

Project GESS – Grading Enrollment School System

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APPROVAL SHEET

This is certify that this capstone entitled “Project GESS” and submitted by **Paulo Jhon N. Cagalawan, Francisco S. Abayon, Reymart M. Jimongala Muriel John P. Yap, and Jeffrey M. Pepito** to fulfil part of the requirements of the degree of Bachelor of Science in Information Technology was successfully defended and approved on _____.

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Abstract

Manual handling of school record is very a sophisticated task. However, through the implementation of network-based alteration of students' record the enormous manual task has been eliminated. The Project **GESS** (*Grading Enrollment School System*) was proposed in replacement of the manual process of enrollment in public high school for it to have an organized flow of transaction and put an ease to work. The numerous transactions that the manual system covers such as but not limited to updating and adding student records and printing of assessment slips are commending the manual enrollment system to be inefficient for the needs of the institution.

The system has been made to ease the institution in monitoring and producing the documents required for the institution to maintain the information being gathered and stored in the whole system. The stored information can be used in generating needed reports and files by the school. Since the study involves proper records handling, tracing the constraint and evaluation of the manual system is essential. Thus, the proponents gathered necessary data that will help in the process of enhancing the existing system. The system was developed using Microsoft Visual Studio.Net 2010, SQL command, MySQL database with the compiler of XAMPP. It was design to speed up the process of enrollment and generating report in a least period of time.

Table of Contents

APPROVAL SHEET	i
Acknowledgement	ii
Terms	x
Abbreviations.....	xiv
Chapter 1 Introduction	1
1.1.1 Background of the Study.....	1
1.1.2 Statement of the Problem	2
1.2 Objectives of the Study.....	3
1.3 Significance of the Study	3
1.4 Scope and Limitation.....	4
1.5 Hypothesis	6
1.6 Conceptual Framework.....	6
Chapter 2 Review of Related Literature.....	8
2.1 Foreign	8
2.2 Local	10
Chapter 3 Research Design and Methodology	13
3.1 Project Development.....	13
3.2 Project Design.....	14
3.3 Research Design	Error! Bookmark not defined.
3.4 Research Procedures	16
3.5 The Respondents	17
3.6 Data Gathering Instrument.....	18
3.7 Data-Gathering Procedure	19
3.8 Statistical Tools, Analysis, and Interpretation of Data	20
Chapter 4 Results and Discussions.....	22
4.1 Existing System of Canduman Enrollment System.....	22
4.1.1 Interpretation of Data based on the Survey in Existing System.....	22
4.1.2 Analysis of Data Interpretation	24
4.2 The Proposed System	25

4.2.1 Interpretation of Data based on the Survey in Project GESS	26
4.2.2 Analysis of Data Interpretation	27
4.2.3 System Requirements	28
4.4 The Comparison of Flow Chart between the Existing System and Proposed System	29
4.4.1 The Flow Chart of Existing System	29
4.4.2 The Flowchart of Proposed System	30
4.4.3 The Venn Diagram Project GESS	31
4.4.4 Use Case Diagram of Proposed System.....	32
Chapter 5 Summary Findings, Conclusions and Recommendations	33
Summary Findings	33
Conclusion.....	34
Recommendation	35
Bibliography.....	36
Book	36
Magazine	38
Online Sources	38
APPENDICES	41
Appendix A – Request Letter	41
Appendix B – Map of the Research Environment	42
Appendix C – Site Map.....	43
Appendix D - Symbols	44
Appendix E – Gantt chart.....	47
Appendix F – Progress Report.....	49
Bibliographical Sketch	50
Paulo Jhon N. Cagalawan	50
Francisco S. Abayon.....	51
Reymart M. Jimongala.....	52
Muriel John P. Yap.....	53
Jeffrey M. Pepito	54

List of Tables

Table Name	Page No
1. Distribution of Respondent	20
2. Numerical Scale	22
3. System Acceptability	24
4. Enrollment Process of Existing System	25
5. Grading Process of Existing System	26
6. Percentage of the Respondents	27
7. Enrollment Process of Project GESS	29
8. Grading Process of Project GESS	29
9. Progress Report	52

List of Figures

Figure Name	Page No
1. Input Process Output for Existing System	8
2. Waterfall Model	15
3. Survey Questionnaire	21
4. Respondents Towards the Existing Manual Enrollment System	27
5. Input Process Output of Project GESS	28
6. Respondents towards the Project GESS	30
7. The Flow Chart of Existing System	32
8. The Flow Chart of Proposed System	33
9. Venn Diagram Project GESS	34
10. The Flow Chart of Proposed System	35
11. Research Environment	45
12. Site Map	46
13. Gantt Chart	50

List of Appendices

Appendix Name	Page No.
A. Request Letter.....	44
B. Map of the Research Environment.....	45
C. Site Map.....	46
D. Symbols.....	47
E. Gantt chart.....	50
F. Progress Report.....	52

Terms

Accountant

- Is a professional person who performs accounting functions such as audits or financial statement analysis. Accountants can either be employed with an accounting firm, a large company with an internal accounting department, or can set up an individual practice.
- Accountants are given certifications by national professional associations, after meeting state-specific requirements, although non-qualified persons can still work under other accountants, or independently.

Average Mean

- Regular **meaning** of "**average**", Median: middle value. Mode: most often. (In the above, I've used the term "**average**" rather casually.
- The technical **definition** of "**average**" is the arithmetic **mean**: adding up the values and then dividing by the number of values.

Sample Mean

- Is a set of observations from a given distribution is **defined** by. It is an unbiased estimator for the population **mean**. The notation is therefore sometimes used, with the hat

indicating that this quantity is an estimator for.

Enrollment

- The process by which individuals register to become a plan participant with a government or employer-sponsored benefits plan.

Grading

- The process of applying standardized measurements of varying levels of achievement in a course

**Microsoft
Visual
Studio.Net
2010**

- Is an integrated development environment (IDE) from the Microsoft's Company. It is used to develop computer programs for Microsoft Windows, as well as web sites, web applications and web services.
- Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silver light.
- It can produce both native code and managed code.

**MySQL
database**

- Is an open source relational **database** management system.

- Information in a **MySQL database** is stored in the form of related tables. **MySQL databases** are typically used for web application development (often accessed using PHP).

PHPMyAdmin

- Is a free and open source tool written in PHP intended to handle the administration of MySQL with the use of a Web Browser.
- It can perform various tasks such as creating, modifying
- or deleting databases, tables, fields or rows; executing
- SQL statements; or managing users and permissions.

Registrar

- An officer of an educational institution responsible for registering students, keeping academic records, and corresponding with applicants and evaluating their credentials

SQL command

- Is a special-purpose programming language designed for managing data held in a relational database management system (RDBMS), or for stream processing in a relational data stream management system (RDSMS).

Stacked Bar Graph

- A stacked graph is useful for looking at changes in, for example, expenditures added up over time,

across several products or services.

- Each bar represents a total.
- Each **column** represents quantitative data.
- **Bar** charts can contain horizontal or vertical **bars** that are each subdivided into multiple components.
- Consists of a grid and some vertical or horizontal columns (**bars**) that include subgroups, or stacks, of data.

Windows 7

- Is the seventh version of the Microsoft **Windows** Operating System.
- It follows **Windows** Vista and is designed to be a sleeker operating system than its predecessor, with faster performance and fewer compatibility issues.

Abbreviations

I/O

- **(Input Output)** describes any operation, program, or device that transfers data to or from a computer. Typical I/O devices are computers' mouse, printers, hard disks, and keyboards.
- In fact, some devices are basically input-only devices (keyboards and computers' mouse); others are primarily output-only devices (printers); and others provide both input and output of data (hard disks, diskettes, writable CD-ROMs).

IT

- Is a set of tools, processes, and methodologies (such as coding programming, data-communications, data conversion, storage and retrieval, systems analysis and design, systems control) and associated equipment employed to collect, process, and presents the information. In broad terms, IT also includes office automation, multimedia, and telecommunications.

OOP

Language

- Object-oriented programming (OOP) is a programming language model organized around objects rather than "actions" and data rather than logic.
- Historically, a program has been viewed as a logical

procedure that takes input data, processes it, and produces output data.

LAN

- Is a group of computers and associated devices that share a common communications line or wireless link to the server.
- Typically, a LAN encompasses computers and peripherals connected to a server within a small geographic area such as an office building or home.
- Typically, a LAN encompasses computers and peripherals connected to a server within a small geographic area such as an office building or home.
- Computers and other mobile devices can share resources such as a printer or network storage.

XAMPP

- Is a free and open source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming language.

Chapter 1 Introduction

1.1.1 Background of the Study

Throughout history, as machine invented by extraordinary people, they attempted to make their jobs easier. This desire to simplify lives and form more effectively creates new technology for improving lives within our society. Because of the need exists, man developed and applied new technology to fill those needs. Technology is one of the tools to solve those problems because man keeps developing new technologies. These new technology leads changes in the jobs that are being performed but the changes comes new problems in which can be solved by improving technological advancement and so computers were developed to deal with information needs and case. That is why Information Technology (IT) is so important today's world. Especially those involved in this field are full of determination and are seeking new idea in order for them to help society.

Today, most establishment and institution in the country uses modern technologies for them to be able to serve clients fast and efficient. One of the most important sectors in our country is our educational institution where almost 10 million students enroll yearly. In line with this, it is better for a school to have an a computerized enrollment system instead of the traditional manual system to have an efficient and faster enrollment operation and to use as an advantage over their counterpart school especially schools that is located in the metropolitan areas.

1.1.2 Statement of the Problem

Traditional and manual system of school processes and documentation with regards to enrolment makes school transaction a time consuming process and leads to customer dissatisfaction. The following are the also taken into consideration concerning the enrolment process:

1. The inaccuracies of information were minimal such as the identification of grades per grading period and sometimes errors are committed on the number of units taken henceforth, the possibility of encountering more difficulties and undergoing tedious task are still at hand.
2. Furthermore, public high schools are facing the problem of having enough manpower to accommodate registration and enrollment process which is one of the aspects that this study would like to address.
3. With the above mentioned facts of difficulties and insufficiency would lead to transaction delay during enrollment process and the like. This will give rise to time consumption and poor customer service provided to the stakeholders.
4. Records concerning the students, parents and even the faculty are of the high risk of being unrecovered during calamities. And, during the transaction, ample time is needed for the personnel to communicate

and coordinate to one another. This situation had come to worst for there are no permanent personnel assigned to do the task.

5. Henceforth, errors will be encountered and poor customer service will be given which is supposed be the other way around.

1.2 Objectives of the Study

- To design and develop a Computerized Enrollment System that will improve the current manual system of the school.
- To develop and create a form that can assists the students in their payment and can manage the records of students accurately.
- To lessen paper works like enrollment, grading process and record tracking.

1.3 Significance of the Study

The School

The school deserves to provide an efficient, faster, and accurate enrollment system for the students, for the school to preserve its name and for the school to encourage more parents to enroll their children through providing quality, fast and accurate information and service to the stakeholders. Through the use of this proposed system, valuable time and effort will be saved.

The Student/Enrollees

Project GESS aims to have a user-friendly and accurate functional interface. Project GESS is beneficial to the students in terms of making the enrollment process faster such as filling out of school forms and spending more

time on a very long line. Information about the block or section that a student will be in is also available, and further and specialized instructions will also be displayed in the system providing a student a hassle-free transaction.

The Faculty and Staff

Project GESS is beneficial to the faculty and staff due to the project's ability to automate the enrolment and verification process, which involves faculty and staff, making necessary update and students' file available in no time. In addition, the system is capable in giving instructions and guidelines.

The Future Researchers

Project GESS will help to the future researchers because this study provides the necessary information in developing a computerized enrollment system. The future researchers can improve their systems by making this endeavor a benchmark. This can serve as a reference for future studies. The processes that this system is capable of doing can be applied to other field of business and perhaps adapt the same system.

1.4 Scope and Limitation

The Project GESS – (Grading Enrollment School System) is an application system which requires the users to input the required information while the system is processing the inputted information in the system. Once the needed information will be completed, then the information will be available in the portal and can be viewed by the authorized personnel. The system is also capable of capturing the image of the user which will help them in completing the enrolment

process concerning pictures. Students will then proceed to registrar's office to submit the needed documents and to obtain the receipts and the enrolment assessment form. The system can only be used and accessed by authorized personnel such as the principal and the enrolment officer who are capable of navigating and using the system. With this, only the personnel can give further information and instructions with the aid of the system.

On the other hand, the students will only obtain limited access to the system such as the form that they should be completing. The system has a security features making some portion of it inaccessible to the students and some portion available to the authorized personnel.

Moreover, the system contains the special features called CAPTCHA which will determine and verify the reliability of the user such as the students and the authorized personnel.

The system can generate reports whenever it is needed in a given period of time due to availability of the information such as student record and required documents.

However, the system limits the following:

- The system can only be used and accessed by authorized personnel such as the principal and the enrolment officer who are capable of navigating and using the system.
- The students will only obtain limited access to the system such as the form that they should be completing.
- Offline

1.5 Hypothesis

Once the enrollment system will be implemented, the following were hypothesized.

- The LAN (Local Area Network) based enrollment system will make the enrollment system of Canduman National High School convenient and efficient.
- It is more convenient to use the LAN based Computerized Enrollment System than the traditional one.
- It is more economical to use the Computerized System than the traditional one.

1.6 Conceptual Framework

The diagram below shows the enrollment process of the target school. A well organized and a well-structured system is the key to maintain the control, process and confidentiality of the information and files. Canduman National High School is using the manual and traditional input-process-output system. With this regard, the study aims to elevate this manual process into highly technological and advance system.

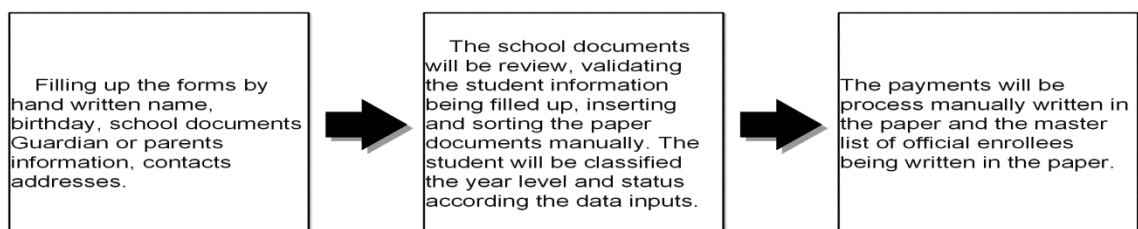


Figure 1 - **Input Process Output for Existing System**

INPUT

6. The required information about the enrollee in the system as provided based in the information that the school basically needed and this information is influenced by the rules and regulations of the school.

PROCESS

7. After gathering the inputs or data of the enrollees to the system, it will be recorded in the main database system which is the one who holds, keep and gather information then to be dispersed to the different year levels as to be organized automatically.

OUTPUT

8. The output will be the result of careful analysis and allocation of information about the enrollees. The output can be used now for future uses easily to access and manage.

Chapter 2 Review of Related Literature

2.1 Foreign

In 2005, According to Jennifer Rowley ; School for Business and Regional Development, University of Wales, Bangor, Gwynedd and UK that ***Information systems are a tool to support information management. Information systems are increasingly being used in organizations with the objective of providing competitive advantage.*** The information systems used by organizations can be grouped into different types such as transaction processing system, expert system and office information system. Information Technology has heralded the advent of the information society. The information society may be a 'virtual society'. The concepts of the electronic classroom, the electronic office and electronic library have been explored. Information systems pose a number of issues on society in general, including: changing employment patterns, archiving, and bibliographic control, security and data protection, intellectual property, marketplace issues and access.

An enrollment system is basically included in one of the classification of information system that is stated by the author, thus it serves a tool to support information management with regards to the student data, enrollment fees information and other with a connection to the enrollment process. Every school gain competitive advantage of having this system for they will have the capacity on handling important information at ease and with security.

The iterative implementation approach is a theory that eliminates problems of using a waterfall study. This is invented to avoid a linear and

sequential development of the study. The overall functionality of the system is broken down into feature sets. These features sets often based upon use cases from the analysis stage according to Stephen McHenry, that, ***WAMP5 (Windows Apache MySQL PHP) is platform of Web development under Windows. It allows you to develop dynamic Web sites with Apache server. PHP5 script language and the database of MySQL release 5. It also possesses PHPMysqlAdmin and SQLite and manager to manage more easily your databases.*** Windows 7 is an operating system produced by Microsoft for use on personal computers, including home and business desktops, laptops, netbooks, tablet PCs, and media center PCs. It was released to manufacturing on July 22, 2009 and became generally available for retail worldwide on October 22, 2009, less than three years after the release of its predecessor, Windows Vista. Windows 7's server counterpart Windows Server 2008 R2, was released at the same time. Windows 7 is succeeded by Windows 8. 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 a enrollment system. It helps locate what feature an enrollment system will have since that this kind of systems does many activities and processes.

In 2007, According to Styrktartonteikar Forma / Iceland that ***Continuing innovation in technologies can lead to organizational changes that range from improvement of day to day operation and for easy access it provides***

for the end users. Many schools today have adapted this innovation in offering of their services.

2.2 Local

In 2005, According to Juan Carlos Aquino at IDEAS, stated that the ***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 enrolment 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.

Lack of enrolment system in schools can lead to chaos and troubles (Stated by Adrian "Ace" Buchan, 2011). 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 vial information of students. Without it can lead difficulty both for the administration of school and student in enrollment processes

Many countries nowadays, especially the developing nations are challenged by the rapid technological changes. This has radically changed the living and working styles of the entire society. This transformation has been driven partly by rapid technological innovation. Victoria L. Tinio, 2002 states that, ***In the 20th century saw the rise of the industrial revolution with steam-powered machines intensifying and expanding human productive power, the 21st century was characterized by the birth of machine-powered light and the emergence of broadcasting and computer technologies that extend the reach of human creativity even more and made possible new ways by which humans could live and work together.*** The transformation of manual enrollment transaction to automate and now into web based automation is one example of what has driven partly by the rapid technological innovation. Any ways just to make work easier and faster like enrollment transaction is possible with the emergence of computer technologies.

Technology innovation had influenced man's work from data processing business transaction, research, planning, monitoring and even in medical operation on human anatomy are now entrusted to computer technology. Web applications are popular due to ubiquity of its application. The ability to update and maintain web application without distributing and installing software on potentially thousands of client computers are key reasons for its popularity.

A significant advantage of building web applications to support a standard browser feature is the ability to perform as specified, regardless of the operating system installed on a given client was stated by Mariel

Bacala&Reanno Esmeralda, 2009..A web-based enrollment system has featured that meet most of academic institution system's needs and requirements. This includes standardized modules for student registration, enrollment, grade management, and other modules that are deemed necessary to operate a school.

Chapter 3 Research Design and Methodology

The descriptive developmental research design was the method used to determine the level of acceptability of the computerized Enrolment System as to its design and functionality. The evaluators were composed of the faculty and staff at Canduman National High School, a rural-based higher education institution located Canduman Mandaue City, Cebu, Philippines. In this study, a computerized Enrolment System in the said educational institution was developed using an Object-Oriented Programming (OOP) Language.

3.1 Project Development

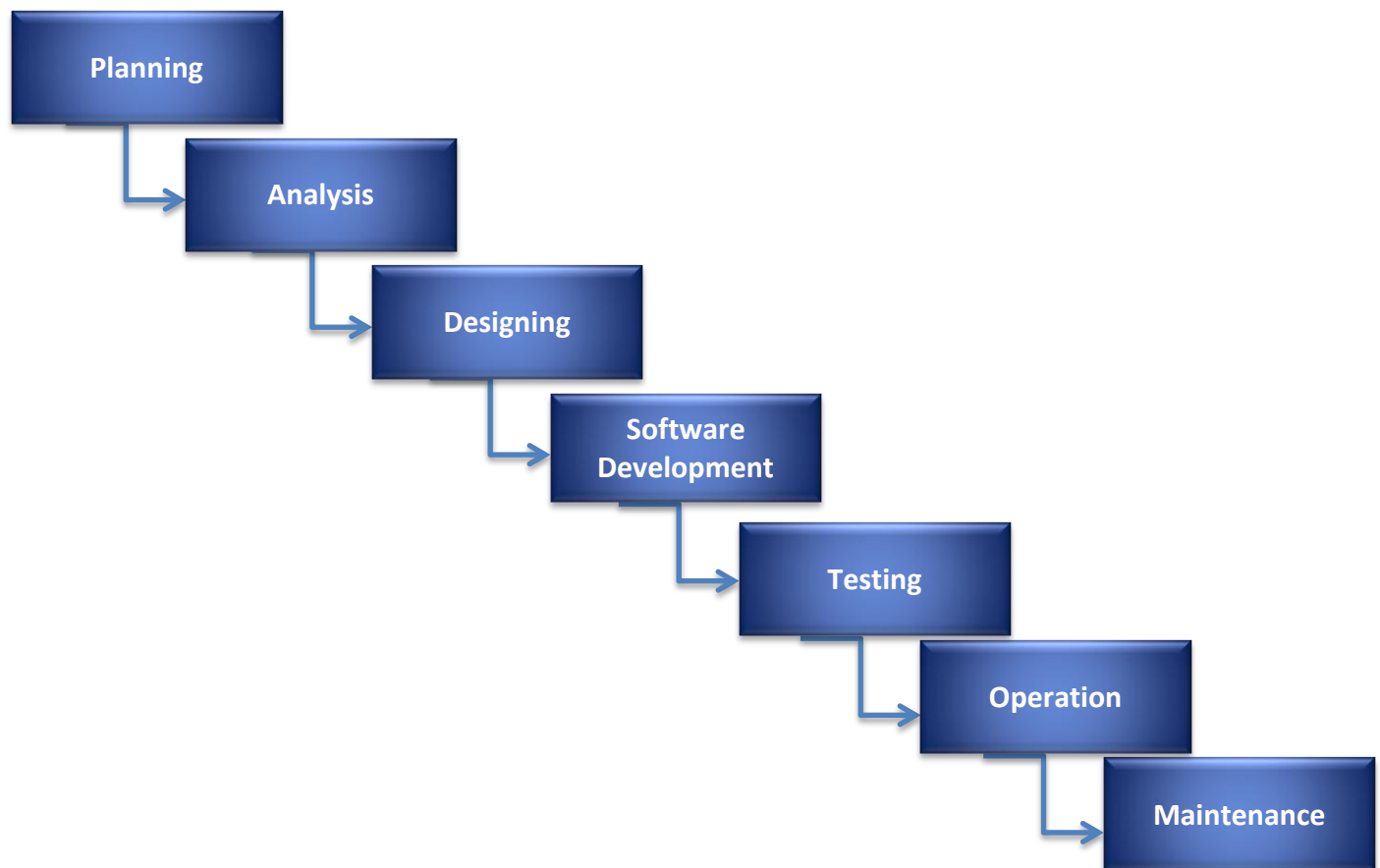


Figure 2 - **Waterfall Model**

Figure 2 Waterfall model is a sequential design process , used in the software development processes, in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of Planning, Analysis, Designing, Software Development, Testing, Operation and Maintenance. The advantage of waterfall development is that it allows departmentalization and managerial control. A schedule can be set with deadline for each stage of development process and be delivered on time. Development moves from concept, through design, implementation, testing, installation, troubleshooting and ends up at operation and maintenance. Each phase of development proceeds in strict order, without any overlapping or iterative steps.

3.2 Project Design

Planning - In planning, the group will conduct an interview to the respective person of the school to gather some information about on how the principal or the assign faculty/staff handle or manage the students during enrollment, how they enroll a student, how they process the information of the enrolled student and the payment of bills. It was observed that the assigned staff writes the record manually of every enrolled student's information. The student uses the enrollment form given by the assign staff.

Analysis - Based on Project GESS which is designed purely from the user's viewpoint without considering the constraints of hardware (like computer), system structures required to achieve such designs is clarified. After checking the requirement specifications included in the basic plan, the overview of the

project is represented by the use of diagrams so that the process and the flow data can be easily understood.

Designing - The system design targets to the principal or the assigned staff to use a user-friendly design to attract the user a convenient and computerized system. Here, the system was designed purely from the users' perspective without considering the constraints of hardware. In addition, system structures required to achieve such designs are clarified. After checking the requirement specifications included in planning, the overview of the system was represented through diagrams so that the processing of data can easily be understood. Based on the representations, the division into sub-systems and I/O designing was performed. The entire project was divided into a number of modules in a functional basis and each module was then divided into smaller units. The designing of the code, such as the identification of the coding system, was conducted, and the relationships between the data were analyzed.

Software development – In the development of the system, the researchers made use of **Microsoft Visual Studio 2010** in encoding the source code of the system and **MySQL with the compiler of XAMPP** for the storage of data, in order to attain accurate and fast acquisition of data and information.

Testing - The group installed the system and conducted a dry run and trial to test the functionality of the proposed system. As expected, errors were encountered during the trial. With a little bit of patience, the proponents made the system run to its full functionality and then was introduced to the respondents.

Operating - The researchers were responsible for conducting an operation test. The researchers conducted a test under the actual operation conditions, and verified that the system satisfies the required specifications; because this test was intended to have a developed system accepted by the user, it was called approval test or an acceptance test. The researchers conducted an operation test by running a program on a machine being used for actual operations.

The researchers were responsible in conducting the operational testing with the respondents. The approval test or the acceptance test was conducted under the actual conditions.

Maintenance - The researchers conducted maintenance in the system to correct faults, to maintain performance or other attributes. The researcher common perception of maintenance merely involves fixing detects. The researchers' maintained work on fixed assets, such as equipment, machinery and property.

3.4 Research Procedures

The researchers made questionnaires that contain the specific questions for gathering an accurate information and observation by the users. Conducted a survey to the students and the assigned staff of Canduman National High School.

3.5 The Respondents

Out of the population of the students in the school wherein 1,890, we only have select 400 students, 100 students in every year level from first year to fourth year through the ***sample mean***. The respondents were chosen according to their capability to evaluate a computer system according to its design and functionality.

Respondents (Students)	Frequency (number of students per year level)
First Year	100
Second Year	100
Third Year	100
Fourth Year	100
Total	400

Table 1 - **Distribution of Respondent**

3.6 Data Gathering Instrument

The instrument that was used to measure the acceptability of the study was a Survey Questionnaire-Checklist.

Survey Questionnaire

Name: _____ Age: _____
 Address: _____ Year & Section: _____

Put a check mark (✓) to determine your answer per question inside the table.
E - For Excellent, *S* - For Very Satisfied, *M* - For Moderate, *NS* - Not Satisfied & *P* - Poor.

Questions:	<i>E</i>	<i>S</i>	<i>M</i>	<i>NS</i>	<i>P</i>
ENROLLMENT PROCESS:					
Organized flow of enrollment scheme	()	()	()	()	()
Proper accommodation of staff	()	()	()	()	()
School Environment	()	()	()	()	()
Enrollment hassle	()	()	()	()	()
Attentive staff towards student	()	()	()	()	()
GRADING PROCESS:					
Records are kept accordingly	()	()	()	()	()
Clear information of grades	()	()	()	()	()
Fast & efficient production of student information	()	()	()	()	()
Grades were generated immediately	()	()	()	()	()
Can manage the records of students accurately	()	()	()	()	()
BILLING PROCESS:					
Payment hassle free	()	()	()	()	()
Security of transactions	()	()	()	()	()
Assists the students in their payments	()	()	()	()	()
Preview balances of students from cashier	()	()	()	()	()
Clarity of information of transaction.	()	()	()	()	()

Do you **need** and/or **want** to have a computerized process about enrollment system in here? ☐ Yes ☐ No

Comments & Suggestions:

Signature over printed _____

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Figure 3 - Survey Questionnaire

The items in the questionnaire were divided into two parts. **Statistical Solution** included the personal data of the respondents and **Interpretation of Data** contained the rating scale, which includes the category, scale value, and rating.

For every item in the questionnaire, it is divided into three categories: enrollment process and grading process with their corresponding rating value.

Scale	Interpretation
4.21-5	Excellent
3.41-4.2	Satisfied
2.61-3.4	Moderate
1.81-2.6	Not Satisfied
1-1.8	Poor

Table 2 - **Numerical Scale**

The respondents were asked to put a check mark inside the table 2 cells which corresponds to their responses on the acceptability of the construction design and functionality of the Current Enrollment System.

3.7 Data-Gathering Procedure

Upon completion of the computerized Enrolment System, a survey questionnaire-checklist was prepared, validated, and conducted with the cooperation of the four hundred (400) selected respondents' students out of the total population one thousand eight hundred ninety (1,890) enrolled students. Respondents were chosen randomly on room by room and the current Enrolment System was shown for them to evaluate. Four hundred (400) students were used

to evaluate the acceptability of its design and functionality. The data were gathered, tallied, computed, and interpreted using the scale.

3.8 Statistical Tools, Analysis, and Interpretation of Data

The statistical tools used in determining the acceptability of the current Enrolment System were by means of getting the weighted scores and weighted mean of the responses towards the different statements about the enrolment system.

The following statistical formula was used in this study:

$$\bar{X} = \frac{X_1 + X_2 + X_3 \dots X_N}{N}$$

Where

\bar{X} = the mean

X_1 = the first value

X_2 = the second value

X_3 = the third value

X_N = the last value

N = the number of valuse

*As we interpret the data information of our survey, we used **System Acceptability Table and Stacked Bar Graph.***

This study developed a computerized enrolment system for a rural-based higher education institution located in the Philippines. The enrolment system was evaluated by a panel of faculty and staff of the institution based on its design and the functionality. Table 3 shows the response on the design of the system. The panel rated the system as “Very Acceptable” in all aspects of the design.

Statistical Solution (Sample Mean)

$$\bar{x} = \frac{\sum x}{n}$$

Where:

\bar{x} = sample mean

$\sum x$ = total summation of values

n = number of size

- Wherein the total summation of values ($\sum x$) is equal to the sum of each individual values

$$\sum x = x_1 + x_2 + x_3 + x_4 + x_5 + x_n$$

Note : x_1 is the value of each respondents.

Numerical Value	Equivalent Rating	Interpretation
(1-1.8)	<i>Poor</i>	The system should be totally abandoned.
(1.81-2.6)	<i>Not Satisfied</i>	The system needs major revision.
(2.61-3.4)	<i>Moderate</i>	The system needs minor revision.
(3.41-4.2)	<i>Satisfied</i>	The system needs very slight revision.
(4.21-5)	<i>Excellent</i>	The system is acceptable without revision.

Table 3 –System Acceptability

Chapter 4 Results and Discussions

This chapter presents the results and discussions of the researchers from the conducted survey and the software product analysis between the current manual enrollment system and Project GESS.

4.1 Existing System of Canduman Enrollment System

Problems in the existing system:

1. The flow of enrollment scheme is not organized,
2. The proper accommodation and attentive of staff towards students is not satisfied,
3. The data records are not kept accordingly and cannot manage accurately,
4. The payment transactions are not secured,
5. The existing system is work manually and time- consuming

4.1.1 Interpretation of Data based on the Survey in Existing System

Enrollment Proccess:	
Questions:	Sample Mean:
Organized flow of enrollment scheme.	2.4
Proper accommodation of administration staff	2.6
School environment	2.47
Enrollment hassle free	1.87
Attentive staff towards students	2.4
Total Average:	$11.74/5 = 2.348$

Table 4 – Enrollment Process of Existing System

The table 4 shows the Evaluation of the Respondents towards the Existing Manual Enrollment System in terms of their Enrollment Process, in every question has an average range of numerical value from 1.87 to 2.6 and the rating interpretation is *Not Satisfied*, which means the system needs major revision and the total average of the process is 2.3 *Not Satisfied*, which means the system needs major revision.

Grading Proccess:	
Questions:	Mean:
Records are kept accordingly	2.6
Clear information of grades	2.47
Fast and efficient production of student information	2.53
Grades were generated immediately	2.67
Can manage the records of students accurately	2.67
Total Average:	12.94/5=2.58

Table 5 – Grading Process of Existing System

The table 5 shows the Evaluation of the Respondents towards the Existing Manual Enrollment System in terms of their Grading Process, in every question has an average range of numerical value from 2.47 to 2.8 and the rating interpretation is *Not Satisfied*, which means the system needs major revision and the total average of the process is 2.58 *Not Satisfied*, which means the system needs major revision.

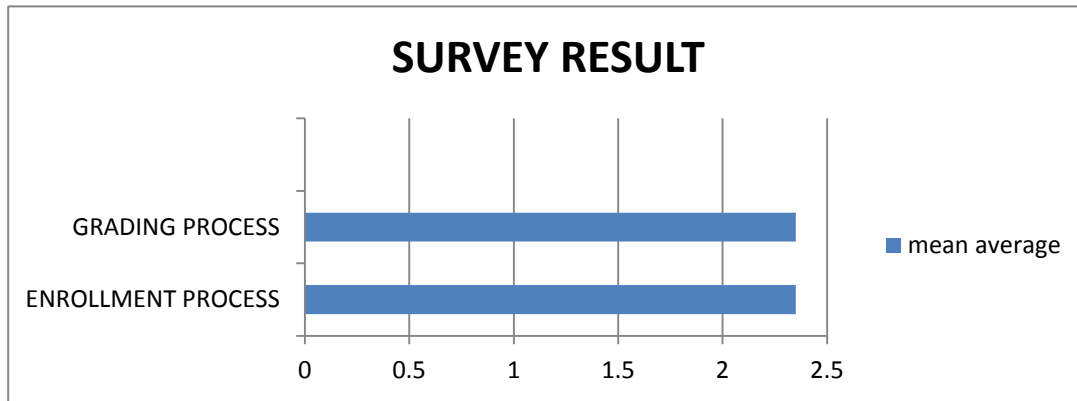


Figure 4 - Respondents towards the Existing Manual Enrollment System

4.1.2 Analysis of Data Interpretation

The Fig.4 shows the Evaluation of the Respondents towards the Existing Manual Enrollment System in terms of the whole survey result in there enrollment process and grading process, the total average out of the 400 respondents is 2.49 or *Not Satisfied* because in each process has an average rate from 2.35 to 2.5 . In other words their current manual enrollment system has to need an improvement into a computerized enrollment system or what's we called an application software system.

Question	Yes	Percentage	No	Percentage
Do you want to have a computerized enrollment system	386	96%	14	4%

Table 6 - Percentage of the Respondents

The table 6 shows the percentage of the 400 respondents during our survey. On the “yes” column, the percentage result is 96%, while the “no” is 4%. It is obviously shows that the respondents are in favor of our proposed system that using the existing enrollment system in Canduman National High School.

4.2 The Proposed System

By using the Project GESS, work done computerized, the registration form and enrollment form takes less time to complete and all the data in the enrollment process are all secure. The Project GESS can generate an auto ID, can capture of picture through a webcam, and has a security of OCR (Optical Character Recognition).The form can also put a signature of the students. The payments transactions of the students are kept accordingly and secured. The grades of the students were generated immediately.

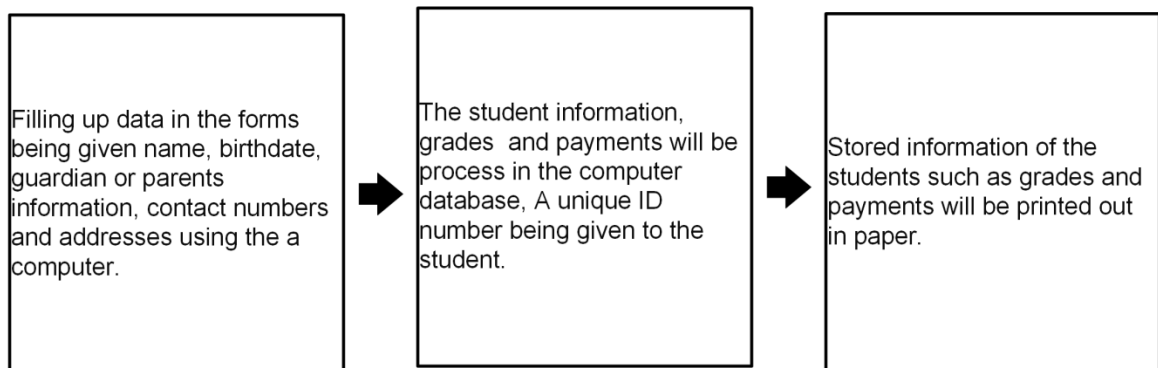


Figure 5 – Input Process Output of Project GESS

4.2.1 Interpretation of Data based on the Survey in Project GESS

Enrollment Proccess:	
Questions:	Sample Mean:
Organized flow of enrollment scheme.	4.48
Proper accommodation of administration staff	4.52
School environment	4.52
Enrollment hassle free	4.72
Attentive staff towards students	4.72
Total Average:	$22.96/5 = 4.592$

Table 7 - **Enrollment Process of Project GESS**

The table 7 shows the Evaluation of the Respondents towards the Project GESS in terms of their Enrollment Process, the total average of each question is 4.592 *Excellent* which means that Project GESS must be apply to the school.

Grading Proccess:	
Questions:	Mean:
Records are kept accordingly	4.33
Clear information of grades	4.33
Fast and efficient production of student information	4.33
Grades were generated immediately	4.67
Can manage the records of students accurately	4.7
Total Average:	$22.36/5 = 4.472$

Table 8- **Grading Process of Project GESS**

The table 8 shows the Evaluation of the Respondents towards the Project GESS in terms of their Grading Process, in every question has an average range of numerical value from 4.33 to 4.7 and the rating interpretation is *Excellent* and the

total average of the process is 4.4.72 *Excellent*, which means Project GESS must be apply to the school in order to help the students.

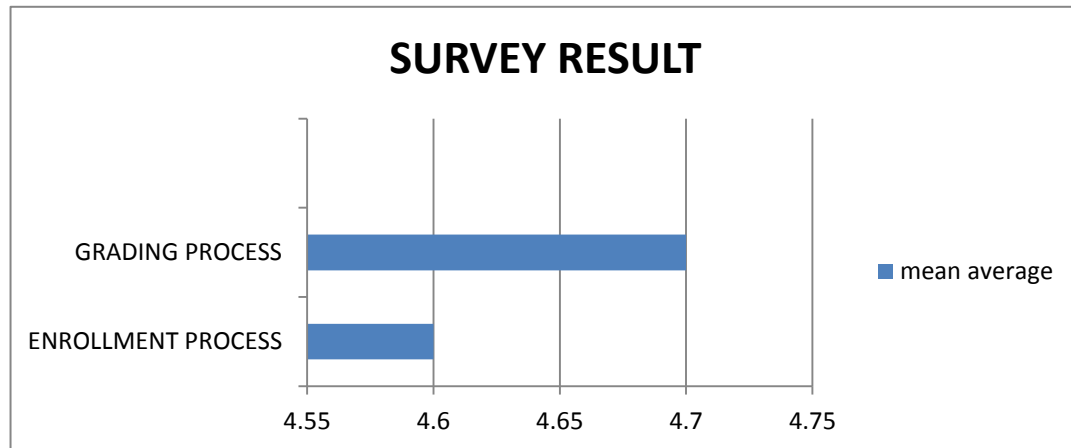


Figure 6 - Respondents towards the Project GESS

4.2.2 Analysis of Data Interpretation

The Fig. 6 shows the Evaluation of the Respondents towards the Project GESS in terms of the whole survey result, total average out of the 400 respondents is 4.57 or *Excellent* because in each process has an average rate from 4.5 to 4.7 . In other words, the Project GESS must be applied to the school.

4.2.3 System Requirements

- Server Requirements
 - ✓ MYSQL – Database Server
 - ✓ XAMPP – Server Application
- Client Requirements
 - ✓ MYSQL .NET Connector
 - ✓ Microsoft .NET Framework 4.5
- Hardware Requirements
 - ✓ 1.Ghz of processor speed
 - ✓ Multithreading Type
 - ✓ Operating System – Windows 7 and later
 - ✓ 1 Gb HDD free space

4.4 The Comparison of Flow Chart between the Existing System and Proposed System

4.4.1 The Flow Chart of Existing System

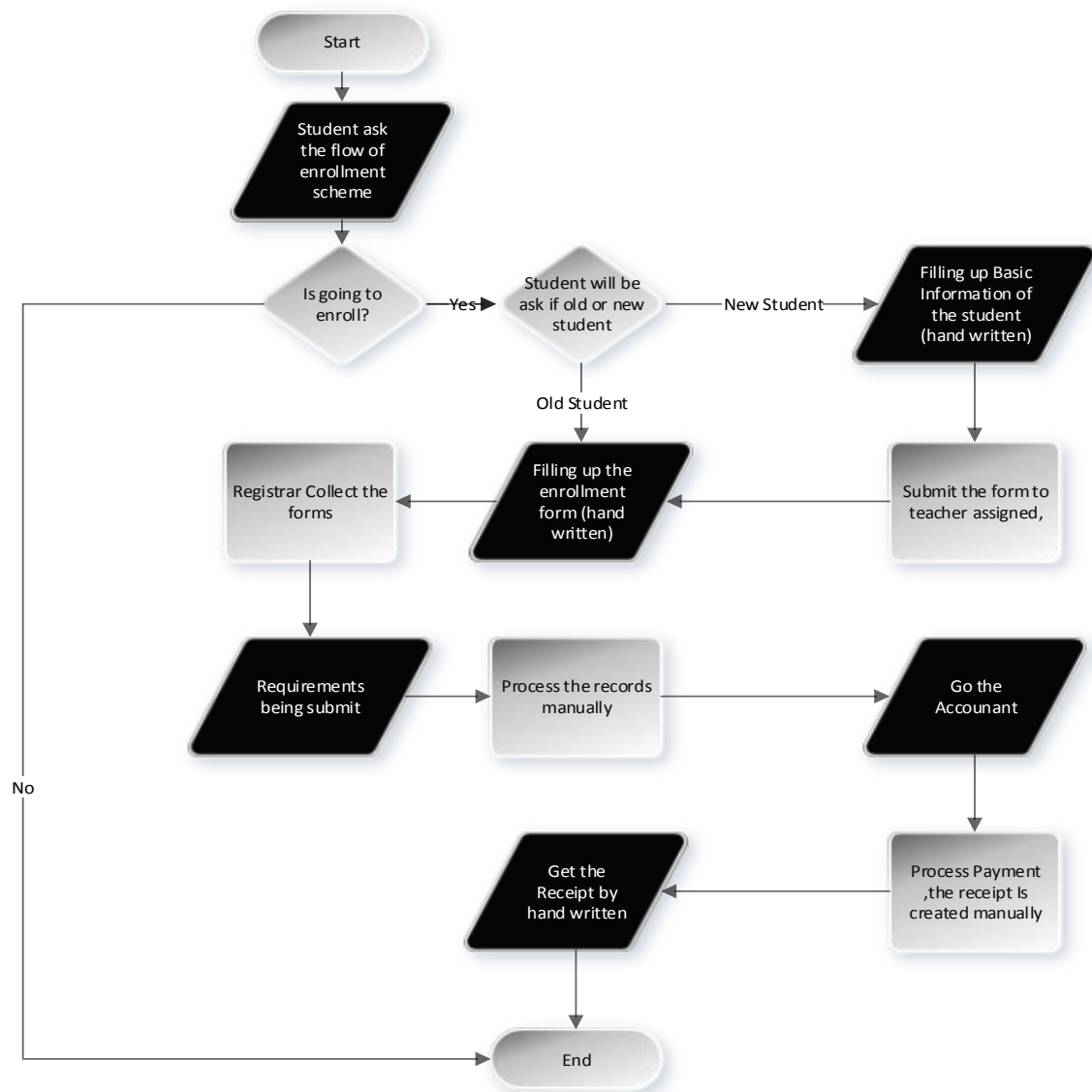


Figure 7- The Flow Chart of Existing System

Fig. 7 shows the flowchart of existing system in Canduman National High School.

4.4.2 The Flowchart of Proposed System

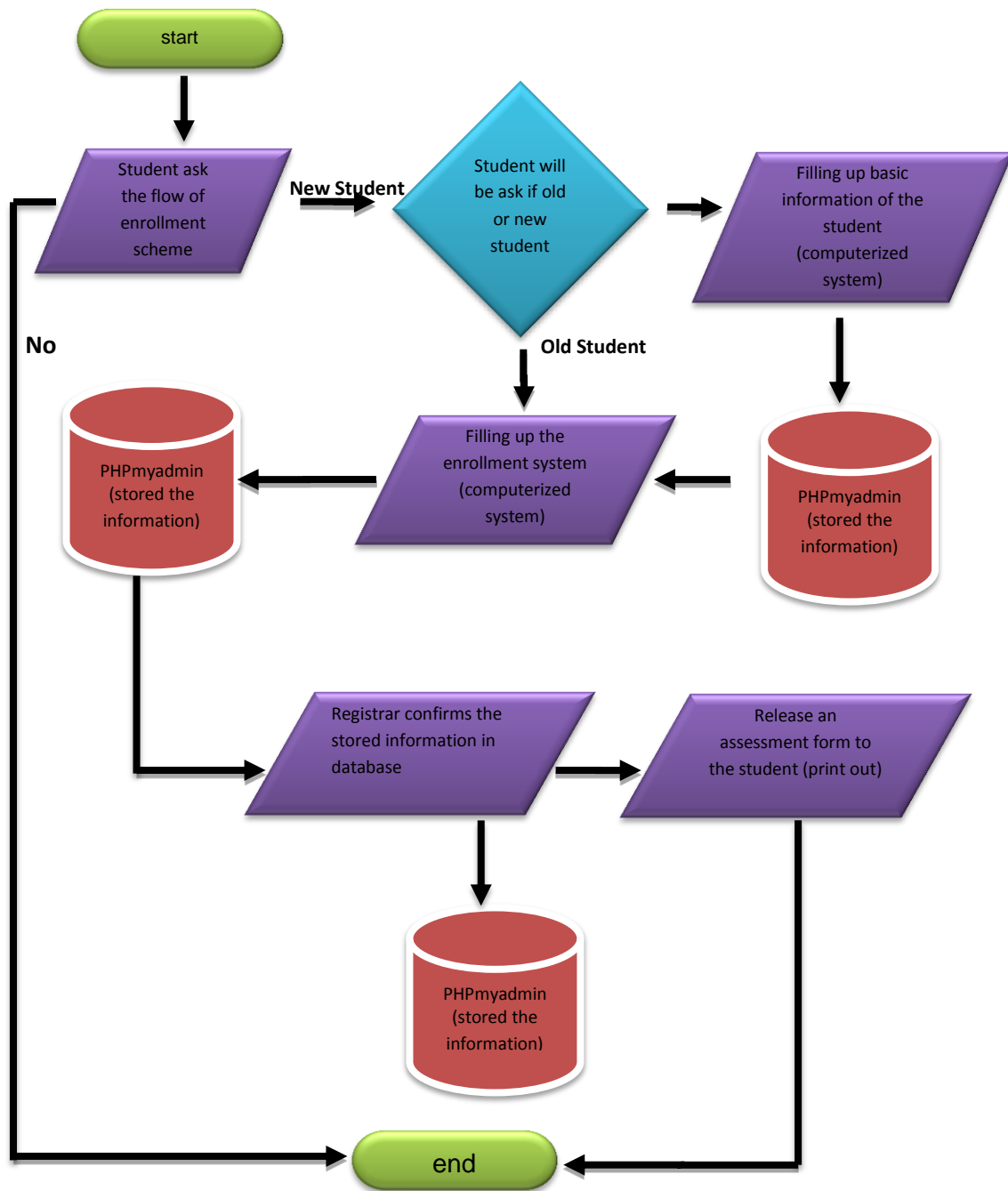


Fig. 8 The Flow Chart of Proposed System

Fig. 8 shows the flowchart of proposed system

4.4.3 The Venn Diagram Project GESS

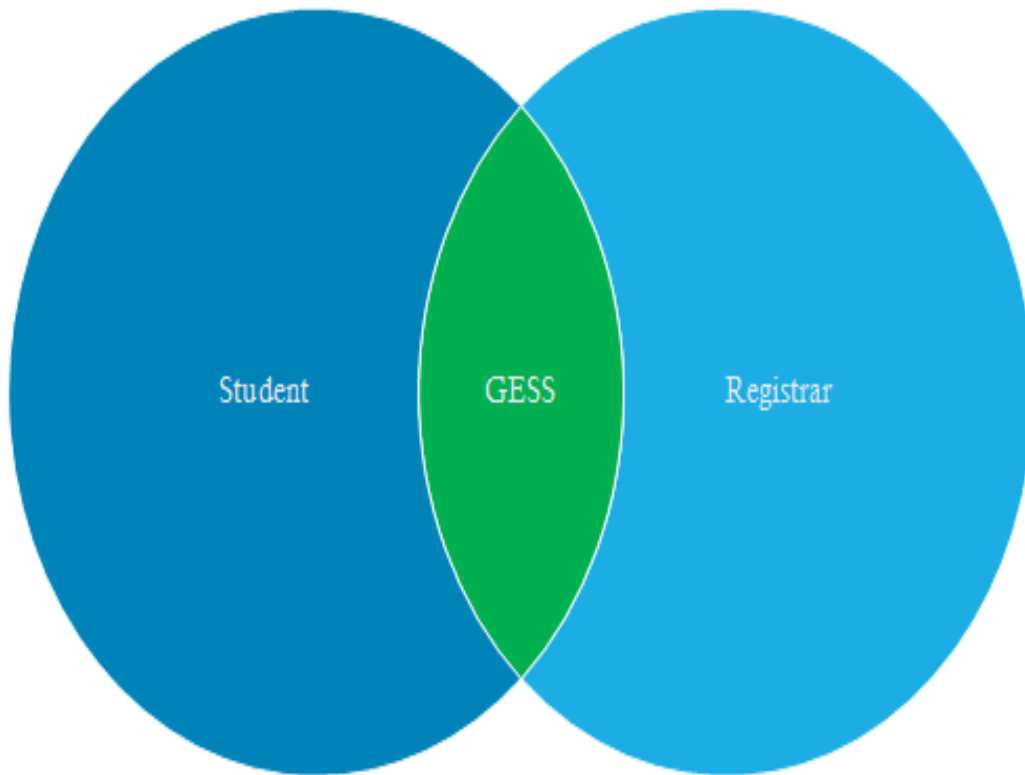


Figure 9 – The Venn diagram of proposed system

4.4.4 Use Case Diagram of Proposed System

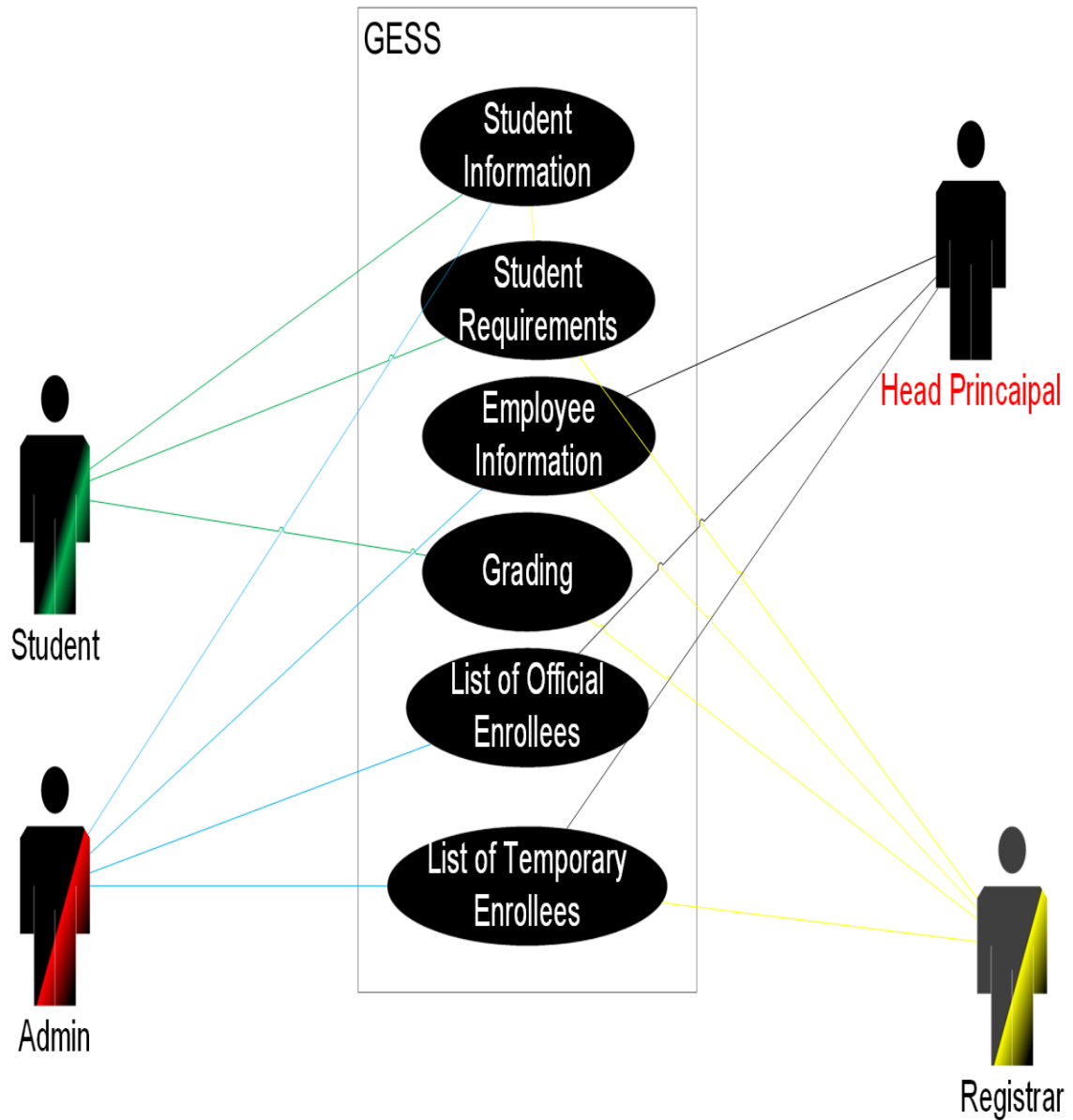


Figure 10 - The Flow Chart of Proposed System

Fig. 10 shows the use case diagram of proposed system in Canduman National High School.

Chapter 5 Summary Findings, Conclusions and Recommendations

Summary Findings

Base on the study conducted by the researchers and when the data obtained among the respondents, the researchers found out that the development of the enrollment system in Canduman National High School will impose the interactive material for the students and staffs. This study proved that computerized enrollment system was needed, it can be a great help to the school ++in adding, deleting, and updating all records of the students and in enrollment process. It speed-up the processing of data can make accurate and organize report which is easy to understand. This system provides result as compared to manual enrollment; it was understandable for the school to implement this project in order to attain progress and stability of their operation particularly in enrollment.

The descriptive method research was employed and the sampling with the proportional allocation was used for respondents. They have one hundred (100) respondents in every year level of students that correspond for this study, the Administration staffs and the Students are based on the findings, analysis, and interpretation of the result of the study, there is a significant difference in the perception of the respondents between manual enrollment systems. The respondents have a positive approach in the developing of computerized enrolment system.

Conclusion

The study conducted has yielded some conclusions based on the findings that were summarized in the previous section. It is now possible to derive several conclusions based on the objectives presented in the first chapter. These conclusions are the following:

The implementation of Grading Enrollment School System (GESS) in the Canduman National High School is highly successful because, it promotes the best services when in times in enrollment process and the security of the information of student and helped the school to enhance their school enrollment system.

The students enjoyed the benefits of using the (GESS). Therefore, implementing this system to the school gives the student's learning process. After the study was conducted and with the response obtained among the respondents, researchers concluded that the development of the software product will be very helpful and significant, in terms of providing a new enrolment process, and improvement of the recording system.

Recommendation

After the study was conducted, the researchers strongly recommended the following:

1. The computerized enrollment system must be implemented as the main process of enrolment in Canduman National High School.
2. The software product should be implemented as soon as possible since evaluation shows that the software provides reliable features and it meets the expectation of the respondents.
3. Since this software may have some distinct limited capabilities and features, therefore it is recommended also that further evaluation and studies be conducted to pursued for the respondents, if it is mandatory, to get their desire output and satisfied their learning needs.

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APPENDICES

Appendix A – Request Letter

November 14, 2015

Mr. Franklin Caruana
College Dean
AMA Computer College

Dear Mr. Caruana,

Warm Greetings!

In connection with the curriculum of Bachelor of Science in Information Technology, we, the fourth year students of AMA Computer College are assigned to create a system entitled “Project GESS – (Grading Enrollment School System)”.

We are appealing to your good office to conduct an interview with regards to the procedure and processes of Project GESS. We believe that we could make this study useful in the implementation of the proposed system with your full support and cooperation.

We assure you that any pertinent data that we gathered within the course of the interview will be treated with outmost confidentiality.

Thank you very much for your convenient time and favorable response.

Respectfully,

Paulo Jhon N. Cagalawan
Francisco S. Abayon
Reymart M. Jimongala
Muriel John P. Yap
Jeffrey M. Pepito

Noted by:

Engr. Klement Empaces
Capstone Coordinator

Approved by:

Mr. Franklin Caruana
OIC-Dean, College of CS/IT

Appendix B – Map of the Research Environment

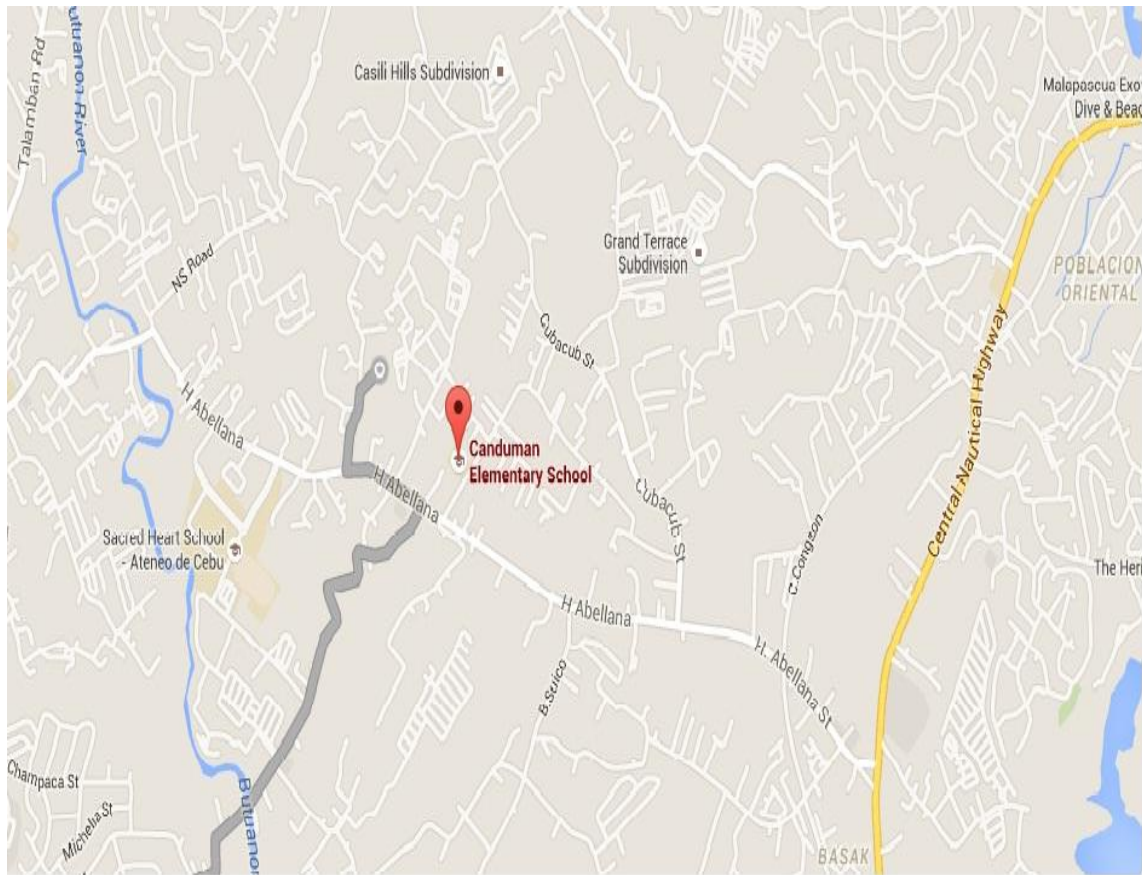


Figure 11 - Research Environment

Appendix C – Site Map

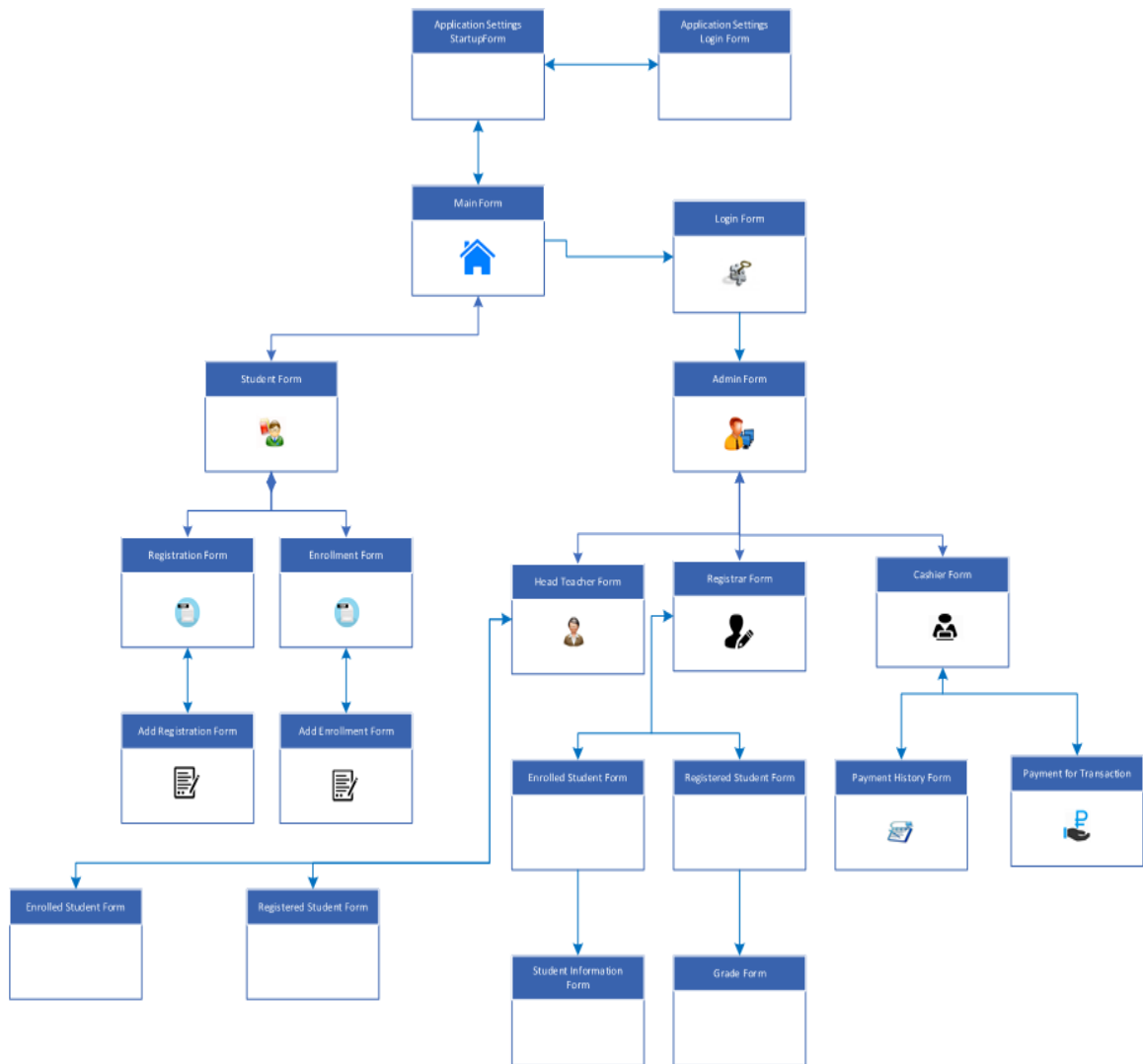


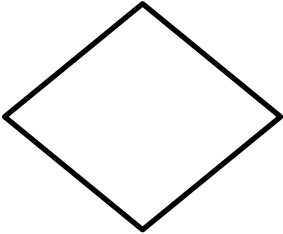



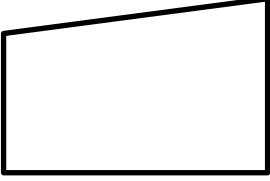
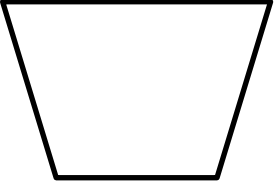


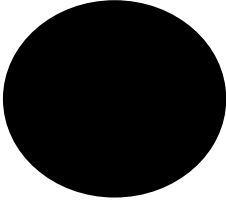
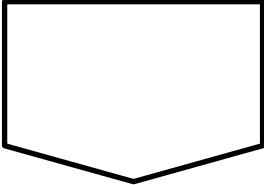
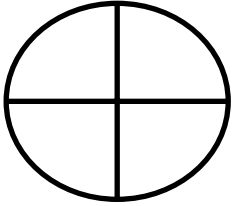
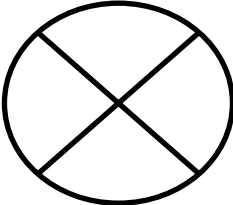
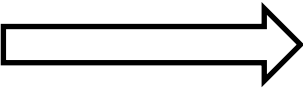



Figure 12 - Site Map

Appendix D - Symbols

Symbol	Name(Alias)	Description
	Process	Indicates any processing function.
	Terminator	Indicates the beginning or end of a program flow in your diagram.
	Decision	Indicates a decision point between two or more paths in a flowchart.
	Document	Indicates data that can be read by people such as printed output.
	Subroutine	Indicates a predefined process, such as a subroutine or a module.
	Display	Indicates data that is displayed for people to read, such as data on a monitor or projector screen.

	Manual Input	Indicates any operation that is performed manually by a person.
	Manual Loop	Indicates a sequence of commands that will continue to repeat until stopped.
	Loop Limit	Indicates the start of the loop.
	Stored Data	Indicates any type of stored data.
	Connector	Indicates an inspection point.
	Off- page connector	Use this sharp to create a cross-reference and hyperlink from a process on one page to a process on one page to process on another page.

	<p>OR</p>	<p>The logical Or symbol shows when a process diverges - usually for more than 2 branches.</p>
	<p>Summing Junction</p>	<p>The logical Summing Junction flowchart shape is shows when multiple branches converge into a single process.</p>
	<p>Flow Line (Arrow, Connector)</p>	<p>Flow line connectors show the direction that the process flows.</p>
	<p>Internal Storage</p>	<p>Indicates an internal storage device</p>

Appendix E – Gantt chart

Task	Start	Finish	Oct.		Nov.		Dec.	
			10-15	10-31	11-15	11-30	12-01	12-17
1.0 Project Planning	10-10	10-14						
1.1 Making Project Proposal	10-14	10-20						
1.2 Research about the project proposal	10-20	10-26						
1.3 Having A survey	10-26	10-28						
2.0 Analyzing Gathered data	10-28	11-04						
3.0 Designing	11-04	11-14						
3.1 Database design and flowchart	11-14	11-19						
3.2 User Interface	11-19	11-21						
4.0 Software Development	11-25	12-02						
4.1 Coding (class and methods)	12-02	12-08						
5.0 Testing	12-09	12-14						
6.0 Operation	12-14	12-16						
7.0 Defense Schedule	12-17	12-17						

Figure 13 - **Gantt Chart**

Fig. 13 shows the Gantt Chart or the Progress Report of your system.

Legend:



Planning



Analysis



Designing



Software Development



Testing



Operation



Defense Schedule

Appendix F – Progress Report

Date	Task
10-10-15 to 10-14-15	ALL: Planning for the project proposal and revising the all chapters for the documentation.
10-14-15 to 10-20-15	ALL: Assigning the all chapters for the documentation.
10-20-15 to 10-26-15	Reymart: Making abstract proposal Reymart, Jeffrey and Francis: Making the chapter 2, 3 and 4.
10-26-15 to 10-28-15	ALL: Went to Canduman National High School for having a survey.
10-28-15 to 11-04-15	Reymart and Jeffrey: Making the chapter 5 and revising the documentation.
11-04-15 to 11-14-15	Paolo: Making design about the system.
11-14-15 to 11-19-15	Francis: Making the database design. Francis and Reymart: Making Flowchart design (existing and proposed system).
11-19-15 to 11-21-15	Francis: Making the User Interface.
11-25-15 to 12-02-15	Muriel and Francis: Coding, debugging the system.
12-02-15 to 12-08-15	Muriel: Testing the program Francis: Finalizing the program system
12-09-15 to 12-14-15	Francis and Reymart: Revising the flow of program system Francis: Securing the program Paolo: Making the PowerPoint Presentation
12-14-15 to 12-16-15	ALL: Preparation for the defense and revising the documentation.
12-17-15	Defense Schedule

Table 9 - **Progress Report**

Table 9 shows the Progress Report of the proponents of making the Proposed GESS System.

Bibliographical Sketch

Paulo Jhon N. Cagalawan



The Project Manager, Cagalawan, Paulo John was born on September 19, 1995 in Cebu City and currently living at Cabancalan, Mandaue City. He is 20 years old and he's second in the family. He took his primary education at Kanagahan elementary

School and he graduated in High School at Liba-ong. He is sporty. He loves to play any kind of sports. Aside of being sporty he also love editing videos and pictures. He is a little bit talented.

During his college, he took the course Associate in Computer Technology and after first semester in Associate he shifted to Bachelor of Science in Computer Technology at AMA Computer College-Cebu. He really like his course, because he has a basic knowledge in HTML during his high school, and also he wanted to learn more in editing.

He is very observant if he wanted to know anything, he is also focus on every task that's given to him, and he never leaves his work if it's not done yet because for his principle you must done every work you had today, because he didn't to be pressure.

Bibliographical Sketch

Francisco S. Abayon



The Programmer, Francisco S. Abayon, was born on October 5 1994, currently living at Calamba, Cebu City. He is 21 years old and second in the family. He loves to read books and novels.

He took his primary education at Cebu City Seventh Day Adventist School and graduated in Concord Technical Institute for his high school days. He wasn't able to study in college immediately due to financial problems.

During his college, he took the degree of Bachelor of Science in Information Technology at AMA Computer College – Cebu Campus, he loves to attend a lot of seminars about computer such as Tech Tutor, Battle of IT Schools, Cisco Cabling and many more. At first, computer courses is not his goal in life, until he learn to embrace his future career and the path he chose to.

Bibliographical Sketch

Reymart M. Jimongala



The System Analyst, Jimongala, Reymart M.

was born on February 27, 1990 in Basak, Mandaue City, Cebu but currently living at Upland, Danao City, Cebu. He is 25 years old and he is the eldest in the family.

He has always been very dedicated and hardworking when trying to achieve his goals.

He took his primary education at D.T. Durano Memorial Elementary School and he graduated in high school at BeatrizD. Durano M.N.H.S. in Danao City. Now, in his college, he took up the degree of Bachelor of Science in Information Technology at AMA Computer College.

In his spare time, enjoys to collect remote vehicle, cooking, playing soduko and watching movies. He also likes spending time with his family, friends and special someone.

During his college days, he knows how to troubleshoot a PC, he has a basic knowledge in different programming languages like C, Java, HTML, PHP and CSS. He also knows in cisco and networking especially in subnetting IP address and configuration of network using packet tracer. He focuses more on his studies because if you are not willing to learn no one can help you but if you are determined to learn no one can stop you.

Bibliographical Sketch

Muriel John P. Yap



The **Software Tester / Programmer, Yap, Muriel John P.** was born on May 09, 1996 in Cebu City and currently living at M.J. Cuenco Ave., Mabolo, Cebu City. He is 19 years old and he's fifth in the family.

He took his primary education at Mabolo Christian Academy and he graduated in High School at Mabolo Christian Academy. He is very cheerful and easy to talk to. He loves to play online games to practice his strategic skills. Aside of playing online games, he is good at playing guitar. He is very talented and smart.

During his college, he took the degree of Bachelor of Science in Information Technology at AMA Computer College Cebu. He really loves his course, because he has a great and excellent knowledge about programming such as PHP, HTML, and CSS. He also knows how to troubleshoot a PC. Muriel is very careful in terms of his task. He always did his best to make his work perfect because he wants to be appreciated. He always believes that there is no reason to give up, because for him, "if others can do great things, why can't you?"

Bibliographical Sketch

Jeffrey M. Pepito



The Technical Writer, Pepito, Jeffrey M. 26

years old, fourth year student in AMA Computer College taking up Bachelor of Science in Information Technology major in networking. Born on February 8, 1989 raised in Colo, Panugnawan, Medellin, Cebu.

The 6th child of Mrs. Sulpicia Mercader Pepito. Completed his elementary education in Panugnawan Elementary School and received his high school diploma in Curva National High School. Completed his associate studies in AMA last 2011 and had worked at INNODATA for over a year. After how many years of working he decided to pursue his dream and finish his studies.

Currently residing in Mandue city seeking opportunities for further journey life. Clever, opportunistic, reflective and desires to help others. A man with dignity and good values. His status in life made him go further and reach his dreams. He never cease reaching his dream no matter what it takes. People's criticism made him stand up hard and strong.

But above all he made God as the center for all of his desires, side by side with his family and loved one. The technical writer of the group compiles all the files needed to complete the project. Secures all the information needed, make

sure that the information's are accurate and true. Take notes everything that had happen since from the start until the last day of their case studies. The arranger of the group, the final result of the output is in his hands.