

Chapter 1

PROJECT AND ITS CONTEXT

Project Context

Computerization is a control system that manages processes in the industrial workplace. It reduced human errors and processing time, thus it can boost productivity and result in a high quality of product production. In the information system, computerization is concerned about interrelating different but interdependent transactions. This can result in a system with well-integrated processes that can perform much faster and more accurate than a manual system. Different interrelated processes build up enrollment procedures called Enrollment System. ES is used particularly in recording and retrieving student s information. Tracking student's information is also one feature of ES, in which the school can trace the standing of a student, furthermore, researchers gathered information about school backgrounds.

St. Francis Xavier Catholic School is located at 160 Champaca St., Maligaya Park Subdivision, Novaliches, Quezon City was founded by Xaverian Missionaries since June 1994 managed by the Roman Catholic Bishop of Novaliches Educational System (RCBN-ES) headed by Most Rev. Antonio R. Tobias, D.D (Bishop) the Chairman of the Board of Trustees together with Rev. Albert N. Delvo the Superintendent of RCBN-ES, a catholic school having a eighty nine (89) pupils enrolled with two teachers employed and had Mrs. Concepcion Castillo, a retired professional teacher with a lot of experience in teaching, as the first School Principal. Mrs. Castillo served enthusiastically as volunteer without pay. On the following school year 1995-1996 St. Francis Xavier Learning Center welcomed and accommodated one hundred thirty-three (133) pupils. The very

first school building was a gift from Xaverian Missionaries of Japan through the coordination of Rev.Fr. Peter Venturini, acting Parish Priest at that time. It has started to offer the Secondary Curriculum in 2005 which is now fully organized by DepEd. The Commencement Exercises of the first batch in High School Graduates took place on April 1, 2009. Currently the school has forty employees (40) and more than seven hundred (700) students that are still increasing every year. Because of the memorandum of department of education, the school added senior high school which includes strands like GAS, HUMS and ABM. Ms. Josephine L. Malicdem as the present school principal together with Ms. Ma Frida M. Vitug the registrar officer and the secretary, is in charge of handling all the records of the students while Ms. Regina Cecilia Molina is the finance officer of the school. The other areas of enrollment process are given to the assigned faculties of the school. Every beginning of the school year, the enrollee needs to take the entrance examination of the school given by the guidance councilor of the school, if the enrollee passed the examination the principal will conduct interview. Afterwards enrollee needs to fill up the registration form then proceed to the assessment area that is facilitated by the faculty. In this phase, the faculty is going to compute the tuition fee of each student. The enrollee will pay the computed tuition fee in the cashier. Afterwards, the student needs to bring the copy to the registrar to have it stamped in order to be officially enrolled. Finally, the student will proceed to another faculty for sectioning.

Meanwhile, the records of enrolled student per day are not properly organized that leads to loss of records. The status of the enrolment per day is not properly monitored which cause inaccurate number of data. Keeping the records in a unsafe facility can cause loss of records permanently because of possible disaster may happen. The

researchers conducted an observation of the procedure during enrollment period and found out that during the registration, enrollee fill up the registration form in more or less fifteen (15) minutes and that leads to unwanted time consuming. During first month of enrollment, some students are not following the schedule which leads to large number of enrollees during last week that delays the process and makes parent disobedient.

In that case, the researchers develop the Enrollment System for St. Francis Xavier Catholic School that can handle the registration, assessment, billing, and sectioning. The system can produce an accurate and real-time count of the number of students enrolled. This will surely increase the competitiveness of the institution and increase the number of students with the better service that staff may provide during enrollment. Finally, having an enrollment system can provide quality, up-to-date and critical information available.

Objectives

The main objective of the project is to create an Enrollment System for St. Francis Xavier Catholic School to ease the difficulties.

Specifically, the project aims to:

1. To create a module that will handle the process of registration, evaluation, assessment, billing, and sectioning.
2. Improve the process of enrollment by providing an accurate report.

3. To make the system dynamic enabling end-user to manage the system maintenance.
4. Evaluate and assess the development of the system based on functionality, usability, reliability, portability, and security.

Scope and Limitation of the Project

Switching to a computerized student enrollment system is an obvious next step to bridge the gap between old registration methods and computerized student management systems. The amount of money that can be saved is enough to make a difference in our education system.

The proposed enrollment system is designed to cover the major processes in St. Francis Xavier Catholic School such as registration of the current and incoming students, assessment of fees for tuition and miscellaneous, payment of bill and organizing students in the process of sectioning.

The beneficiary of the project will be the school administration and its students since this will offer a friendly and fast transaction because the process will be computerized. Having a computerized enrollment system will organize the student's information and will ease the workloads of faculties and school officers. The project will be developed from January 2018 until April 2019. However, the system does not cover the computation of student's grades and class schedule.

The design proposed system will be limited about the entrance examinations and interview, the entrance examination of enrollee will be done by the guidance councilor while the interview will be done by the school principal. System design will not be capable to give an actual examination of a enrollee, these processes will remain manual done by the school officials, the system cannot generate and print official receipt and handle major accounting matters this will remain done by the school finance officer, the system also cannot handle the scheduling of faculty and students subjects as well as room assignment. However the system is only capable of handling the enrollment procedure and not the academic aspect and basic education of grade school, junior high school, senior high school.

Chapter 2

REVIEW OF RELATED LITERATURES

According to research of Nica Moralloset. al (2017) students of Colleges de sta. Teresa de Avila on their research entitled Computerized Enrollment System for Our Lady of Lourdes Technological College, Computerized Enrollment System will be used to enroll student with the help of technology the system also has module where the end-user can manage the curriculums, related data and information that one stored in the system. The system has the capability to facilitate the student master file so the information of the students will be more organize and secure (supported by D'Arcy 2017). Computerized enrollment system has a module that can handle billing and payment of the students moreover, it compute the payments of the students accurately and automatically. The system also can generate accurate reports such as billing report and report on number of enrollees.

As stated by D'Arcy (2017) on his article entitled The Disadvantages of Manual Document Filling Process, misplaced documents can easily be placed in the wrong hands. Clients expect their information to be secured in your hands. If one cannot keep this safe, he or she is at risk for losing them. A cabinet filled with files is way easier to access than a computer which requires a password and credentials to get into.

According to System of Bicol University Abreta et.al., (2014) in her research work entitled E-Registration, system focusing one course prerequisites and co-requisites, computerized advising processes for assessment and generate needed reports for registrar and student.

According to Custinar, Cruz et.al,(2015) on his article entitled Computerized Enrollment System for Mary Lourdes Academy, in information system, computerization is concerned with interrelating different but interdependent transactions. This can result to a system with well-integrated processes that can perform faster and more accurate than a manual system.

According to Jeffy Lomboy (2014), “An enrollment system must be a good computer generated process, this said is to manage a time for the avoidance of a workload so that the accurate information that the school needs and it benefits only a student and the administration”.

Based on the study of Aries (2015),“The process of enrollment in schools nowadays requires information technology. The objective of Information Technology is to help humanity from doing loads of work over time. By having computerized system, the cost during enrollment will be cut down and much effort will be reduced”.

As stated by Joshua Jamora (2014),“Enrollment system is used for student information records. A useful enrollment system is used to reduce the load of the human that normally has to do all the manual work like in the enrollment process. A well enrollment system is build for a faster process in every school”.

According to Eilrach Solomon (2014), “A quick and automated enrollment system process is the way the school can find an easier and better way to implement an enrollment system. The automation of the said system will be implemented through the use of equipments like computers and printers. Users can use these equipments in order for the work to be done faster and it can lessen the processing time to fast accessing of grades”.

Based on the study of Kerian Greenaway (2013), “The system known as the Edith Cowan University Web Enrollment System (ECUWES) had replaced the traditional hard copy system of enrollment. The system offers immediacy and convenience of course enrollment via the internet. The said university in Australia is currently enrolling more than 5000 new students with easier transactions cause of their online enrollment system. In the local setting, academic institutions both the private and government schools are shifting from manual to computerized system including student registration. This is accomplished either on an intranet or internet-based environment. Inspired by the advancement of modern technology and the problems regarding enrollment transactions the proponents have come up with an online enrollment system exclusively for school with many enrollees”.

As stated by Ace Adrian (2016), “Lack of enrolment system in schools can lead to chaos and troubles”, as. Students will be confused on what they should do to be able to enroll that is why such systems is extremely useful in the way that it gives an ease on working on enrolment processes. Enrollment is very useful in retrieving vital information of the students. Without it can lead difficulty both for the administration of schools and student in enrollment processes”.

According to Stephen McHenry (2014), “Adopting the theory of Stephen McHenry which is known as the iterative implementation covers the breakdown of overall functionality of the system to a what he called feature set and those feature sets represents different process involve in an enrollment system. It helps locate what feature an enrollment system will have since that this kind of systems does many activities and processes”.

Based on the study of Thelma Smith (2017),“The computerized enrollment system will provide the needed and storing information in a faster, more convenient way by storing file of the student enrollees in a computer system that will lessen the effort of faculty and staff in storing files of each student every now and then. The idea behind an enrollment system is not a new concept. This will only serve as an immediate solution to the increasing problems towards enrollment that provides more easy way in enrolling. This only means that a poor management of an enrollment system could affect the operation of the school. Thus, to avoid errors in enrollment, it wills an instant remedy, which is the development of a computerized enrollment system”.

As stated by Ian Sleight (2015),“Enrollment System is the must have system in a school. When a student is enrolling for a specific course the school requires all the necessary information of the enrollees. When the school retrieves the important information from the student, the encoder now should input the details of the student in the enrollment system. In the enrollment system, the school can trace what are the standings of the students or the academic performance of each student. It holds all the information needed by the school to provide a stored student data”.

According to Trip Adler (2014),“Enrollment is the process of entering and verifying data of students to register on a particular school. Different interrelated processes build up enrollment procedure called Enrollment System (ES). ES are used particularly in recording student’s information. Tracking student information is also one feature of ES, in which the school can trace the standing of a student”.

Based on the study of Dunn and Scott (2014),“science and

technology is the root of emerging innovation in this world. For many years now, a person in this field of expertise does not stop to reshape the landscape of today's business world. Enrollment system has made huge impact to the school arena. It is a system that is built on innovative program strategies. It is a system that will help both the enrollment personnel-in-charge and the students to easily process the enrollment at the lesser time. Distinct from traditional enrollment. LAN enrollment system process large assortments of student records and provide efficient and consistent information system."

As stated by Aquino (2015), "importance of computer application is increasing day by day. In the latest decades of the Millennium winning organization are those which are willing to integrate business strategy and computer information technology in plying their respective trades. The use of computer information technology results for them to be able to develop products fast and make decisions fast, ability to have fluid organization structures, able to cope with the demanding work force and external environment by the rapid development of innovative approaches and lastly using information system confirms the company's mission vision. Schools use information systems in the way of implementing an enrollment system. This results for them to attract enrollees and earn an income. Enrollees are attracted because the use of the said system makes the transactions faster and easier."

Based on the study of Dumbrava (2016) in his article entitled Manual vs. Computerized System, and if one wants to review financial information from several years ago, with a computerized accounting system he or she can do it easily, while with a manual one would have to sort through stock of paper ledgers.

Based on the study of Caipang (2013) on his research entitled, “Development of a Computerized Enrollment System in a Rural-Based Higher Education System”, the work of the staff will be less strenuous in finding or editing the file/record of the student.

As stated by Cayas (2013) in her research entitled Cavsci LAN Based Enrollment System, the advantage of using LAN (Local Area Network) based on Enrollment System is that it does not need internet connection to run the program. It just need an area wherein there is a computer installed with that program.

According to Kielle Simon Jose (2013) in Santa Isabel Computerized Enrollment Noted: “Computerization is synonymous to the word automation which is the act of implementing the control with equipment and with advanced technology, which usually involves using electronic hardware. It also implies the replacement of human workers with machines.”

Based on the study of Palomo (2012) on his research work entitled Computerized Enrollment System of Lagro Maligaya Child Community Development Center Inc., showed that schools which still use a manual enrollment process are thriving to assist its enrollees year after year. If a computerized enrollment system is not implemented soon, future complications may arise.

The following literatures refers to the objective and effectiveness of the project, in this case researcher’s figured out how the project will be work in implementation. In the following statements said, enrollment system must meet the standard of a better solution because it will be the solution on different problem that affected the process of enrolling students and transactions. In the

following literatures state that having enrollment system of a school will help to minimize problem that encountered during enrollment period, as stated also enrollment system will help to attract the enrollee's of a school, that means it will help to increase the population of a school. Having computerized system will also a development to a company, this means to innovative and successful business. The researcher gather literature in different answer on how to provide better, faster, and accurate services that will give satisfaction to every person that they are transacting with. And also it is the top priority of every business organization's and institution's.

Chapter 3 **TECHNICAL BACKGROUND**

Technicality of the project

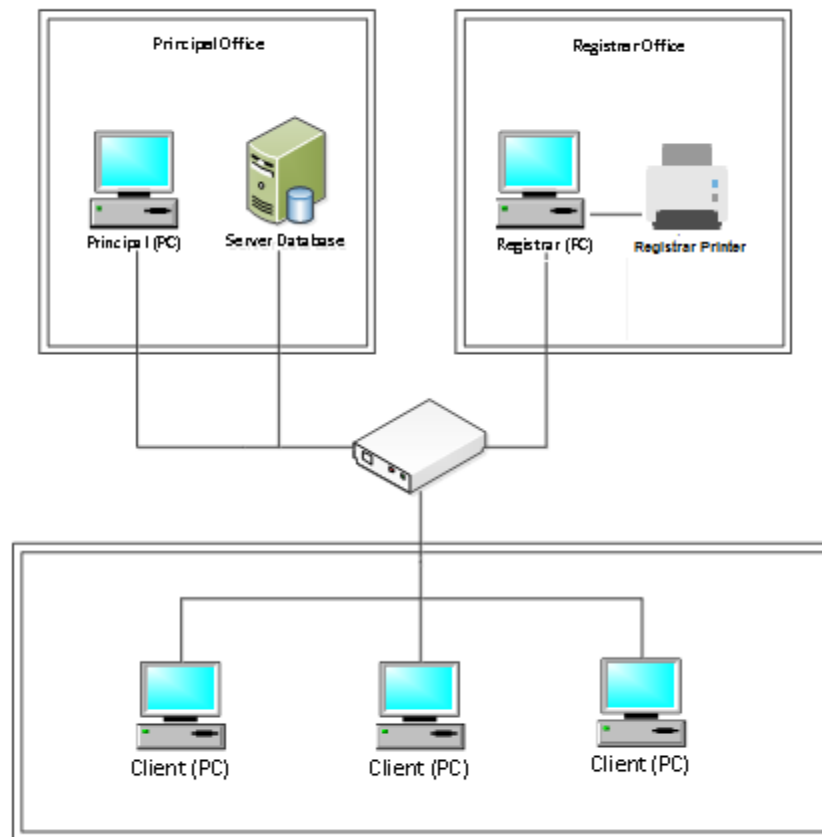


Figure 1. System Architecture

Figure 1 is the system architecture of Enrollment System for St. Francis Xavier Catholic School wherein three computers being presented are divided into three, the grade school, junior high and senior high. While the server database will be the storage for the student's information that has been recorded in the three client computer while the principal computer and registrar computer will serve as monitoring computers. Switch hub will serve as the connectors of the computer.

Details of the Technologies to be Used

Operating System-The OS is a computer must have since this will process the basic function of a computer. With the said project, the client computer must have a Microsoft Windows with the at least version 7 while Linux for the server computer.

Database -This is a freely available open source Relational Database Management System (RDBMS) that uses Structured Query Language (SQL). SQL is the most popular language for adding, accessing and managing content in a database.

Local Area Network-A collection of an interconnecting computer that is separated by the distance up to a few kilometers and typically used in an office. Networking really helps establishment in a way of providing simultaneous progress.

Client Computers-The client is most often located on another system or computer, which can be accessed via a network. It will be used by staff in gathering the information from the students.

Server Computers - In a technical sense, a server is an instance of a computer program that accepts and responds to a request made by another program. Most data are stored on the server computer because the database is installed in it. Servers have been around as long as networks.

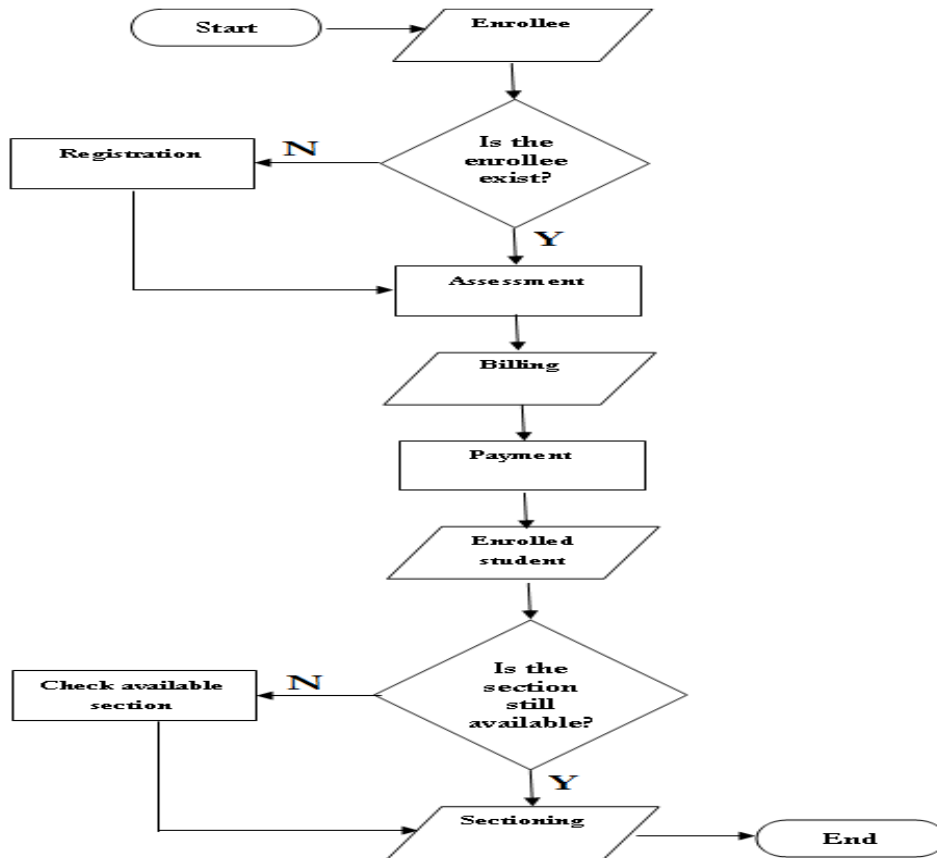
How the Project will Work

The project will work once requirements like hardware and software are completed as well as the proper setup. First, there should be a computer that can be used by the staff during the operation which acts as the client computer. Another computer or can be a system unit only that is the server which will hold the database. Software should be installed such as OS for it to operate. After the installation of Microsoft Windows 7 as the lowest version for the client computer, the computer must be connected to a switch hub that will serve as the connection between computers.

The principal can access all the features of the system while the registrar has a fewer access but still can use the system especially in generating student's information and source for credentials. With the use of switch hub, all the information will be transmitted to the principal and registrar computer and directly stored in the database. Therefore, the student can directly proceed to the faculty members that will handle the procedure of enrollment since data is updated. Through this process, proper arrangement of the computer will be made properly.

Afterward, when hardware and software is all set, the client should have the knowledge on how to use the system, therefore, training should be made. Finally, prior to full implementation of the system, a dry run can test if there is any issue or adjustment that must

be completed. Then, the system can now be used to provide a fast and accurate process and information to students.



Flow Chart

Figure 2. System Flowchart

The first step of enrollment system is, enrollee must proceed to registration and the enrollee information will input into registration form if the enrollee is new, but if the enrollee has a previous record to the system the enrollee can proceed to the next step which is the assessment as well as the new enrollee after done in registration. After registration enrollee can now proceed to the assessment, in

assessment the enrollee assess by the faculty, in assessment the faculty will assess the enrollee by what grade level, and the mode of payment that the enrollee choose. After assessment enrollee can now proceed to billing to get the billing statement for the next step which is the payment. After the enrollee pay the bill. enrollee now consider as enrolled student and now the student can proceed now to the sectioning, in sectioning the student can now section to available section.

Chapter 4

Result and Discussions

Environment

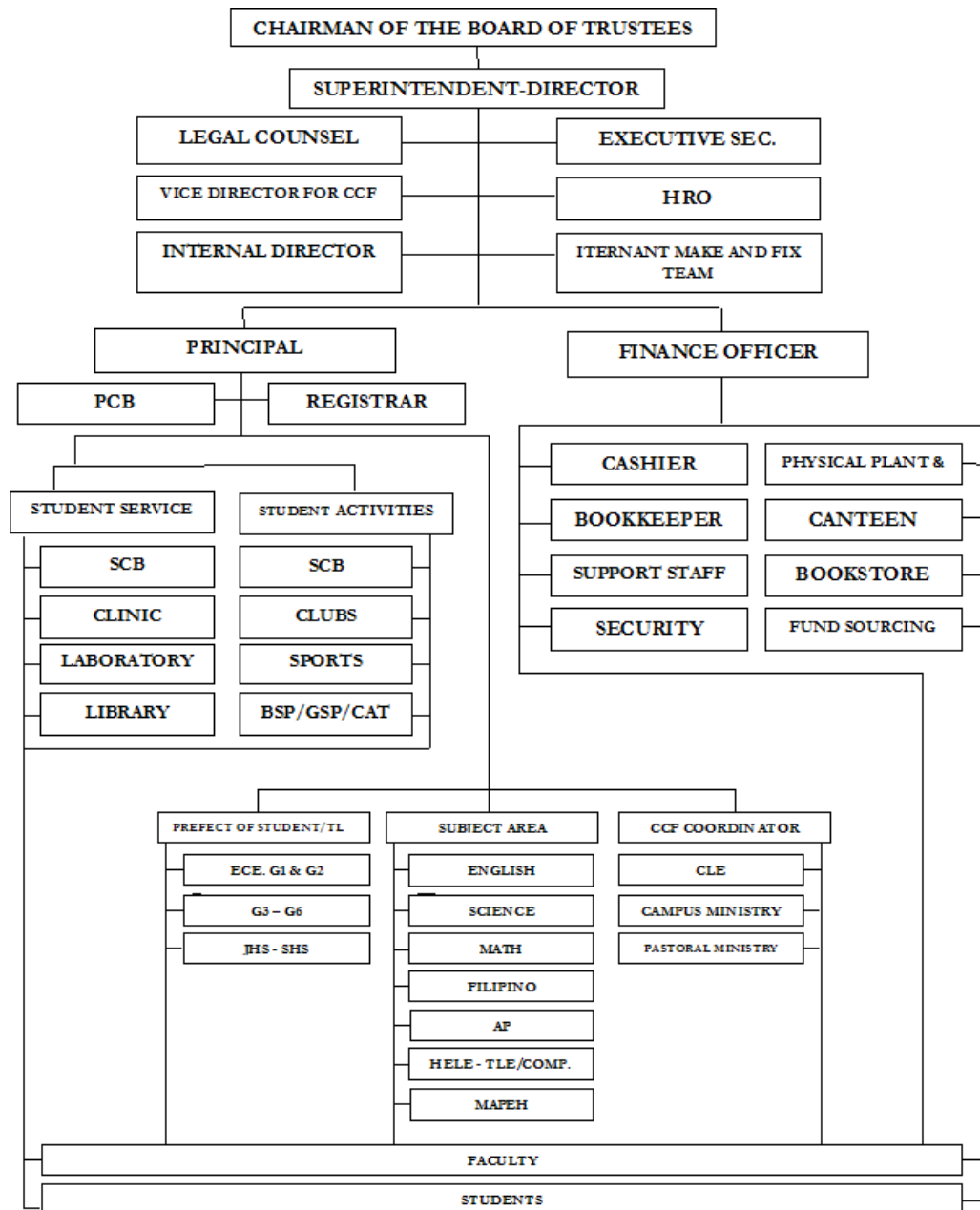
Locale

St. Francis Xavier Catholic School was established by Xaverian Missionaries in 1994 a non- sectarian school manage by the Roman Catholic Bishop of Novaliches Educational System (RCBN-ES) headed by Most Reverend Antonio R. Tobias, D.D. (Bishop) the chairman of the board of trustees. The school offered Grade School, Junior High and Senior High School which includes strands like GAS, STEM, HUMS and ABM.

Population of the study

The population of the respondents in this study is consist of thirty one (33) males and nineteen (17) females, total of fifty (50) respondents including the principal and the registrar of the school which will be the user of the developed system, ages 17 to 41 above years old are filled up the survey. The survey use in this study contains the system test. Included in the system test are the following determinants: functionality, reliability, usability, efficiency, maintainability and portability.

Based on the survey respondents are satisfied in the system that researchers has proposed.



Organizational Chart

Figure 3. Organizational Chart

Requirements Specifications

Operational Feasibility

Fishbone Diagram

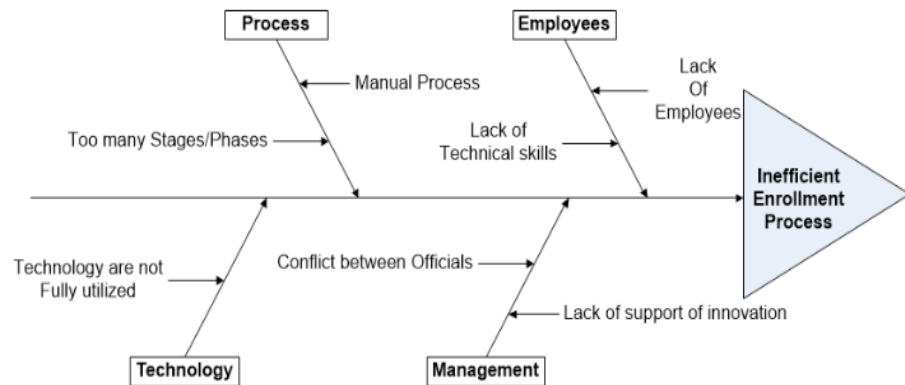


Figure 4. Fishbone Diagram of the Project

The Fishbone Diagram is used to determine the problem that need to prevent and solve once the system is implemented. This diagram shows the cause and effect of challenging part that the school may encounter during enrollment. If the processes have a problem it may cause to inefficient enrollment process. One of the problems is lack of employee. Some employees of the school are not computer literate leading to school using manual process. Regarding to technology is not fully utilized to support the

school facilities and it will cause to inefficient process, to resolve this problem that encountered by the employees and students during enrollment the school need to improve the current technology to prevent this problem. Another problem is the manual process during this process the student need to filling up many form's causing to slow down the process of enrollment. The management encountered problems because of conflict between officials on submitting reports.

Functional Decomposition Diagram

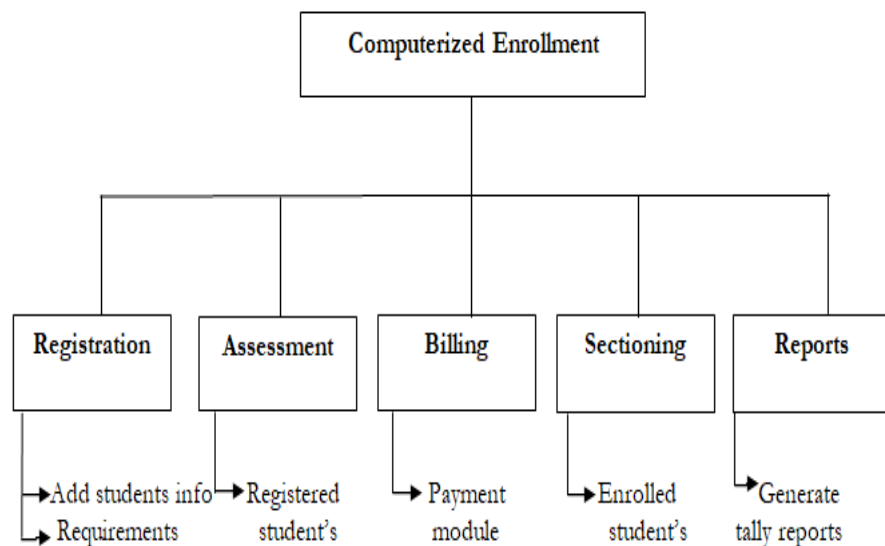


Figure 5. Functional Decomposition Diagram of the system

The diagram above shows the module and its function the Computerized Enrollment System. The proposed system modules which are registration module, assessment module, billing module, sectioning and reports.

Technical Feasibility

Compatibility Checking

Hardware	Software
Processor :Intel I7 Memory: 8Gb SSD: Solid State Drive Monitor Mouse Keyboard Printer Rj45 UTP cable Switch Hub	Microsoft Windows 10

Table1. Compatibility Checking

Schedule Feasibility

Gantt Chart

Module/Phase		DEC				JAN				FEB			
		1	2	3	4	1	2	3	4	1	2	3	4
1.0 DOCUMENTATION													
1.1	Identity Processes	█	█				█	█	█	█	█	█	█
1.2	Document Process	█	█				█	█	█	█	█	█	█
1.3	Prepare End-user Documentatio n									█	█	█	█
2.0 TRAINING													
2.1	Conduct End-User Training												
3.0 CONFIGURATION													
3.1	Configure System												
3.2	Prepare Software Development									█	█	█	█

4.0 DEVELOPMENT																	
4.1	Determining Requirements																
4.2	Prepare Design																
4.3	Develop the System																
5.0 TESTING																	
5.1	Perform Unit Testing																
5.2	Perform Integration Testing																
5.3	Perform Stress Test																
5.4	Perform User Acceptance Test																
6.0 DATA MIGRATION																	
4.1	Determining Data Requirements																
4.2	Prepare Data																
4.3	Upload/Enter Data																
7.1	Dry-Run																
7.2	Actual Software Implementation																

Module/Phase		MAR				APR				MAY							
		1	2	3	4	1	2	3	4	1	2	3	4				
1.0 DOCUMENTATION																	
1.1	Identity Processes																
1.2	Document Process																
1.3	Prepare End-user Documentatio																

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Module/Phase		JUN				JUL				AUG			
		1	2	3	4	1	2	3	4	1	2	3	4
1.0 DOCUMENTATION													
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7.0 IMPLEMENTATION														
7.1	Dry-Run													
7.2	Actual Software Implementation													

Module/Phase		SEP				OCT				NOV				
		1	2	3	4	1	2	3	4	1	2	3	4	
1.0 DOCUMENTATION														
1.1	Identity Processes													
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7.0 IMPLEMENTATION																			
7.1	Dry-Run																		
7.2	Actual Software Implementatio n																		

Figure 6.Gantt Chart

Time management is the foundation of conducting the project. By using Gantt chart, the proponents follow the scheduled task to have a guide and to help them keep track on what things must be done in a day.

Economic Feasibility

Cost and Benefit Analysis

Development Cost			
Hardware			
Description	Quantity	Unit Price	Amount
Laptop	1	₱ 35,570.00	₱ 35,570.00
Printer	1	₱ 5,000.00	₱ 5,000.00
Sub Total			₱ 40,570.00
Software			
Description	Quantity	Unit Price	Amount
Windows 10 Professional	1	₱ 11,999.00	₱ 11,999.00
Microsoft Visual Studio 2010	1	₱ 17,499.50	₱ 17,499.50
MrSQL Database	1	₱ 0.00	₱ 0.00
XAMPP	1	₱ 0.00	₱ 0.00
Microsoft Office 2010	1	₱ 4,000.00	₱ 4,000.00
Microsoft Visio 2010	1	₱ 3,499.50	₱ 3,499.50
Sub Total			₱ 36,998.00
Overhead Cost			
Description	Quantity	Per Month	Amount
Electricity	10	₱ 500.00	₱ 10,000.00
Internet	10	₱ 5,999.00	₱ 5,999.00
Transportation	5	₱ 750.00	₱ 3,750.00
Sub Total			₱ 19,749.00
Labor Cost			
Description	Quantity	Unit Price	Amount
Programmer	2	₱ 150,000.00/ ₱15,000.00 per month	₱ 300,000.00
Technical Writer	3	₱ 100,000.00/ ₱10,000.00 per month	₱300,000.00
Sub Total			₱ 600,000.00
Total Development Cost			₱697,317.00

Implementation Cost			
Hardware			
Description	Quantity	Unit Price	Amount
Computer	5	₱ 15,000.00	₱ 75,000.00
Canon PIXMA TS3160 Printer	2	₱ 2,700.00	₱ 5,400.00
RJ45	1 BOX	₱ 5.00	₱ 500.00
UTP Cable	100 Meter	₱ 15.00	₱ 1,500.00
Switch Hub and Ports	1	₱ 1,000.00	₱ 1,000.00
Sub Total			₱ 83,400.00
Software			
Description	Quantity	Unit Price	Amount
Windows 10 Professional	5	₱ 11,999.00	₱ 11,999.00
MySQL Standard Edition	1	₱ 0.00	₱ 0.00
Sub Total			₱ 11,999.00
Maintenance			
Description	Quantity	Per Month	Amount
After Sales Support		₱1,000.00/ per month	₱ 12,000.00
Sub Total			₱ 12,000.00
Total Implementation Cost			₱ 107,399.00

Benefits		
Tangible Benefits		
Description	Monthly Benefits	Annual Benefits
Less Labor Cost	₱ 18,200.00	₱ 218,400.00
Reduce paper cost	₱ 4,000.00	₱ 4,000.00
Increase Revenue	₱ 91,000.00 / per month	₱ 1,092,000.00
Total Tangible Benefits		₱ 1,374,400.00
Intangible Benefits		
Description		
Efficient Enrollment process		
Accurate and faster access to data for timely decision		
Increase the speed up of transaction		
Prevent loss of data		
Secured and effective way of maintaining student file		
Save space for documents		

Computation of Cost and Benefits Analysis

Payback Period = Total Development Cost + Total Implementation Cost

Total Benefits

Payback Period = ₱ 697,308.00 + ₱ 107,399.00

₱ 1,374,400.00

Payback Period = ₱ 804,707.00

₱ 1,374,400.00

Payback Period = 0.58 x 12 months

Payback Period = **7 months**

Requirements Modeling

Context Diagram

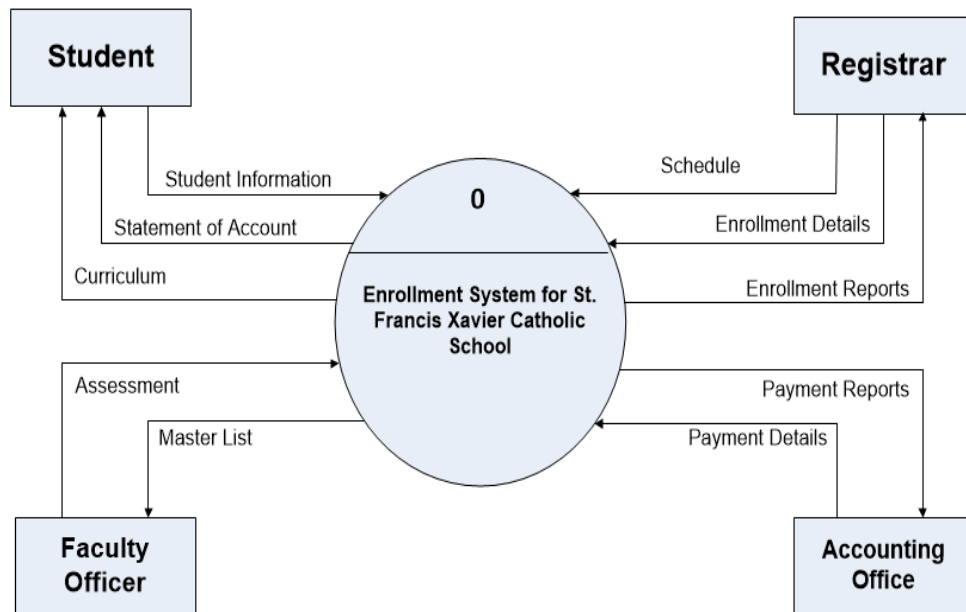


Figure 7. Context Diagram of the System

Context diagram shows the entities that interact to computerized system. The student will give personal information that the school requires. The end-user is the one who is responsible to assess the student. The record of all students' information that is already enrolled will directly be stored to the database of the management for monitoring purposes.

Use Case Diagram

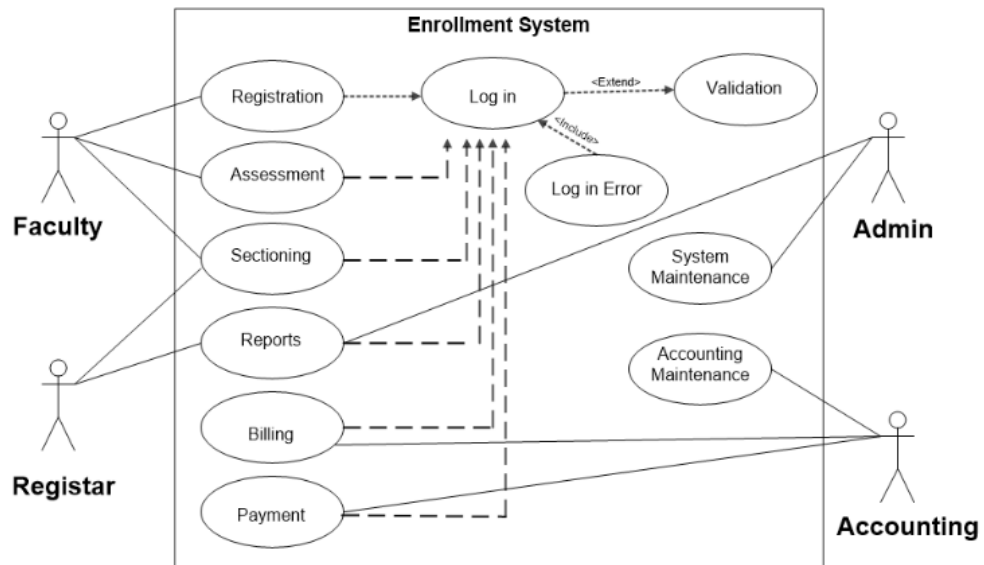


Figure 9. Use Case Diagram

This diagram shows that users who are involved in the system. End user has different restrictions to using the modules. The user is not allowed to use other module that is not related to a user task.

Risk Assessment/Analysis

Risk analysis is all about the possible problems that may happen before the project implementation together with its solutions. (1) Budget is one of the common risks because developing a system may cost highly due to its high-priced components, and that without the budget it can be a risk it will not able to provide the necessary needs for implementing the system. The next possible risk is (2) hardware, if the proposed system is installed in a low specification of a computer, it may cause poor performance, delay and other compatibility issues.

Another risk is those (3) Employee with lack of technical skills because not all employees has the ability and knowledge to perform specific task that are often relate to computer. To prevent this risk the researchers' will conduct training for employees in the company to have knowledge on how to use the system. In addition (4) if the there is an existing system currently used that will affect the process of enrollment there will be a risk of inaccurate records of student accounts and records.

Design

Output and User-Interface Design

Forms

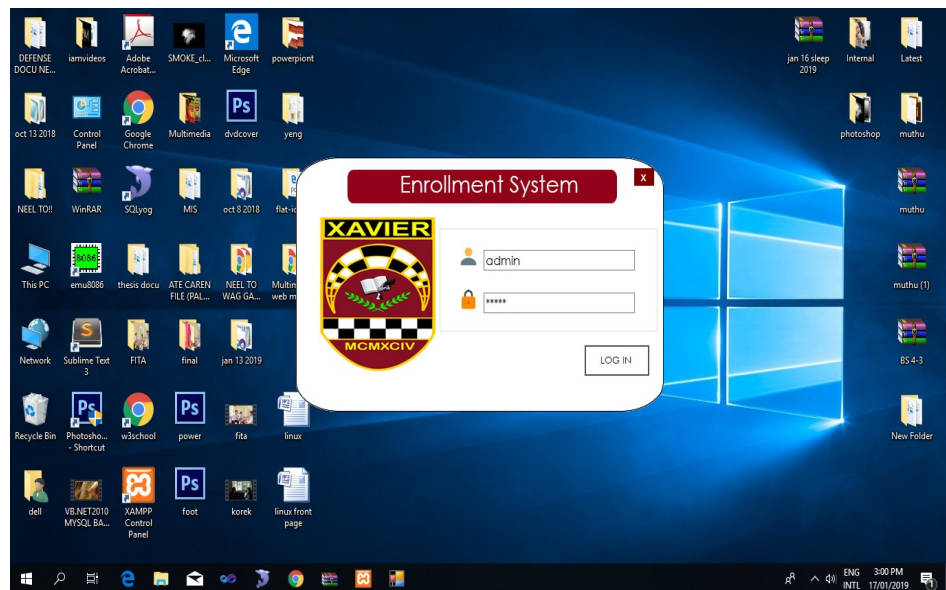


Figure10.LoginForm

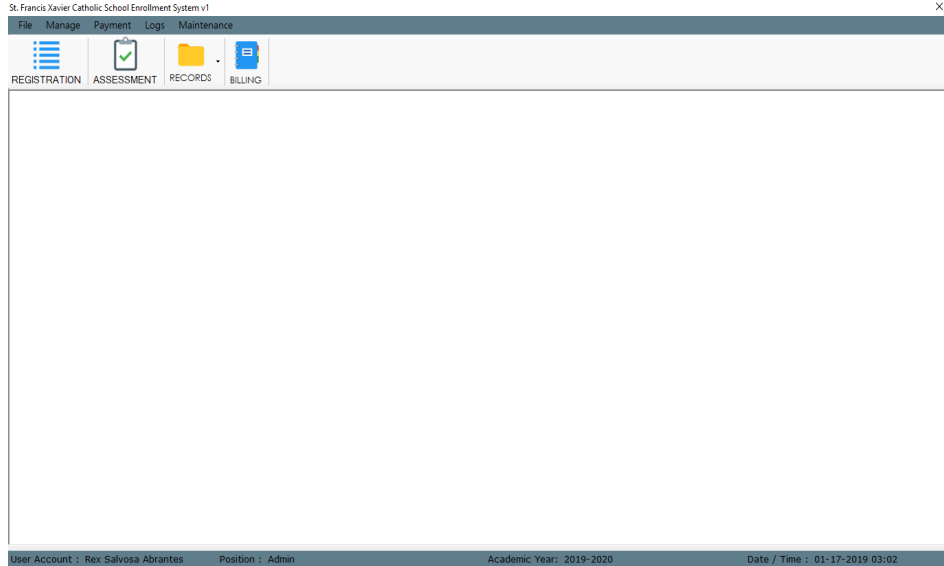


Figure 11. Main Form

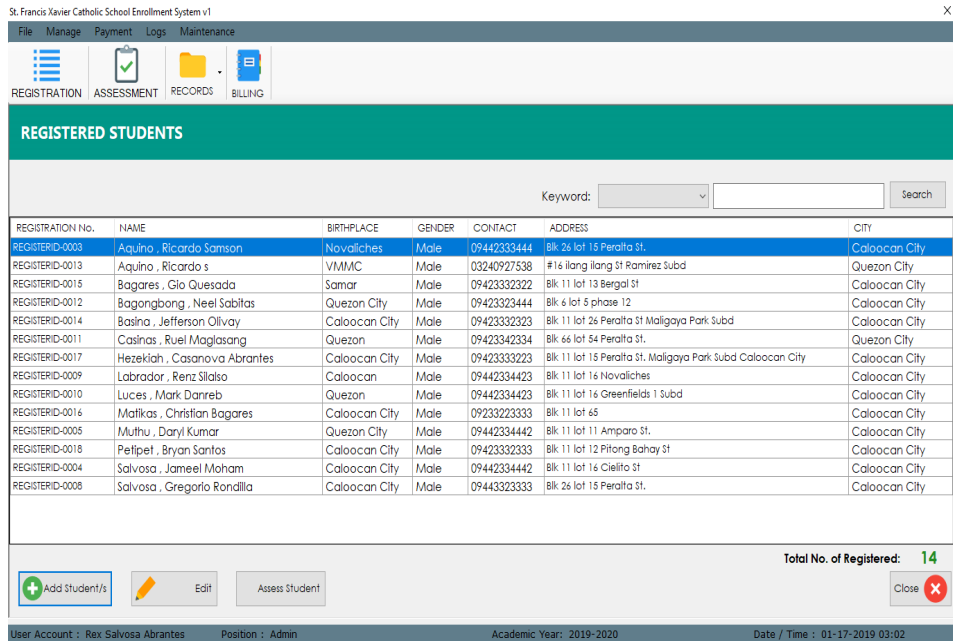


Figure 12. Registered Student Form

St. Francis Xavier Catholic School Enrollment System v1

File Manage Payment Logs Maintenance

Registration Number: REGISTERID-0019

REGISTRATION ASSESSMENT RECORD

Student Information Guardian Information Requirements

REGISTERED STUDENTS

REGISTRATION No.	NAME
REGISTERID-0003	Aquino, Ricardo
REGISTERID-0013	Aquino, Ricardo
REGISTERID-0015	Bagares, Gio Q
REGISTERID-0012	Bagongbang, N
REGISTERID-0014	Basina, Jefferso
REGISTERID-0011	Casinas, Ruel M
REGISTERID-0017	Hezekiah, Casar
REGISTERID-0009	Labrador, Renz
REGISTERID-0010	Lucas, Mark Da
REGISTERID-0016	Matikas, Christid
REGISTERID-0005	Muthu, Daryl Kut
REGISTERID-0018	Petipet, Bryan S
REGISTERID-0004	Salvosa, Jameel
REGISTERID-0008	Salvosa, Gregor

STUDENT INFORMATION:

LRN Number:

Personal Information

Last Name: * Gender: *

First Name: * Contact: *

Middle Name: * Nationality: *

Birthdate: 1982-01-01 * Religion: Roman Catholic *

Birth Place: *

Personal Address

Address: * City: *

Ex. House No/Street/Subd: Barangay: *

Ex. Brgy Pasang Puli

Back Next Close

Total No. of Registered: 14

Add Student/s Edit Assess Student Close

User Account : Rex Salvosa Abrantes Position : Admin Academic Year : 2019-2020 Date / Time : 01-17-2019 03:03

Figure 13. Student Registration Form

St. Francis Xavier Catholic School Enrollment System v1

File Manage Payment Logs Maintenance

Registration Number: REGISTERID-0035

REGISTRATION ASSESSMENT RECORD

Student Information Guardian Information Requirements

REGISTERED STUDENTS

REGISTRATION No.	NAME
REGISTERID-0020	Aquino, Richard
REGISTERID-0027	Belmonte, Jhunki
REGISTERID-0014	Bertoldo, Angel
REGISTERID-0013	Canlas, John Be
REGISTERID-0032	Carolino, russell
REGISTERID-0026	Dalsay, Ricardo
REGISTERID-0021	Dogueria, Nick
REGISTERID-0025	Fernandez, Rom
REGISTERID-0006	Go, Reymart Let
REGISTERID-0015	Mameloto, Nica
REGISTERID-0029	Mameloto, Mon
REGISTERID-0017	Manlastas, Glo
REGISTERID-0005	Muthu, Neel Ma
REGISTERID-0012	Petipet, Brian R
REGISTERID-0033	Quirante, John
REGISTERID-0034	Rafols, John Jho
REGISTERID-0019	Rodriguez, Mil Jo

GUARDIAN INFORMATION:

First Name: * Occupation:

Middle Name: * Office Address:

Last Name: * Contact Number: *

Relation:

Note: Optional if you want to add another guardian just fill up the following fields.

First Name: Occupation:

Middle Name: Office Address:

Last Name: Contact Number:

Relation:

Back Next Close

If you click "Next" Information was saved

Total No. of Registered: 22

Add Student/s Edit Assess Student Close

User Account : Rex Salvosa Abrantes Position : Admin Academic Year : 2018-2019 Date / Time : 01-17-2019 03:26

Figure 14. Guardian Registration Form

Figure 17. Billing Form

St. Francis Xavier Catholic School Enrollment System v1

File Manage Payment Logs Maintenance

REGISTRATION ASSESSMENT RECORDS BILLING

ENROLLED STUDENTS

Filter By:

School Year: Date: 17/01/2019 Grade Level: Keyword: Search

Student No.	Fullname	Grade	Level	Date Enrolled	Sy
-------------	----------	-------	-------	---------------	----

PRINT Note: Click the button to Print the record of Enrolled Students.

Total No. of Enrolled: 0

Close

User Account : Rex Salvosa Abrantes Position : Admin Academic Year: 2018-2019 Date / Time : 01-17-2019 03:32

Figure 18. Enrolled Student Form

St. Francis Xavier Catholic School Enrollment System v1

File Manage Payment Logs Maintenance

REGISTRATION ASSESSMENT RECORDS BILLING

Student Information

LRN Number:

Student Number: Requirements Find

Personal Information:

Last Name: Gender:

First Name: Contact:

Middle Name: Nationality:

Birthdate: Religion:

Birth Place:

Complete Address:

Address: City:

Barangay:

Guardian Information:

First Name: First Name:

Middle Name: Middle Name:

Last Name: Last Name:

Occupation: Occupation:

Office Address: Office Address:

Contact Number: Contact Number:

Relation: Relation:

Edit Cancel Update Close

User Account : Rex Salvosa Abrantes Position : Admin Academic Year : 2018-2019 Date / Time : 01-17-2019 03:32

Figure 19. Student Information Form

St. Francis Xavier Catholic School Enrollment System v1

File Manage Payment

REGISTRATION ASSESSMENT RECORDS BILLING

BILLING PAYMENT

Student Number: Student Name:

Search

OR No.	Balance	Amount Paid	Rem. Balance	Date Paid	Cashier

Balance:

Monthly:

Amount Pay:

Amount Tendered:

Remaining Bal:

Amount Tendered:

Change:

Close Amount Tendered

User Account : Rex Salvosa Abrantes Position : Admin Academic Year : 2018-2019 Date / Time : 01-17-2019 03:50

Figure 20. Payment History Form

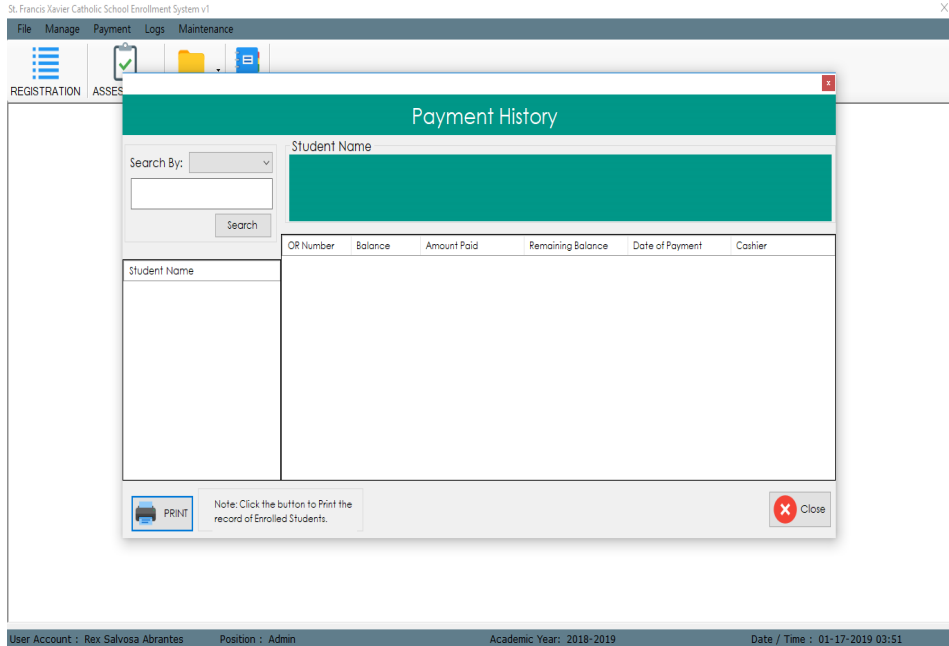


Figure 23. Payment History Form

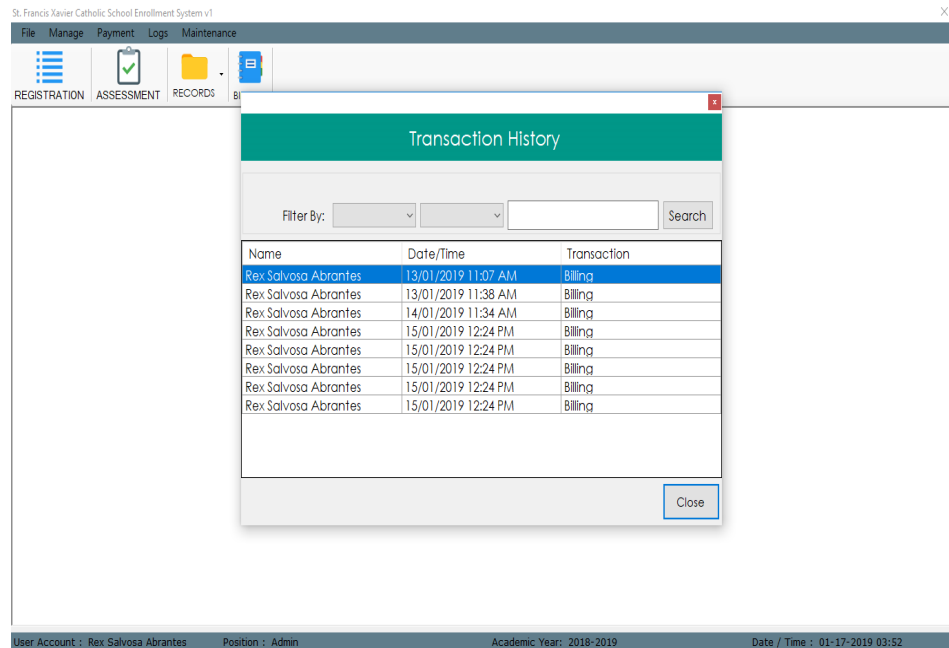


Figure 24. Transaction History Form

Account List

Find

Full name	Username	Position	is Active?
Abramo,Ree Salvas	admin	Admin	<input checked="" type="checkbox"/>
aguino,dobby samson	eddy	faculty	<input type="checkbox"/>

NEW + EDIT BACK

School Year

2018-2019

Change School Year

Save Close

Mode of Payment Setup

Keyword: Find

DESCRIPTION	Rate
Cash Basis	0
Semi-annual	5
Quarterly	7
Bi-monthly	10
Monthly	12

*NOTE: If you want to Edit the Data Just Double click and Click Edit

Description:

Rate:

+ Add Remove

Save Edit Cancel Close

Discount Settings

Keyword: Find

DESCRIPTION	Rate
2nd Children	20
3rd Children	20
4th Children	30
5th Children	50
Top 1 Academic Award	50
Top 2 Academic Award	35
Top 3 Academic Award	20
With Highest Honors	50
With High Honors	35
With Honors	15

*NOTE: If you want to Edit the Data Just Double click and Click Edit

%

+ Add Remove

Save Edit Cancel Close

Figure 25. System Settings

Strand List

Search: Search

Description
ABM
HUMANGS
GA

Data Entry
Description:

City List

Find

DESCRIPTION
Quezon City
Caloocan City
Taguig City
Pasay City

Data Entry

Section Builder

Search: Section Search

Section

Select Level:

Description:

Tuition Fee Settings

Grade Level:

Tuition Fee	Misc Fee

*NOTE: If you want to Edit the Data Just Double click and Click Edit

Tuition Fee:

Misc Fee:

Scholarship Settings

Find

Description	Amount
Grade 7 ESC grantee	10000.00
Grade 8 ESC grantee	11000.00
Grade 9 ESC grantee	11000.00
Grade 10 ESC grantee	10000.00
Grade 11 Private School	18000.00
Grade 11 Public School	22500.00
Grade 12 Private School	18000.00

*NOTE: If you want to Edit the Data Just Double click and Click Edit

Grade Level:

Description:

Amount:

Particular Fee Setup

Grade Level:

Description	Amount

*NOTE: If you want to Edit the Data Just Double click and Click Edit

Description:

Amount:

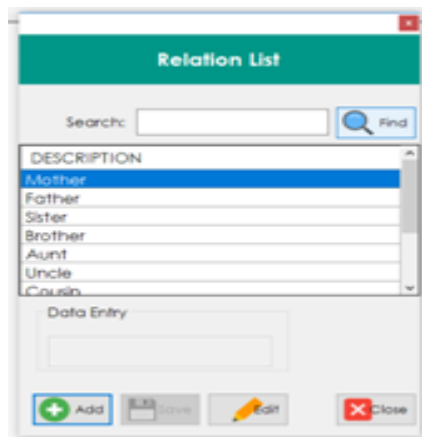
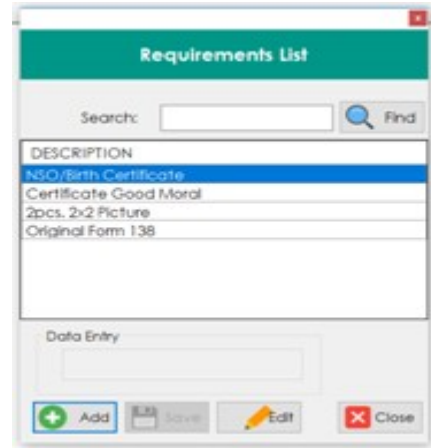
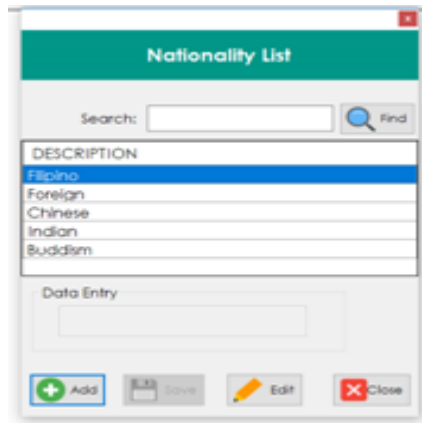


Figure 26. System Settings

Data Design

Entity Relationship Diagram

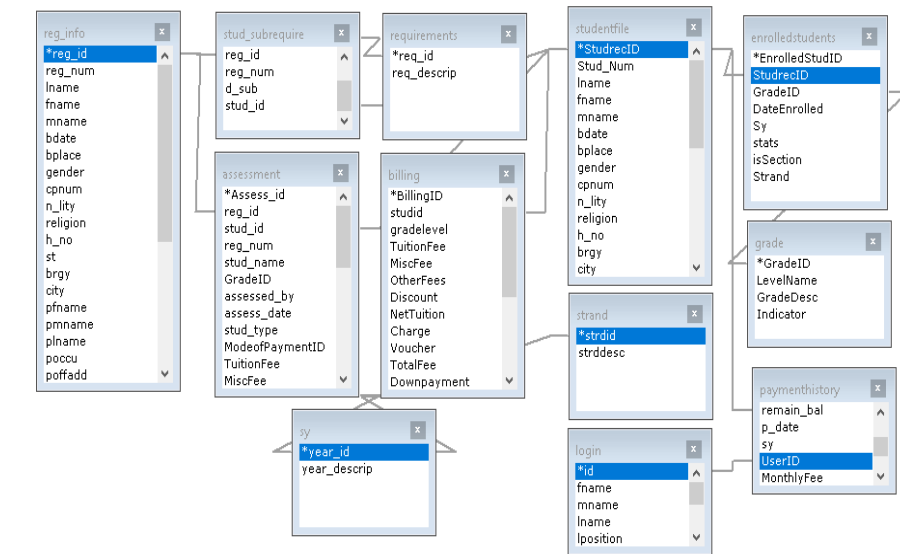


Figure 25. Entity Relationship Diagram

This diagram shows the relationship of the table to another table. It shows that the connections of the tables are normalized.

Data Dictionary

City			
Field Name	Data Type	Field Size	Description
city_id	bingint	20	Primary Key /Auto Increment
city_desc	varchar	100	Location

Table 1.0 City

Nationality			
Field	Data	Field	Description
nationID	bigint	20 Increment	Primary Key /Auto Increment
nationDe	varchar	100	Nationality

Table 2.0 Nationality

Relation			
Field Name	Data Type	Field Size	Description
relId	bigint	20	Primary Key /Auto Increment
relDesc	varchar	100	Relation

Table 3.0 Relation

Religion			
Field Name	Data Type	Field Size	Description
religionID	bigint	20	Primary Key /Auto Increment
religionDe sc	varchar	100	Religion

Table 4.0 Religion

Section			
Field Name	Data Type	Field Size	Description
Sectione d	bigint	20	Primary Key/ Auto Increment
sectionD esc	varchar	100	Section
gradeID	int	11	Grade

Table 5.0 Section

Grade			
Field Name	Data Type	Field Size	Description
gradeID	bigint	20	Primary Key /Auto Increment
levelDesc	varchar	100	Level Description
gradeLevel	varchar	100	Grade level

Table 6.0 Grade

Requirements			
Field Name	Data Type	Field Size	Description
req_id	bigint	20	Primary Key /Auto Increment
reqdesc	varchar	100	Requirement

Table 7.0 Requirements

Settings			
Field Name	Data Type	Field Size	Description
settingID	bigint	20	Primary Key /Auto Increment
settingdesc	varchar	100	Setting

Table 8.0 Settings

Transaction			
Field Name	Data Type	Field Size	Description
transacID	bigint	20	Primary Key / Auto Increment
p_id	int	11	Payment
studid	int	11	Student

sy	varchar	100	School Year
----	---------	-----	-------------

Table 10.Transaction

Table 11. School Year

School Year			
Field Name	Data Type	Field Size	Description
year_id	bigint	20	Primary Key /Auto Increment
yearDesc	varchar	100	School Year
Reg_Info			
Field Name	Data Type	Field Size	Description
reg_id	bigint	20	Primary Key /Auto Increment
lname	varchar	100	Last Name
fname	varchar	100	First Name
mname	varchar	100	Middle Name
bdate	date		Birth date
bplace	varchar	200	Birth Place
gender	varchar	20	Gender
cpnum	char	20	Cell phone Number
nationality	varchar	100	Nationality
religion	varchar	100	Religion
h_no	varchar	100	Home Number
st	varchar	100	Street
brgy	varchar	100	Barangay
city	Char	50	City
pfname	varchar	100	Parent First Name
pmname	varchar	100	Parent Middle Name
planame	varchar	100	Parent Last Name
poccu	varchar	100	Parent Occupation
poffadd	varchar	100	Parent Office Address
pcnum	Char	20 ⁴⁸	Parent Cellphone Number
prela	varchar	50	Relationship

Table 12.Reg_info

Development

Software Specification

Software Specification

1. Visual Basic 2010
2. MySQL
3. Windows 10 Operating System
4. XAMPP

Hardware Specification

1. Laptop

- Intel i3
- 2 GB RAM Memory
- 500 GB ROM Memory

2. Printer

Program Specification

It is a windows application that can manage the enrollment of St. Francis Xavier Catholic School such as registration, assessment, billing, student master file and enrollment reports.

Programming environment

Front End

Microsoft Visual Studio- is a programming environment from Microsoft in which a programmer uses a graphical user interface (GUI) to choose and modify preselected sections of code written in the basic programming language.

Back end

MySQL - is an open source relational database management system (RDBMS) based on Structured Query Language (SQL).

Deployment Diagram

Test Plan

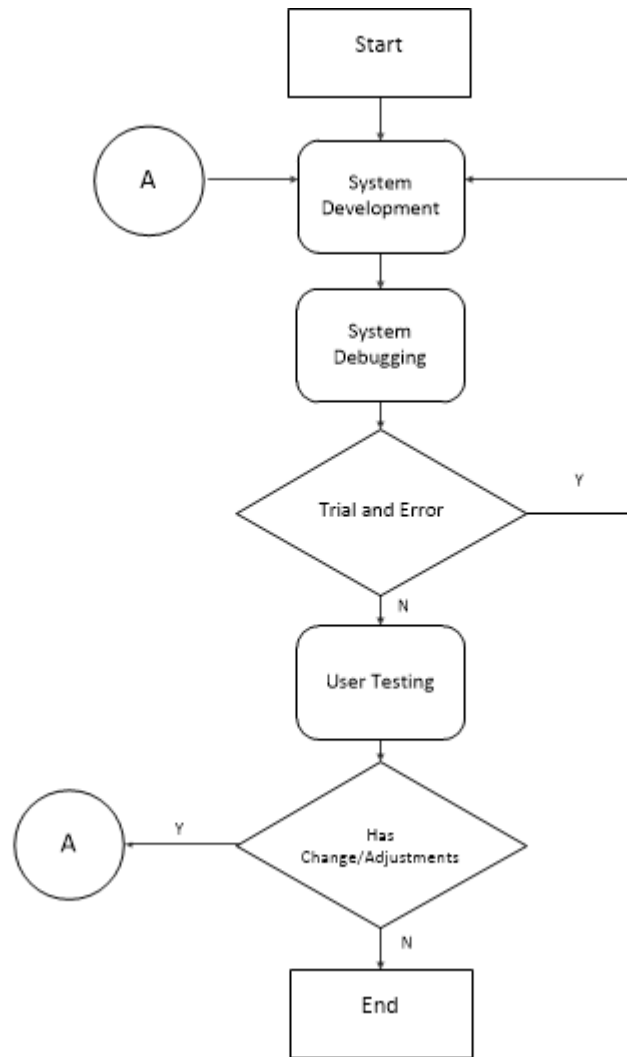


Figure 26. Flow Chart of Test Plan

The diagram shows the flow on how the system will be tested. First is system development, after development the programmer needs to debug the system, if the system works properly, the programmer will conduct a user testing, if the system has an error it will be develop again afterwards if the

system is working properly and there is a changes or adjustments the programmer needs to continue the development of the system, if there is no errors the system will deploy.

Testing

Performance testing

Action	Time Reaction
Data Searching	.22seconds
Data Update	.60 seconds
Data Save	.60 seconds
Data Insert	Depends data information
Retrieve Data	3.06 seconds

Table 13.Performance Testing

The researchers test the speed of searching, updating, saving, insert and retrieval of records. It takes .22seconds in searching, .60 seconds in updating and saving the records of the students, while the insert data it depends of the information, and retrieval of data of students it takes 3.60 seconds.

Unit Testing

Forms	Meet all the needed requirements and functionality?
Login Form	Yes
Registration	
Registered Student Form	Yes
Student Registration Form	Yes
Guardian Registration Form	Yes
Requirements Form	Yes
Assessment	

Assessment Form	Yes
Billing	
Billing Form	Yes
Records	
Enrolled Student Form	Yes
Student Information Form	Yes
Payment	
Payment History Form	Yes
Sectioning	
Sectioning Form	Yes
Logs	
Login History Form	Yes
Payment History Form	Yes
Transaction History Form	Yes
Maintenance	
System Settings Form	Yes

Table 14. Unit Testing

Compatibility Testing

Application	Meet all the needed requirements and functionality?
Windows 7	Yes
Windows 8	Yes
Windows 10	Yes

Table 15. Compatibility Testing

Stress Testing

Another testing done by the researchers is stress testing, it is used to determine the behavior of the system in its high peak. After the testing the researcher found out that even there are multiple records the system did not crash and still working on a good behavior.

Load Testing

The process of testing which determine the performance of the system, also determine the behavior of the system under real-life condition and to see the capability of the system.

Proposed System	CPU Usage	Physical Memory Usage
Computerized Enrollment System	1.8%	97.1MB

System Testing

USER EVALUATION

Computerized Enrollment System for St. Francis Xavier Catholic School

Part I. Demographic Profile of the respondent

GENDER	Number of respondents
Male	33
Female	17

The table above shows that 66% of the respondents are male and 34% are female. Therefore most of the respondents are male.

AGE	Number of respondents
16 years old and below	0
17-20 years old	25
21-25 years old	21
26-30 years old	2
31-40 years old	1
41 years old and above	1

Table 16. Survey Result based on age

Based on the table above, most of the respondent age between 17-25 years old got the highest percentage which is equivalent to 92%, while in the age 26-30 which the second to the lowest get 4% and age 31 to 41 years old and above got the lowest percentage which is equivalent to 2%.

Highest educational attainment	Number of respondents
Elementary	0
High School	0
Vocational	1
College	47
Masteral Degree	2
Doctoral Degree	0

Table 17. Survey Result based on highest educational attainment of the respondents

As shown in the table above, 94 % of the respondents are college students while 4% of them are have a masteral degree and 2% of the is vocational student.

II. Software Evaluation

Software Evaluation by Functionality

Questions	Respondent					Weighted Mean	Description
	5	4	3	2	1		
Does the system meet the requirements of the company	35	10	5	0	0	4.6	Very Good
Does required operations are performed by the proposed system	26	17	6	1	0	4.4	Very Good
Ability to handle your specific business process	30	13	7	0	0	4.5	Very Good
All modules are working in accordance to the company requirements	26	21	3	0	0	4.5	Very Good
Function in this system were well integrated	29	16	5	0	0	4.5	Very Good
Average	4.5					Very Good	

Table 18. Functionality

The table for the functionality questions has an average of 4.5 which is equivalent to very good. It also means that the system has high level of functionality and all modules are working properly.

Software Evaluation by Reliability

Questions	Respondent					Weighted Mean	Description
	5	4	3	2	1		
Conformance to desired result	2 3	2 0	7	0	0	4.3	Very Good
Absence of failure	1 7	2 2	1 1	1	0	4.1	Very Good
Accuracy in performance	2 3	2 1	6	0	0	4.3	Very Good
I can count on the information I get from this system	2 5	1 5	1 0	0	0	4.3	Very Good
I feel confident doing transactions using this system	2 5	1 5	1 0	0	0	4.3	Very Good
Average	4.3					Very Good	

Table 19 Reliability

Based on the table above, the result of the reliability has an average weighted mean of 4.3 which is equivalent to very

good. This means that the reliability of the information in the system can also help the company in decision making.

Software Evaluation by Usability

Questions	Respondent					Weighted Mean	Description
	5	4	3	2	1		
It was simple to use the system	35	9	6	0	0	4.6	Very Good
It was easy to learn to use the system	22	22	6	1	0	4.3	Very Good
Helps the user become more production	25	18	7	0	0	4.4	Very Good
The organization of information on screen is clear	28	15	6	1	0	4.4	Very Good
The interface of the system is pleasant	30	13	7	0	0	4.5	Very Good
Average	4.5					Very Good	

Table 20. Usability

As shown in the table above, the system has an average weighted mean of 4.5 it reflects that the system usability is very good which means that the system is user friendly.

Software Evaluation by Efficiency

Questions	Respondent					Weighted Mean	Description
	5	4	3	2	1		
Process are							

completed with less time and effort	3 5	9	6	0	0	4.3	Very Good
Helps the users effectively complete their work	2 2	2 2	6	1	0	4.4	Very Good
Helps the users effectively complete their work	2 5	1 8	7	0	0	4.4	Very Good
Average	4.4					Very Good	

Table 21: Efficiency

The table above shows that the system efficiency has an average weighted mean of 4.6 which is equivalent to very good. It shows that the system help the user to manage their work with less time and effort.

Software Evaluation by Maintainability

Questions	Respondent					Weighted Mean	Description
	5	4	3	2	1		
Ease of maintenance	3 0	1 2	8	0	0	4.4	Very Good
Provision for diagnostic diagnostic	2	2	8	0	0	4.2	Very Good

tools and procedures	0	2					
Provision for enhancement and modifications	26	19	5	0	0	4.4	Very Good
Average	4.3					Very Good	

Table 22. Maintainability

Based on the table above, the system has an average weighted mean of 4.3 which is equivalent to very good when it comes to the maintainability. It also means that the system is easy to maintain.

Software Evaluation by Portability

Questions	Respondent					Weighted Mean	Description
	5	4	3	2	1		
The system runs in different Windows operating system?	30	13	7	0	0	4.5	Very Good
The system has minimal system requirements?	25	19	6	0	0	4.4	Very Good
The system can run using different processors?	27	17	6	0	0	4.4	Very Good
Average	4.4					Very Good	

Table 23. Portability

The table for the portability questions illustrates that has an average weighted mean of 4.4 which is equivalent to very good. It also means that the system is portable.

Chapter 5

Summary, Conclusion and Recommendations

This chapter presents the summary of findings so conclusions drawn from the findings and corresponding recommendations.

Summary of Findings

In the current process of enrollment in the said institution, manual process is highly involved in terms of enrolling students, also retrieving paper record and reports are manually done by school officials that causing delay on process and inefficient process of enrollment in the school. Further, the impact of these major problems is growing as the students are increasing.

Improving the process of enrollment and security of the records is the concern of the school, quality assurance; utilization management; appropriateness, effectiveness and innovation are all prominent responses to the quality or cost challenges may face on the current situation. Each of these initiatives increases the legitimate demand for complete, accurate, readily accessible not only in students information but for school records and transactions.

Conclusion:

Based on the findings derived from this study, the following conclusions are drawn.

1. The system proposed by the researchers could help the school even though the business is using paper records.

1.1 The system proposed by the researchers for the school would enable backing-up of necessary records and files without the need to photocopy the papers and filed documents.

2. Enrollment system for St. Francis Xavier Catholic School meets the standards so that system can implement to the business.

2.1 The system underwent various tests such as unit test, and system test. Included in the system test are the following determinants: functionality, reliability, usability, efficiency, maintainability and portability. The system proposed, based on the test standard, passed the minimum required necessary for implementation.

3. Enrollment system for St. Francis Xavier Catholic School is easy to use and understand

3.1 The system was developed in such a way that the end-users will easily understand how to navigate and to incorporate it in the own business process.

3.2 Principal, registrar and faculty are the end-users for enrollment system.

Recommendations

The following recommendations are offered based on the findings and conclusion of the study.

1. Officials and institution should adopt the Computerized Enrollment System as the standard for enrollment procedure.
2. The researchers encourage and support the systematic measurement and recording of the student's information and transactions to promote more precise and routine assessment of the outcomes of student services.

3. The Computerized Enrollment system addresses data confidentially and comprehensive-in particular, ensuring that the system is accessible only to authorized individuals.
4. The future researchers can develop the school procedure and systems if requested.
5. The business can add another computers if the business expand.