**ENROLLMENT SYSTEM FOR SENIOR HIGH SCHOOL**

**IN CAVITE NATIONAL HIGH SCHOOL, CAVITE**

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**INTRODUCTION**

Technological advancement brought the humanity into a revolutionary enhancement of duties and works, whether part of organization, businesses or even institutions. One of the essential business transactions in every institution is enrollment, it is a process that students must undergo to get in an institution that they want.

In order to acquire formal education, the child should be enrolled in an educational institution duly recognized by the Department of Education. Both public and private schools have a different process of enrollment. In public high school, many are still using the manual procedure of enrollment. Enrollment system (ES) is one of the most important, not only in a university, but also in lower levels of education. ES is used particularly to record and retrieve student’s information.

Currently, Senior High School – Cavite National High School is all the work at the time of admission of the students is done manually by ink and paper, which is very slow and consuming much efforts and time. Due to increase in enrollment every year, the manual process is no longer effective in registering students. It is required to design of a computerized automated student enrollment system, to speed up an accurate and efficient data records. The purpose of this Enrollment System for Senior High School, Cavite National High School is to support the new, old and transferee students’ admission and registration process, and to track personal information and academic data.

**Statement of the Problems**

The general problem of Senior High School of Cavite National High School is how to improve the process of enrollment.

Specifically, the study seeks to answer the following question:

1. How to secure reliable student’s records and files?
2. How to avoid the redundancy of the records?
3. How to generate reports in a timely matter?

**Objectives of the Study**

This study aimed to develop an enrollment system for Senior High School in Cavite National High School.

Specifically, it aims to:

1. develop a system with the following features:
2. Add and Edit Student Records;
3. Assessing the student’s taken course;
4. Print reports and records;
5. Backup files;
6. create the system using Microsoft Visual Studio 2013 for Integrated Development Environment, Visual Basic.NET for program and MySQL for backend;
7. test and improve the system; and
8. evaluate the system based on ISO 25010.

**Significance of the Study**

The study will be beneficial to client for their process of enrollment of Senior High School of Cavite National High School. The increase in population of the students signifies that need for faster and more effective enrollment process. The proposed system helps to register student’s, update record’s and to track information in more convenient ways.

Further, it will also be beneficial to the researcher for it will enhanced their programming capacity.

Lastly, the study will be beneficial to the future researcher in conduct of a similar and related study.

**Time and Place of the Study**

This study was being conducted at Cavite National High School at Cavite City, Cavite May 2020 to May 2020.

**Scope and Limitation**

The study helped the students as well as the client in providing faster, easier, and more accurate information on subjects that would be enrolled by the student for a particular semester and year level.

The system is comprised of log-in module, admission module, enrollment module reports module and maintenance module. The First module has its sub module that is capable of adding new student’s, edit and view personal information and track/strand that the student take. The second has its sub module where in capable to input and edit and view grades of the students. Third module has its sub module that is capable to generate reports like printing grades, master list, check list and registration form. And lastly, the fourth module has its sub module where in capable of add and edit accounts, adding school year, adding subjects and subject code, view activity log and to back up all the records stored in database.

The proposed system is design to run on Windows 7 up to Windows 10 operating system and supports runtime on a network environment.

**Operational Definition of Terms**

This part of the study operatively defines terms that were used in the study.

**Automated** refers to automatic processing of documents.

**Back Up** refers to recovering and restoring data in relation to database.

**Computerized** refers to automatic method of processing using a computer or machine.

**Check List** refers to the all subject of a course or strand.

**Database** refers to a collection of an integrated collection of logically related records.

**Develop** refers to the creation of new system that replaces the old method.

**Enrollment** refers to act of enrolling at an institution or a course.

**Enrollment System** refers a system that record and retrieve a student’s information.

**Evaluation** refers to the process of knowing the student’s competencies.

**Manual** refers a step by step procedure using manual process.

**Security** refers protection or security of the data.

**Conceptual Framework**

The conceptual framework of the study is illustrated in Figure 1. It showed the input, process and the output of how the study will be done.

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| --- | --- | --- | --- | --- | --- |
| **Input Process Output**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | * Student Information * Subjects * Grades |  | * Add, Edit, Save of Information * Generate Reports * Viewing of Information * Stored Information |  | Efficiency of Senior High School in Cavite National High School | |

Figure 1. Conceptual Framework of Senior High School in Cavite National High School

Figure 1 shows the different attributes in the accomplishment of the objectives of the study. The input phase consisted of inputting information of the student in the system. The process phase is what the system capability to do and in this process phase includes the software requirements includes the software used to create the study: Microsoft Visual Studio 2013 (above) for frontend and MySQL for backend. The study developing its concept and programs and testing as part of the process phase. The Enrollment System of Senior High School in Cavite City was the output phase of the study and will evaluate using the ISO 25010.

**REVIEW OF RELATED LITERATURE**

In this review of related literature, the study focused on how to create an enrollment system of Senior High School of Cavite National High School in Cavite. The following studies were found on different websites and articles on the internet.

**Background of Cavite National High School**

According to CNHS1902.Weebly (n.d.), Cavite National High School (Pambansang Mataas na Paaralan ng Cavite) formerly known as Cavite High School, is a Secondary School located at Chief E. Martin Street, Caridad, Cavite City. It was established in 1902 and it is considered as one of the oldest national secondary schools in the country. Cavite National High School’s 114 years of existence, transcendentally braved the changing times. Its remarkable role as trainer and molder of significant people and heroes effortlessly made a giant imprint in Philippine History. The school is guided by the principle-- Train and develop a child to be God-fearing, civic-oriented, highly responsible, participative, innovative, and above all a conscientious citizen of the country who shows concern for the preservation and conservation of nature and life itself.

**Manual Process**

Accordingto Thesisbook (n.d.), in traditional way of enrolling, manual enrollment system is commonly used as a way of enrolling students to and is continuing to be used nowadays. In manual way of registering and enrolling students they must have to fill up first using ball pen and an enrollment form sheet given by their teachers. By the help of different developers and programmers, they have developed different system about the registration and enrollment process. Computerized, online registration and online enrollment systems that helps the school for having an easier process of managing student information.

**Computerized Process**

According to Inettutor (2015),enrollment is one of the busiest schedules on every institution especially on the cashier’s section. It is a challenge for them on how to make the enrollment process smooth and with precision. A manual process of enrollment procedures is time consuming and are prone to errors. The both sides are affected with these problems (students and the cashier personnel), thus the researchers would like to study, design and develop an automated enrollment system that will provide a more convenient ways to cater the needs of the students and as well as the cashier personnel.

**Visual Studio 2013**

According to ITProToday (2014), Visual Studio 2013 is the next-generation integrated development environment (IDE) for developers of Microsoft platform applications—Windows 8.x and .NET Framework. Visual Studio 2013 provides enhanced support for prototyping, designing, and modeling and improved testing tools that let developers build Windows, web, and cloud applications. In this article, I'll provide a high-level view of the top new features and enhancements in the Visual Studio 2013 IDE. I will also briefly discuss new features introduced in .NET Framework 4.5.1, which was released concurrently with Visual Studio 2013 in mid-October 2013.

**Security**

According to Securitymagazine (n.d.), security refers to the processes and methodologies which are designed and implemented to protect print, electronic, or any other form of confidential, private and sensitive information or data from unauthorized access, use, misuse, disclosure, destruction, modifications, or disruption.

**Education System in Philippines**

According to StudyCountry (n.d.), the education system of the Philippines has been highly influenced by the country’s colonial history. That history has included periods of Spanish, American and Japanese rule and occupation. The most important and lasting contributions came during America’s occupation of the country, which began in 1898. It was during that period that English was introduced as the primary language of instruction and a system of public education was first established—a system modeled after the United States school system and administered by the newly established Department of Instruction.

The United States left a lasting impression on the Philippine school system. Several colleges and universities were founded with the goal of educating the nation’s teachers. In 1908, the University of the Philippines was chartered, representing the first comprehensive public university in the nation’s history.

Like the United States, the Philippine nation has an extensive and highly inclusive system of education, including higher education. In the present day, the United States continues to influence the Philippines education system, as many of the country’s teachers and professors have earned advanced degrees from United States universities.

Although the Philippine system of education has long served as a model for other Southeast Asian countries, in recent years that system has deteriorated. This is especially true in the more remote and poverty-stricken regions of the country. While Manila, the capital and largest city in the Philippines, boasts a primary school completion rate of nearly 100 percent, other areas of the country, including Mindanao and Eastern Visayas, have a primary school completion rate of only 30 percent or less. Not surprisingly, students who hail from Philippine urban areas tend to score much higher in subjects such as mathematics and science than students in the more rural areas of the country.

Below we will discuss the education system of the Philippines in great detail, including a description of both the primary and secondary education levels in the country, as well as the systems currently in place for vocational and university education.

**K-12 Education**

According to K12Philippines (2015), k to 12 (also K-12) is an education system under the Department of Education that aims to enhance learners’ basic skills, produce more competent citizens, and prepare graduates for lifelong learning and employment. “K” stands for Kindergarten and “12” refers to the succeeding 12 years of basic education (6 years of elementary education, 4 years of junior high school, and 2 years of senior high school).

At present, the Philippines is the last country in Asia and one of only three countries in the world with a 10-year pre-university program.

**Enrollment System**

According to Inettutor (2015), enrollment is one of the busiest schedules on every institution especially on the cashier’s section. It is a challenge for them on how to make the enrollment process smooth and with precision. A manual process of enrollment procedures is time consuming and are prone to errors. The both sides are affected with these problems (students and the cashier personnel), thus the researchers would like to study, design and develop an automated enrollment system that will provide a more convenient ways to cater the needs of the students and as well as the cashier personnel.

**MySQL**

According to Template Toaster (2019), it is one of the most popular database management systems originally launched way back in 1995. SQL is the core of MySQL. And ‘My’ with ‘SQL’ is there because it’s the name of its co-founder Michael Widenius’ daughter. It is an open-source relational database management system. MySQL is a freely available database system. However, there are several paid editions also available with which you can use advanced functionality. MySQL is easy to use as compared to another database software such as Microsoft SQL Server and Oracle database etc. It can be used with any programming language, but is largely used with [PHP](https://blog.templatetoaster.com/what-is-php/). MySQL can run on multiple platforms such as Linux, Windows, Unix, and an information schema to define and manage your metadata. You can either install it on your local system or even on the server as well. It is a really flexible, scalable, fast, and reliable solution.

**Advantages of MySQL**

According to the article posted by John Mack in Datarealm (2014), there are some advantages that MySQL has, it is easy to use because MySQL is very easy to install, and thanks to a bevy of third-party tools that can be added to the database, setting up an implementation is a relatively simple task. In addition, it’s also an easy database to work with. So long as you understand the language, you shouldn’t run into too many problems. And support is readily available whenever necessary, although Oracle’s history of supporting its customers can be spotty at best, the nature of MySQL – which got its start as an open-source platform – means that there’s a large and thriving community of developers and enthusiasts to which one can turn for help. This is due in large part to the popularity of the solution, the end result of which is no shortage of experts.

**Disadvantages of MySQL**

According to the article posted by John Mack in the Datarealm (2014), MySQL also had some disadvantages, it got a few stability issues and also according to Digital Ocean, MySQL tends to be somewhat less reliable than its peers. These stability issues are related to the manner in which it handles certain functions (such as references, transactions, and auditing). While the database is certainly still usable in light of these problems, they do tend to make MySQL a poor choice for certain use cases. And MySQL suffers from relatively poor performance scaling, although MySQL is equipped to handle a virtually limitless volume of data, it has a troubling tendency to come grinding to a halt if it’s forced to deal with too many operations at a given time. This relatively poor performance scaling means that anyone with high concurrency levels should probably look into an alternative.

**ISO 25010**

According to Codacy (2017), code quality frameworks describe code quality characteristics and their decomposition. For Enterprise software development, one model stands out: the ISO/IEC 25010, which was launched in 2011. In ISO/IEC 2510, software quality is divided in two broad dimensions: (1) product quality and (2) quality in use.

**System Administrator**

According to Cyberciti (2014), the person who is responsible for setting up and maintaining the system or server is called as the system administrator. System administrators may be members of an information technology department. Most of the following discussion also applies to network and Windows system admins.System Admin jobisgood it’s kindofchallenging jobtomanaging serversinalways upandrunning fineandresolving customerquiresintimelymanner.

**Programming Language**

According to Computerhope (2019), a programming language is a computer language programmer use to develop software programs, scripts, or other sets of instructions for computers to execute. Although many languages share similarities, each has its own syntax. Once a programmer learns the languages rules, syntax, and structure, they write the source code in a text editor or IDE. Then, the programmer often compiles the code into machine language that can be understood by the computer. Scripting languages, which do not require a compiler, use an interpreter to execute the script.

**LRN (Learning Reference Number)**

According to ABS-CBN News (2017), the LRN is a permanent 12-digit number that the pupil shall keep while completing the basic education program, regardless of transfer to another school – whether public or private, including the student’s promotion to secondary level. Each student will have an LRN that will be indicated in the pupil’s permanent record, report card, examinations, certificate or diploma and other documents.

**Importance of Enrollment System**

According to Essaybasics (2017), most schools have benefited from (online) enrollment systems, it saves time, improves accuracy and help school organize its operations effectively. Advanced enrollment systems are becoming one of the essential tools for many employers who want to improve their levels of efficiency.

**Designing of Enrollment System**

According to Inettutor (2019), the design and features suit the needs of the target users (administrator, registrar, and cashier) to provide a fast, accurate and effective enrollment and record keeping machine that provides the users of the system an accurate and reliable reports.

**METHODOLOGY**

This chapter presents the steps of how the system will be developed. It discusses the procedures for generating information on the system, enumerates how the system will be tested, and indicate its criteria for evaluation. It also describes the research methodology of the study, explains the sample processes with the aid of the Data Flow Diagram, and to describe the procedure used in designing the system.

**Project Design**

The developers considered several concepts for the development of the system. Everything was consolidated and presented using a context diagram shown below.

CC, ML, SPR, RF

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Administrator

SPI

Administrator

CC, ML, SPR, RF

SPI

Clerk

Clerk

Enrollment System of

Senior High School

CC, ML

In Cavite National

GR

High School

User

User

LEGEND:

SPI – Student Personal Information CC – Course Card

SPR – Student Progress Report ML – Master List

RF – Registration Form

GR – Grades

**Functional Decomposition Diagram**

The module of decomposition identifies each of the modules and briefly outlines their purpose, type, functions, and list of submodules consisting of this module.

Enrollment System of Senior High School

In Cavite National High School

Enrollment

Reports

Settings

Admission

Add School Year

Evaluate

Register Student

Masterlist

Checklist

Add Subjects

Add Section

Print Registration Form

Edit Student Records

Drop Subjects

Add Schedule

View Student Subjects

Form 1

Form 5B

Form 6

Form 10

View Student Records

Audit Trail

Form 5A

Grade Management

Backup DB

Input Grades

Account Management

Add Account

Edit Grades

Edit Account

Delete Account

Edit Account

Figure 3. Functional Decomposition Diagram of Enrollment System of Senior High School in Cavite National High School