figure 4.13 displays the Student Enlistment window that allows the user to enlist student subjects and their corresponding schedules.

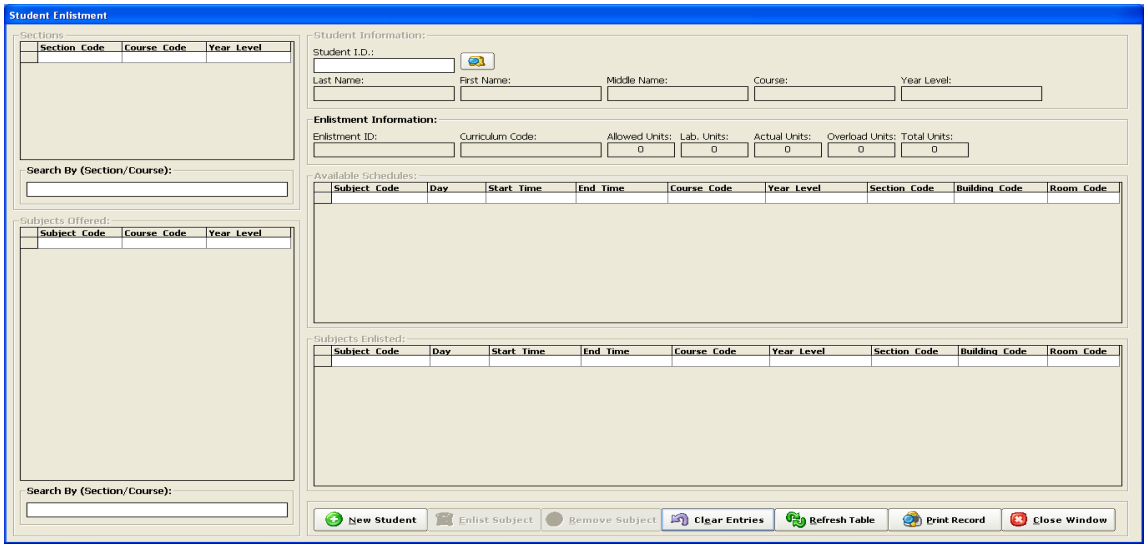

Figure 4.13 Student Enlistment

Figure 4.14 illustrates the Subject Scheduling window that allows the user to set subject schedules and is capable of detecting conflict schedules.

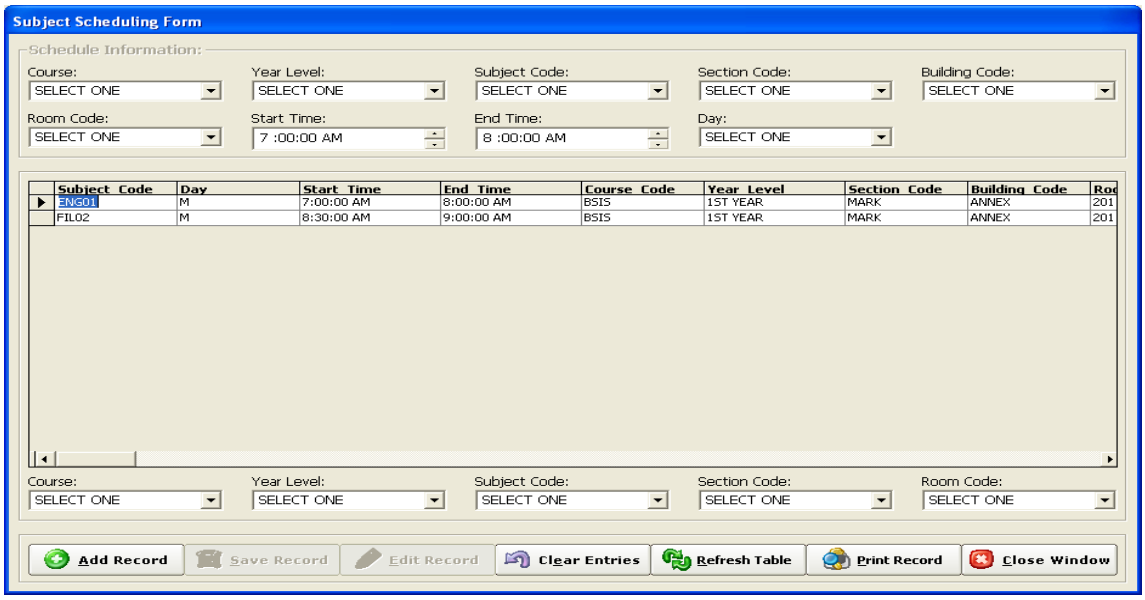

Figure 4.14 Subject Scheduling

Figure 4.15 shows the Course Management window that allows the user to manage courses being offered by the school.

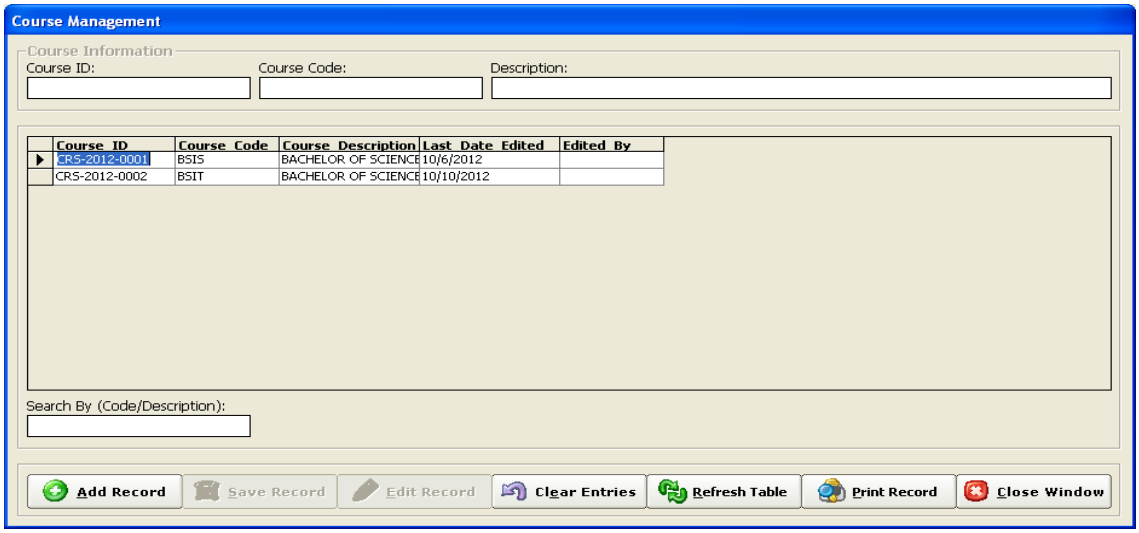

Figure 4.15 Course Management

Figure 4.16 displays the Subject Management window that allows the user to manage subjects being offered by the school.

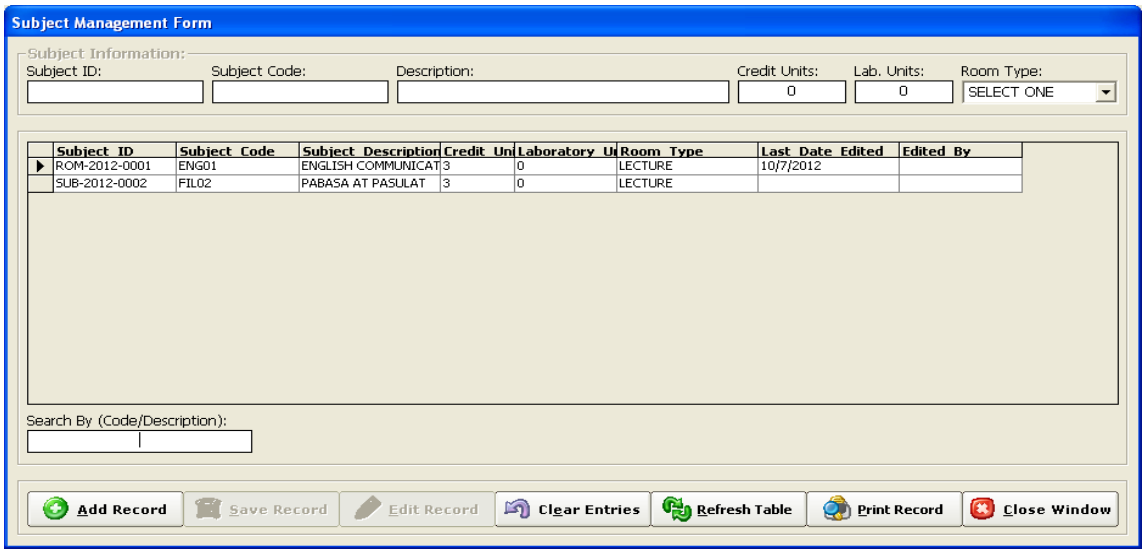

Figure 4.16 Subject Management

Figure 4.17 shows The Pre-requisite Management window that allows the user to set subject pre-requisites.

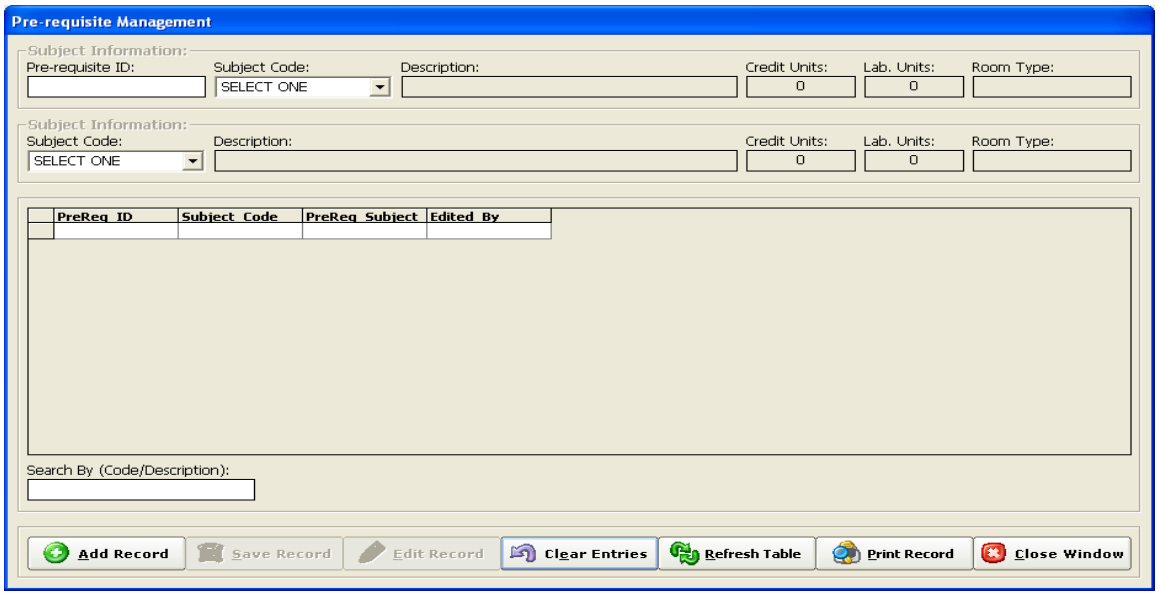

Figure 4.17 Pre-requisite Management

Figure 4.18 depicts the Co-requisite Management window that allows the user to set subject co-requisites.

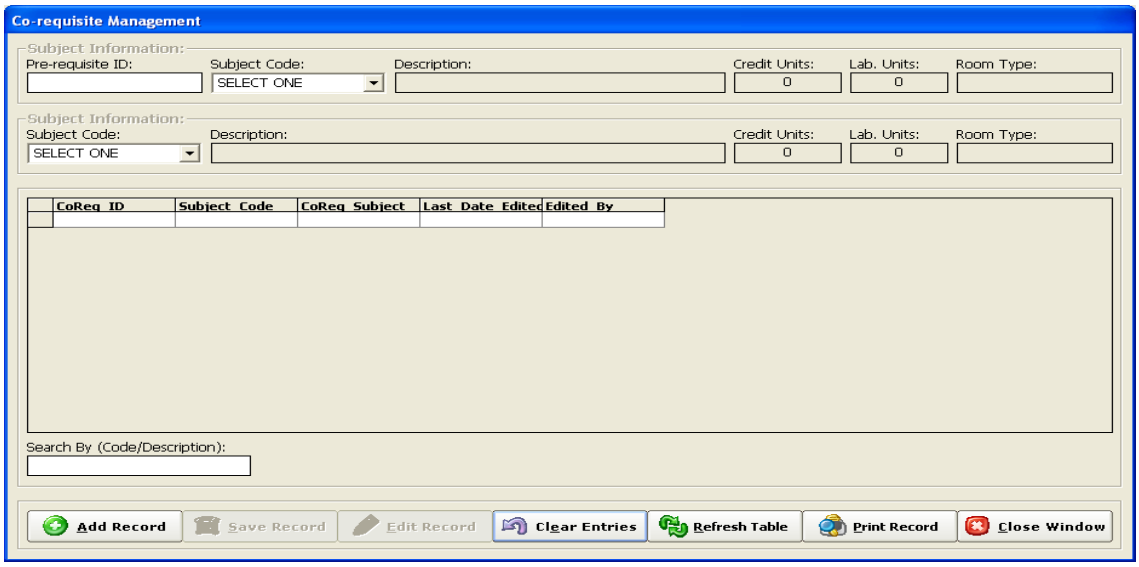

Figure 4.18 Co-requisite Management

Figure 4.19 illustrates the Section Management window that allows the user to manage sections per course and year level.

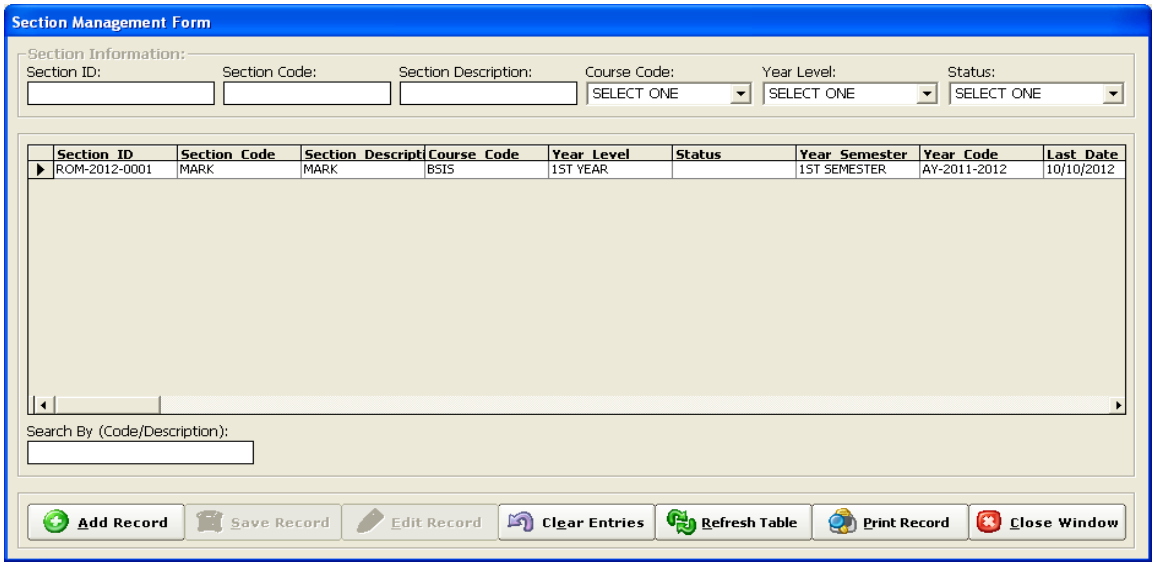

Figure 4.19 Section Management

Figure 4.20 illustrates the Academic Year Management window that allows the user to manage academic years every school year.

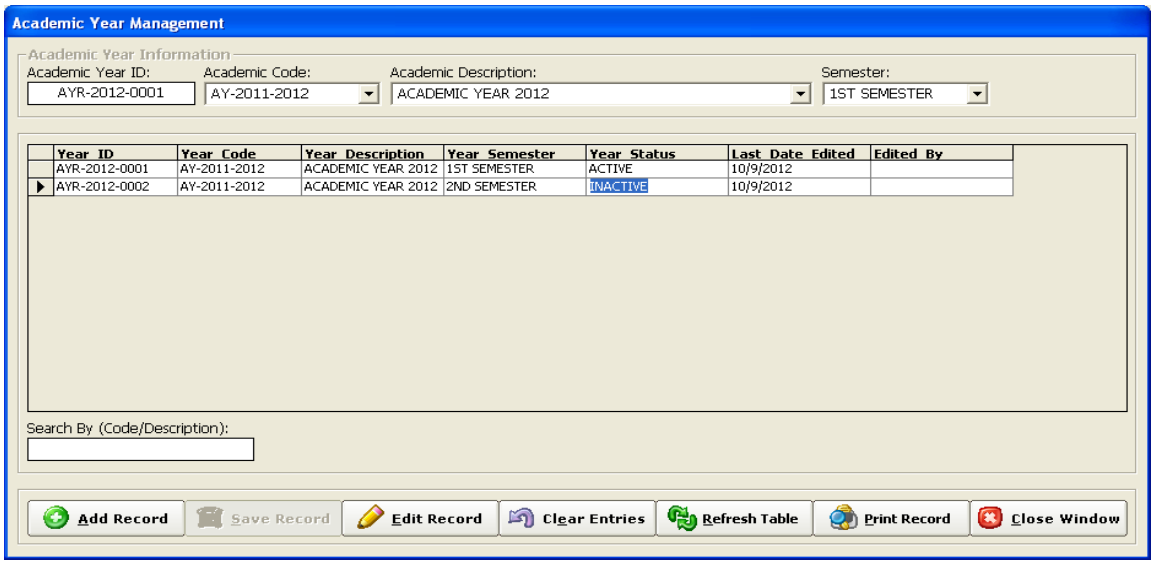

Figure 4.20 Academic Year Settings

Figure 4.21 is the Building Management window that allows the user to manage the building information of the school.

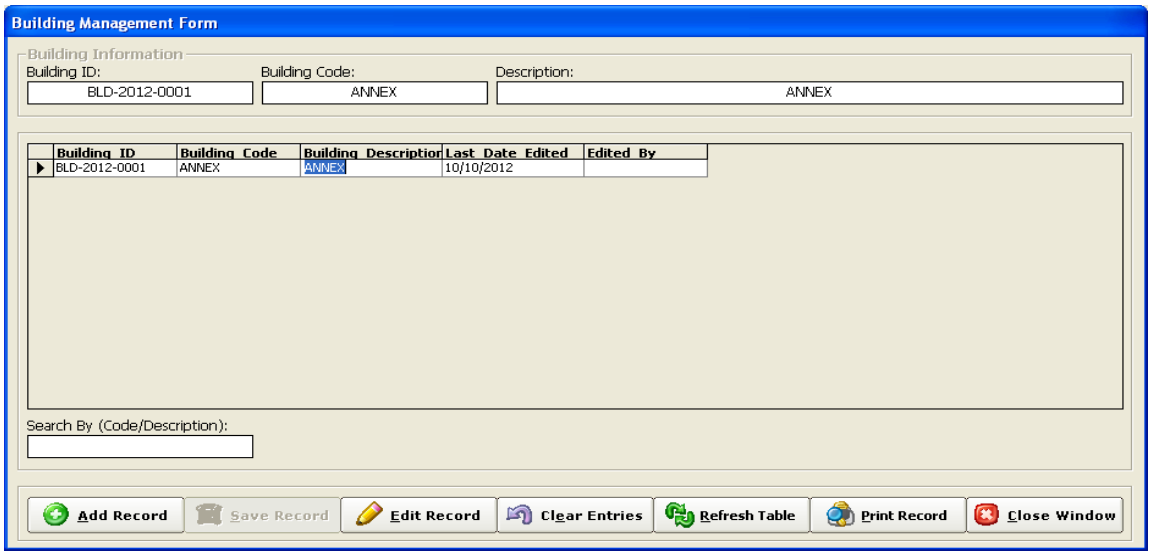

Figure 4.21 Building Management

Figure 4.22 shows the Room Management window that allows the user to manage room information of the school

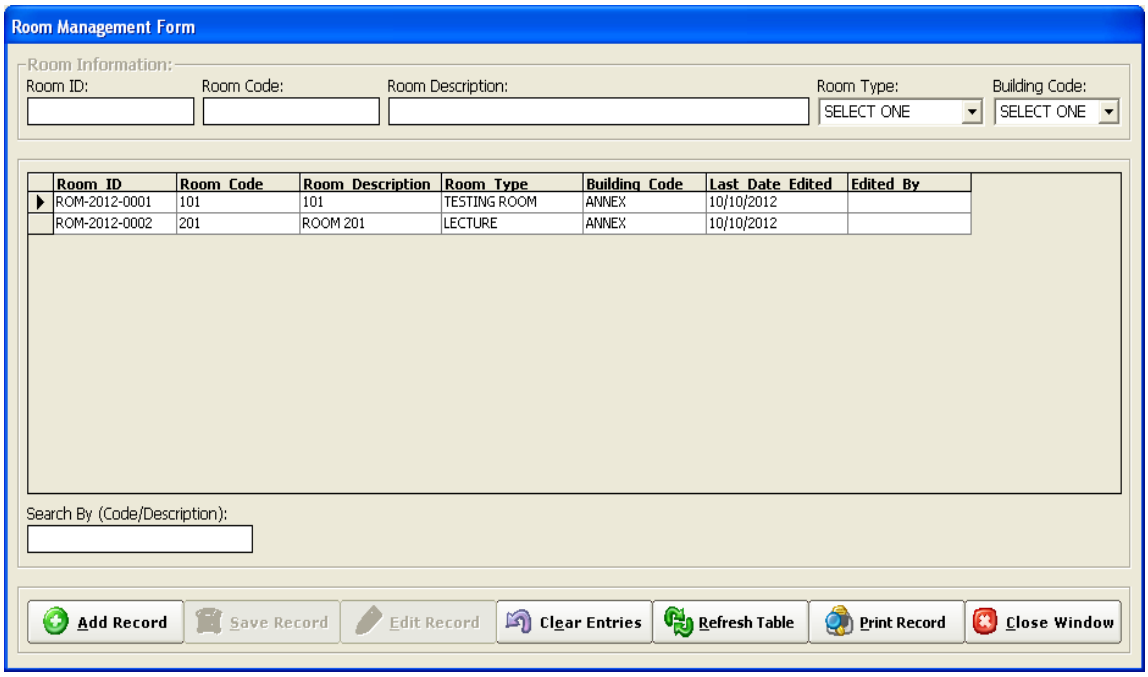

Figure 4.22 Room Management

Figure 4.23 the Finance Log-In window restricts unauthorized personnel in accessing the system by asking a valid User Initials and Password.

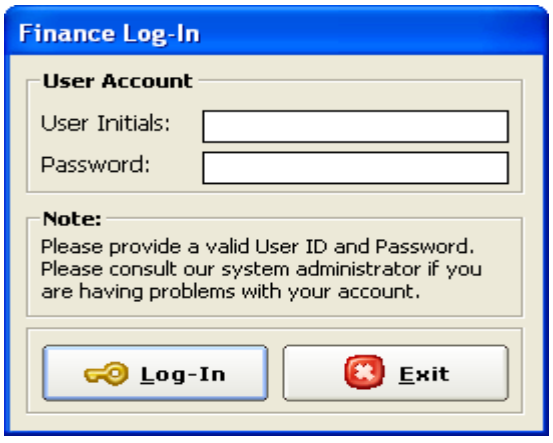

Figure 4.23 Registrar Log-In

Figure 4.24 displays the Promissory Note window that allows the user to manage the students' promissory note applications.

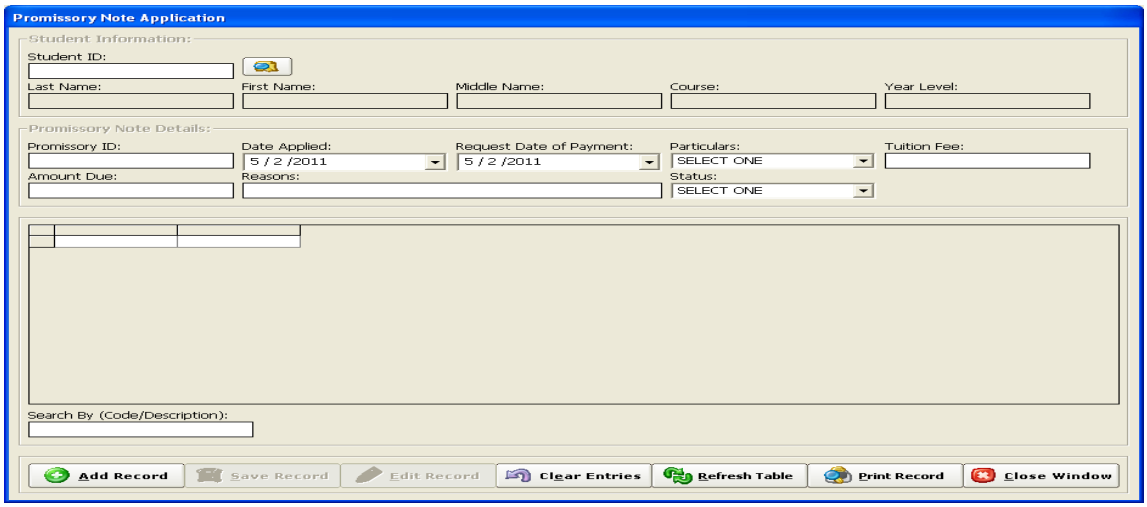

Figure 4.24 Promissory Note Application

Figure 4.25 displays the Assessment Form window that allows the user to manage the students' assessment forms.

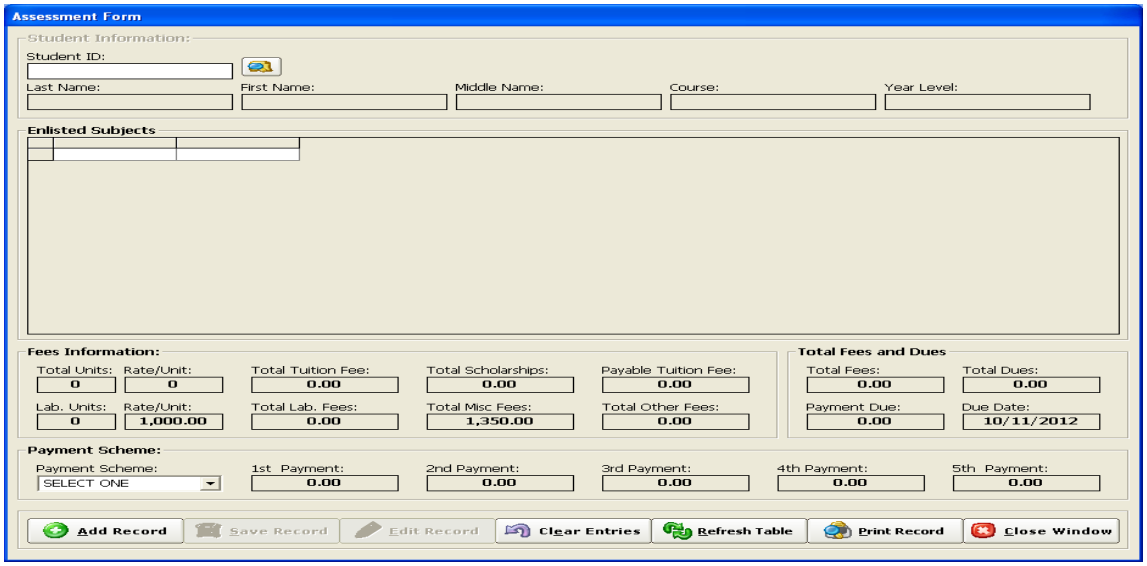

Figure 4.25 Assessment Form

Figure 4.26 illustrates the Student Ledger window that allows the user to view the students' due date and amount dues and other payment matters.

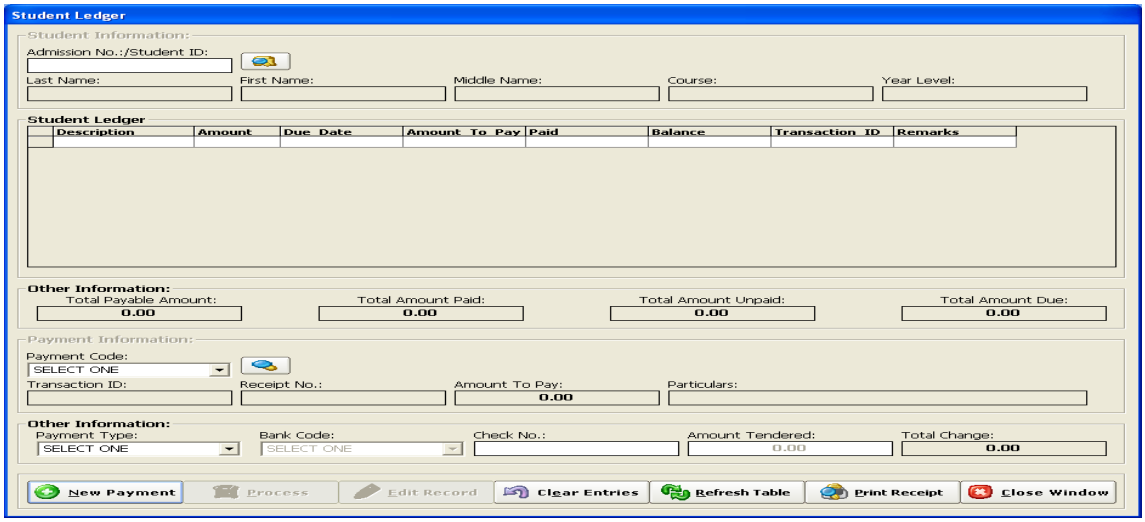

Figure 4.26 Student Ledger

Figure 4.27 the Other Payment Settings windows allow the user to manage payments in the Finance Office.

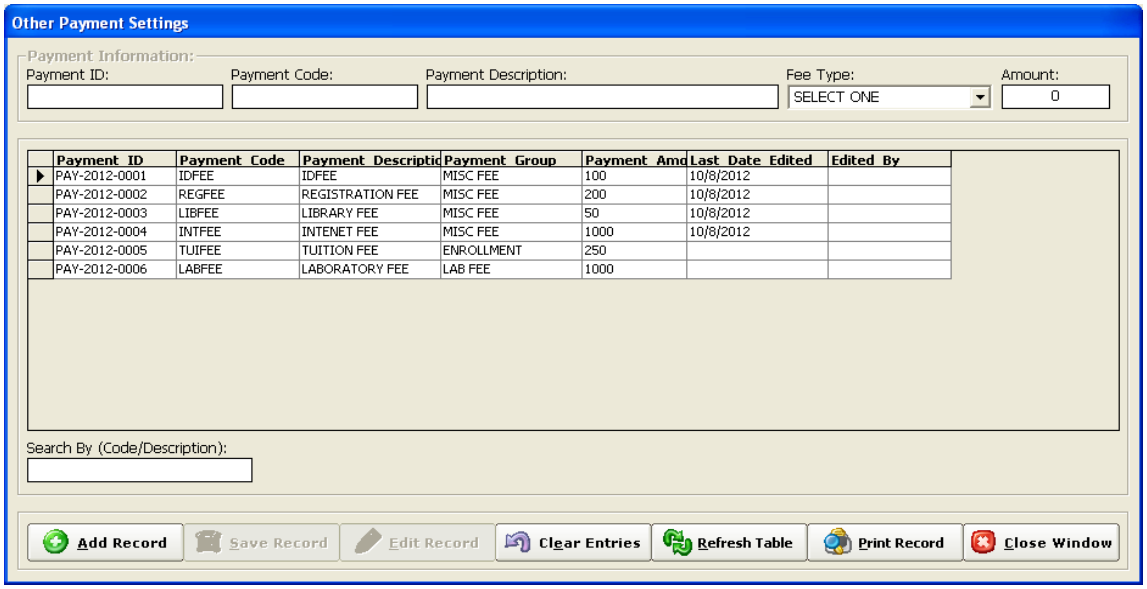

Figure 4.27 Other Payment Settings

Figure 4.28 shows the Bank Management window that allows the user to manage bank information.

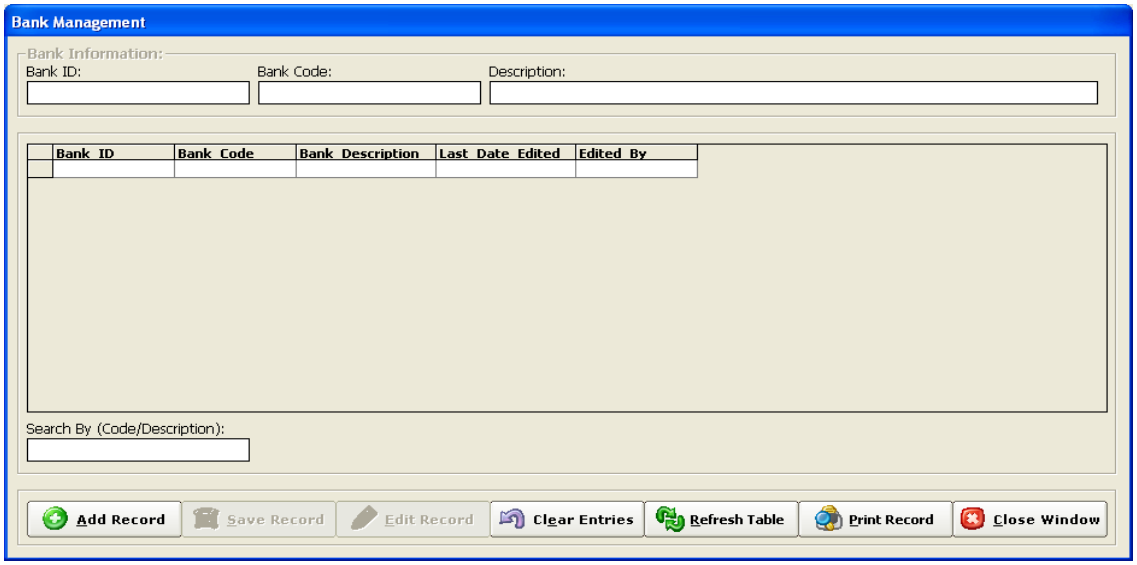

Figure 4.28 Bank Management

Figure 4.29 shows the Receipt Serial # Settings window that allows the user to set receipt booklets serial numbers.

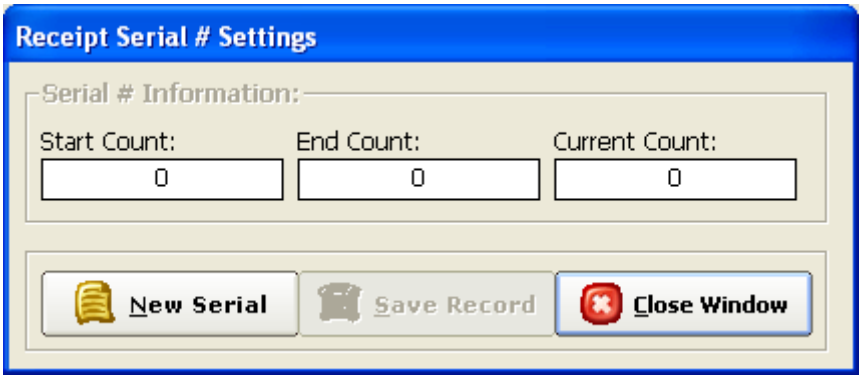

Figure 4.29 Receipt Serial # Settings

Project Limitations and Capabilities

The CIS-MQCPI was an integration of different information systems from the Admission, Registrar and Finance Office. The capabilities and functionality of each module are listed below:

1. The Admission Module is capable of:

a. Allowing the personnel to manage the applicants' personal information, family background and educational background.
b. Processing the students' scholarship applications.
c. Managing entrance examination schedules and results.
d. Providing academic requirement checklists to monitor the documents submitted by the students.
e. Providing extensive searching functionality.
f. Generating reports such as:
    i. Total number of applicants per course, town, gender, religion, civil status, entry status and last school attended.
    ii. Parents' educational attainment and marriage status.
    iii. List of probationary students

2. The Registrar Module is capable of:
    a. Processing student applications for diploma, transcript of records and certificates.
    b. Generating Student ID and manage course, year level and curriculum exemptions.
    c. Managing Course, Subject, Section, Building and Room for the scheduling functionality; merges and splits schedules. The scheduling module is also capable of detecting conflict subjects.
    d. Designing a curriculum and manage subject's pre-requisites and co-requisites.
    e. Providing subject enlistment, adding, dropping and change of schedules and load subjects to respective faculty members.
    f. Generating reports such as:

i. Class lists

ii. Schedules per faculty, subjects and courses

3. The Billing Module is capable of:
   a. Processing students' promissory notes.
   b. Computing students' assessments and providing student ledgers.
   c. Providing payment settings, bank settings and receipt booklets serial number settings.
   d. Accepting and processing payments such as tuition fees and other fees collected by the Finance Office.
   e. Generating reports such as:
      i. Statement of Accounts
      ii. Account Receivables per year level and section.
      iii. Promissory list and reminders.
4. The Grading Module allows the faculty members to have an electronic class record where they can easily record the grades incurred by the students during the prelim, midterm and final period.
5. The Human Resource Module allows the user to manage faculty information such as personal profile, educational background, requirement checklist and subject expertise.
6. The system is capable of providing extensive security by restricting unauthorized personnel in utilizing the different modules of the said system.

Project Evaluation

The result of the system evaluation using the FURPS Model (Functionality, Usability, Reliability, Performance and Supportability) are presented and interpreted in the tables below.

Functionality

Table 4.2 shows the result of the respondents' rating on the features of the system in terms of functionality. The indicators aim to assess the capabilities and overall performance of the software.

The lowest mean obtained was 4.39. The data shows that the system was very low in generating fast and accurate reports. The possible reason that causes the result is due to limited number of personnel and printers that process the reports.

The highest mean obtained was 4.80. The data shows that the system was very high in terms of security. The possible reason that causes the result is due to extensive user id and password functionality of the system.

Indicators	Mean	Interpretation
1. Office records are well organized than in document forms.	4.71	Strongly Agree
2. Records are shared and accessible by any user in every office	4.67	Strongly Agree
3. Generating reports is relatively fast and accurate.	4.39	Strongly Agree
4. The system is secured by user initials and password.	4.80	Strongly Agree
5. Searching records is fast and easy.	4.59	Strongly Agree
AVERAGE	**4.63**	**Strongly Agree**

Table 4.2 Respondents' rating on the Functionality of the system

Usability

Table 4.3 shows the result of the respondents' rating on the features of the system in terms of usability. The indicators aim to assess the user-friendliness and the ease of use of the system.

The lowest mean obtained was 4.39. The data shows that the system was very low in having readable fonts. The possible reason that causes the result is due to the font size used by the researcher in the system.

The highest mean obtained was 4.80. The data shows that the system was very high in terms of providing a user's manual. The possible reason that causes the result is due to the clear and precise instructions presented in the user's manual.

Indicators	Mean	Interpretation
1. The system is user-friendly.	4.71	Strongly Agree
2. System's modules provides consistent look and feel.	4.67	Strongly Agree
3. The system's modules are presented with readable font.	4.39	Agree
4. The system is supported with a user's manual.	4.80	Strongly Agree
AVERAGE	**4.64**	**Strongly Agree**

Table 4.3 Respondents' rating on the Usability of the system

Reliability

Table 4.4 shows the result of the respondents' rating on the features of the system in terms of reliability. The indicators aim to assess the integrity, accessibility and accuracy of the data using the system.

The lowest mean obtained was 4.22. The data shows that the system was very low in tracking down the user's activity. The possible reason that causes the result is due to incomplete information provided in the system.

The highest mean obtained was 4.84. The data shows that the system was very high in terms of minimizing duplication of records. The possible reason that causes the result is due to the system integration.

Indicators	Mean	Interpretation
1. User inputs are strictly validated	4.61	Strongly Agree
2. Duplicate records were minimized.	4.84	Strongly Agree
3. Data modification can be done with ease.	4.55	Strongly Agree
4. The system provides user's log-in and data access trail to track down user's activity.	4.22	Strongly Agree
5. Reports are properly dated and accounted for.	4.82	Strongly Agree
AVERAGE	**4.61**	**Strongly Agree**

Table 4.4 Respondents' rating on the Reliability of the system

Performance

Table 4.5 shows the result of the respondents' rating on the features of the system in terms of performance. The indicators aim to assess the speed, efficiency and response time of the system.

The lowest mean obtained was 4.18. The data shows that the system was very low in terms of response time and processing. The possible reason that causes the result is due to the speed of the terminals used in the evaluation.

The highest mean obtained was 4.69. The data shows that the system was very high in terms of retrieving the data from every office. The possible reason that causes the result is due to the system integration.

Indicators	Mean	Interpretation
1. Response time and processing time are in acceptable range.	4.18	Agree
2. Usage of computer resources is maximized.	4.43	Strongly Agree
3. Data retrieval in every office is fast and easy.	4.69	Strongly Agree
AVERAGE	**4.43**	**Strongly Agree**

Table 4.5 Respondents' rating on the Performance of the system

Supportability

Table 4.6 shows the result of the respondents' rating on the features of the system in terms of supportability. The indicators aim to assess the

instability and compatibility of the system as well as the data back-ups and restoration process of the system.

The lowest mean obtained was 4.33. The data shows that the system was very low in terms of data archiving. The possible reason that causes the result is due to archiving of records by using the academic year.

The highest mean obtained was 4.59. The data shows that the system was very high in terms of operating systems compatibility. The possible reason that causes the result is due to the accessibility of the system using any operating system.

Indicators	Mean	Interpretation
1. The system can be installed in any computer system with compatible operating system.	4.59	Strongly Agree
2. Supports data back-up and restoration procedures.	4.55	Strongly Agree
3. Supports data archiving by managing academic school year.	4.33	Strongly Agree
4. The system can be installed with minimum hardware requirements.	4.41	Strongly Agree
AVERAGE	**4.47**	**Strongly Agree**

Table 4.6 Respondents' rating on the Supportability of the system

Maintainability

Table 4.7 shows the result of the respondents' rating on the features of the system in terms of maintainability. The indicators aim to assess the testability and configurability of the system.

The lowest mean obtained was 4.33. The data shows that the system was very low in terms of the level access of the system. The possible reason that causes the result is due to the restriction of the user per module.

The highest mean obtained was 4.59. The data shows that the system was very high in terms of changes that can be made with ease. The possible reason that causes the result is due to the settings management of the system.

Indicators	Mean	Interpretation
1. Can add new user in every module of the system.	4.51	Strongly Agree
2. Levels of access of other users are determined by the system's administrator.	4.33	Strongly Agree
3. The system is provided with system settings that are essential in every office.	4.45	Strongly Agree
4. Changes can be made with ease.	4.59	Strongly Agree
AVERAGE	**4.47**	**Strongly Agree**

Table 4.7 Respondents' rating on the Maintainability of the system

Table 4.8 shows the summary of the respondent's rating on the system in terms of Functionality, Usability, Reliability, Performance, Supportability and Maintainability.

The average mean of 4.58 interpreted as strongly agree shows that the system was recognized and has met the requirements set-forth by personnel of the Admission Office, Registrar's Office and Finance Office.

Indicators	Mean	Interpretation
1. Functionality	4.63	Strongly Agree
2. Usability	4.64	Strongly Agree
3. Reliability	4.61	Strongly Agree
4. Performance	4.63	Strongly Agree
5. Supportability	4.47	Strongly Agree
5. Maintainability	4.47	Strongly Agree
AVERAGE	**4.58**	**Strongly Agree**

Table 4.8 Summary of the respondent's rating on the system

CHAPTER 5
SUMMARY, CONCLUSION AND RECOMMENDATION

In this chapter, the researcher presents the general summary of the study, the conclusions that were based on the objectives of the study and the recommendations of the researcher to extend the functionality and capability of the study.

Summary

Due to the inconveniences that are being experienced and decentralization of data in the Admission, Registrar and Finance Office during the enrollment period tends to slow the process in every office. The researcher has come up with a Centralized Information System for Mary the Queen College (Pampanga), Inc. to streamline the process and standards of the aforementioned offices of MQCPI.

The system was designed and developed by the researcher using different methodologies and analytical tools such as system development life cycle, data flow diagrams, hierarchical input-process-output and program flowchart that aided the researcher in developing the system.

Due to the result of the evaluation, the system has successfully met the requirements set-forth by the locale.

Conclusion

The researcher designed and developed an admission module that is capable of managing and monitoring the applicants' records, managing the students' scholarship applications and generating inventory reports.

The researcher designed a registration module that is capable of managing subjects, curricula, managing schedules, faculty subject loading,

enlisting, enrolling students, managing the students' academic records and generating reports.

The researcher developed a billing module that is capable of assessing students' tuition fees, managing and monitoring students' financial records and obligations, managing students' promissory note application, processing student payments and generating reports.

The researcher designed a grading module for the faculty that is capable of recording students' grades (Preliminary, Midterm and Final Periods).

The researcher provided a human resource module that is capable of managing the employees' personal profile.

The researcher designed an administrator module that is capable of managing user accounts, user restrictions and database back-ups.

The system was evaluated in terms of Functionality, Usability, Reliability, Performance, Supportability and Maintainability. The result shows that the system was recognized and has met the requirements set-forth by personnel of the Admission Office, Registrar's Office and Finance Office.

Recommendation

The following were the recommendations by the researcher that can further enhance the functionality and capabilities of the system.

The grading module can be developed and extended into an extensive grading system that will provide an electronic class record for the faculty members of MQCPI.

The human resource module can be designed and extended into an attendance monitoring and payroll system to solve the problems of the human resource office in computing the employees' salaries.

To achieve a holistic centralized information system for MQCPI, a library information system is also recommended to address the problems and inconveniences being encountered by the students and library personnel.