**CHAPTER 1**

**INTRODUCTION**

Student Information System (SIS) is web-based application software designed to introduce a conducive and structured information exchange environment for integrating students, parents, teachers and the administration of a school or college. Student Information System (SIS) and Student Records System (SRS) are software systems that enable educational institutions to supervise student-related activities such as keeping records of tests or examinations conducted, attendance, appraisal on performance including details of marks scored, particulars of everyday school attendance, and all other institution-related activities.

CORAMDEO CHRISTIAN ACADEMY is a private educational institution located at Tandang Sora. It has six (6) teachers who can help the school to improve and give the best service they could give. They offer Kinder to Elementary education. This private school is currently using a manual system which the data of the students are archived using traditional approach.

This information here can be viewed in just a second without worrying that a single file is lost. The idea behind an automated enrollment system is not a new concept. As student enrollees increase every year, enrollment procedure become harder to deal. This will only serve to increase the problem facing enrollment that provides more easy way in enrolling. This will also be a big help to all the enrollment staff especially under the management information system because they are the one who are entitled to touch and read the information from here. It will help the institution to have another system that will upgrade the enrollment processes so as to meet the quality that the institutions are trying to meet. Today, the use of technology has been an effective tool on improving such kind of enrollment system.

**1.1 PROJECT CONTEXT**

The proposed project for CORAMDEO CHRISTIAN ACADEMY STUDENT INFORMATION SYSTEM (CSIS) is a computerized system designed to help teachers, students and parents to have an easy access to the important data they need to know. This ranges from the students’ personal info, which these data gathered from the enrollment process, grades that are compiled and saved in the system’s database. The grades that had been encoded will be automatically computed by the system.

Techniques & Strategies: to implement the system, we will use the phase by phase deployment approach. It will take a lesser risk to implement not because the employee who will use it but for the old records that will be encoded inside the system.

Use Software: In this project, the use of Visual Basic 6.0 and Microsoft Access database will help to improve the efficiency of the enrolment in the CORAMDEO Christian Academy.

Another inclusion is an online website portal. This is where the parents can preview the status and the current activities of their child, parents can also use the account of their children to have an access to the portal. In the portal, they can also view the current statement of account, as well as, also send a specific notification to the parents so they will keep updated.

To encapsulate, they provide a complete student records system that is designed with diverse application potentials ranging from simple management of students’ records in school to management of all student-related functions as well as administrative functions of a chain of educational establishments.

**1.2 PURPOSE AND DESCRIPTION OF THE PROJECT**

The purpose of this capstone project is to design and develop computerized enrollment system in order to make the process faster and to lessen the workload of the school personnel especially the cashier and the registrar who holds most of the records. This will also provide/keep complete information needed by the school and also the students with their parents.

For the school, they will need the student’s information so they have personal identification for each student with regards to their balances on their accounts, assessments, personal information, also their grades. Teachers can use these so that they can record or save their student’s grades, update records with ease, fast and accurately. And, the parents can understand how their child attains their grade.

Another one is to have communications between the parents and the school management. There will be an online portal that the parents can use to view information about the school itself. Also, detailed information of their child with regard to their statement of account or balances, their grades can be monitored. There will also be text notifications for them from the school via the system to notify the parents on any events that may happen on their child or any school-related events.

Another purpose of this project is to make the enrolment process faster and easier. In traditional way of recording information, which is writing on paper, it is easy to commit errors or this information can be misplaced or lost. With this computerized system, the students can just type in a computer prepared by the school for enrollment easily. Even if one has made an error, it can be easily changed or updated. This will replace the manual system. Also with this system, all information is placed in a computer database so that files are well kept or protected. For school personnel, they can manage their human resources more productively because the system will be able to assist them. This would lessen the workload of the cashier personnel and to make the enrollment procedure faster.

Lastly would be to avoid loss of data. In here we are planning to have a Backup and Database Restore for the system. In any case, there comes a problem or an error with the main database, the backup can take over or help recover all that information that may be lost in the main database. In connection to these, security of the system is needed. The system can only be accessed through accounts only made for the system for the students; teachers and the system administrator can monitor all activities happening in the system.

**1.3 OBJECTIVES**

The proposed CORAMDEO CHRISTIAN ACADEMY Student Information System aims to provide a dependable management of student records. This can also help the staff to lessen their workload as this will make the process faster and easier.

* + 1. **General Objectives**

The general objective of this project is for the school to have a faster and reliable enrollment process with automatic system. A faster process compared to written documents, which can lessen the amount of time used by the one enrolling because writing down information is time consuming.

After typing down information, it will be directed to the database and sorted easily. As for the staffs, they can cater more enrollees for a given time if the process is faster than what they have. Also, an online portal for the school can interact with the parents easily at any given time or place.

* + 1. **Specific Objectives**

For the realization of the project, these are the specific objectives:

* provide an automated enrollment application form
* create the school’s online portal
* include notifications of school events, etc. for the parents
* include a good security for the system
* provide sufficient number of accounts for students
* students/parents will be able to view the complete breakdown of their own grades
* teachers can easily manage their student’s records

**1.4 SCOPE AND DELIMITATIONS**

This project aims to develop a student information system for CORAMDEO Christian Academy is to be able to manage all records of old students and transferees correctly. All information should be organized so that it can easily be searched or gathered when needed. They will each have automatic unique accounts, which will be based on their student id numbers. This should make the enrollment process faster compared to the traditional way.

The system would only be storing of data. Updating, saving, and deleting of data. (Personal Information, Bill Statements, Grades). The system will not include payments or transactions. Payments are to be done manually (Cannot pay online). Only authorized personnel will be allowed to use the system. Principal, authorized faculty and staff are the one to save the student’s grades in the system. The system Administrator is the only one with full control of the system. Online web portal is for logging in of students/parents. They can only view their own information with the school. There will also be online application forms for those interested in the school. Online portal can present school’s description, hotline number, any school-related events. Lastly, notifications from school will only be from texts. This would only contain important events related to the school.

**CHAPTER II**

**REVIEW OF RELATED LITERATURES AND STUDIES**

**2.1 CONCEPTUAL FRAMEWORK**

We are now in the era of computer technologies. Information that an institution collects or gathers would help reach decisions that would benefit their company. Because of this, database systems are now used by many companies that can help them store data. It is a reliable data storage and retrieval. With the help of computers, data management and analysis is faster and easier than a manually managed data.

CORAMDEO Christian Academy’s enrollment system stores, manages and retrieves data of their students manually. Because of this, the proposed system, which would be easier and effective, would aim to give a solution for this problem.

In the existing system, all actions are written down. From the students writing down their personal information in the registration form every time they enroll, down to the records of the registrar and accounting division. This makes the process longer than what all people involved would have wanted.

The proposed system will store all data in a database created using Microsoft Access and will be managed by a DBMS created using Visual Basic 6.0. This is expected to make every process in enrollment faster and easier.

Figures 2.1 and 2.2 are the IPO+S models of existing and the proposed system. They will also show the differences between them

**FIGURE 2.1 IPO+S EXISTING SYSTEM DIAGRAM**

INPUT

Enrollees write their information needed on the registration form.

PROCESS

All written registration forms are to be collected and checked manually by the registrar for errors.

OUTPUT

Enrollees now have a verified registration form.

STORAGE

All information is written in paper, stored on a filing cabinet.

For the existing system, we can see that data are saved or written in papers. It is not that easy to search for a student when all their records are piled up in their respective cabinets even though they are arranged properly.

**FIGURE 2.2 IPO+S NEW SYSTEM DIAGRAM**

INPUT

Enrollees will make use of computers to save their information.

Need student #.

OUTPUT

Student’s information can now be viewed in the school’s portal by their student #.

PROCESS

The computer will give a preview of the records for the enrollee to check if there are errors.

STORAGE

Information is saved in the database.

For this proposed system, students are to enroll; to type their information in a computer. This information is saved in their databases which would be easy to access if needed just by searching through the system.

**2.2 RELATED LITERATURE**

“*Simplicity is about subtracting the obvious and adding the meaningful.[[1]](#footnote-2)”*

Even at this computer age, there still exist some institutions that rely in a manual system. Using papers to store data, then manages them. It is making the process slower. There are computers now that can assist us, making our tasks easier. Subtracting the paper then, adding the computer. We now have the computers. We now have systems. We can do things much easier and effective. It is simple and easy to understand and use.

*“Without big data analytics, companies are blind and deaf, wandering out onto the web like deer on a freeway.[[2]](#footnote-3)”*

We are to create a system that will collect data from students from the enrollment process and manage it afterwards. The more we know about the customers or the students, the better. It can help the institution to decide what to do next.

*“Going paperless would reduce the cost of maintaining photocopiers and printers; the cost of ink and toner consumables and spares would undoubtedly feature less in the ICT budget. On top of this, schools will be taking the lead in contributing to an eco-friendly means of communication – helping to reduce waste and save trees.[[3]](#footnote-4)”*

Other schools have started computerizations. From enrollment process, down to teachers that uses technology to teach students. This can help us reduce costs; on papers and printing. No more registration forms that have a probability to get lost or misplaced. Everything is in the database.

*“The Online Enrollment System was proposed for the enhancement of the current enrollment system of Liceo de Cagayan University. The study aimed at creating a system that would provide another option for enrolling and that would compensate for the school’s lack of manpower and time-consuming system. The database of the system is the dbEnrollment. It contains many tables and stores information such as student’s academic records, secretary’s files and records, class schedules, pre-requisites, subjects, curricula and other essential data needed in the system. The proposed system caters to old, freshmen, transferees and shiftees with the following services: subject evaluation, posting of grades, viewing of curriculum, add and update profile. The system lessens the enrollment time, speeds up file management, and minimizes inaccuracies and errors.[[4]](#footnote-5)”*

As explained here, a computerized enrolment system is really a big help. It can make enrolment process faster, speeds up managing of files, and also minimizes errors, in which the existing system cannot do. It can compensate to the lack of manpower in the institution we have selected.

*“By switching to online enrollment, school administrators can easily keep track of student records and payments, avoiding fraud or any leakage through corruption. They can also easily export their student databases, send out newsletters, school schedules, and other important announcements via email or SMS.[[5]](#footnote-6)”*

A lot of processes are now made easier. Enrolling, managing and exporting students’ databases, sending out newsletters and other important announcements via SMS. We can now have faster communication with the student’s parents, letting them know any important events happening from the school with the help of the system.

**2.3 RELATED STUDIES**

The proponents also researched about other projects that are related to a Student Information System. This can help us as guide to see the processes they took in creating a working and efficient system.

According to Eileen Bayangan-Cosidon, Student Information System for Kalinga State University-Rizal Campus,

“*This study aimed to improve the efficiency of the existing Student Information System of Kalinga State University Rizal campus. To attain this objective, an assessment of the existing system was done through observation and interview methods from the Acting Registrar, Campus Secretary, Faculty Members and students.Results reveal that the existing student information system metthe five requirements: reusability, maintainability,security, usefulness and functionaity and evaluation on the system appeal of a quality software only to a“moderate extent”. Moreover, reliability of the existing system was given a “low extent” rating. Based on theassessment results, the existing student information system was refined to include suggestions such as the inclusionof online query access, online accessiblity of student information, and a role-based security in the system.[[6]](#footnote-7)”*

According to Faith Educational Ministries, Student Information System,

*“The SIS was comprised of a mish-mash of Excel spreadsheets, ad-hoc databases and an inflexible SaaS based SIS package that required a large amount of manual processing from the Academy’s staff and IT department. Faith needed to either find a more open and flexible SIS package that could easily adapt to meet the Academy’s business needs or build a SIS from scratch. Given a limited budget, it was determined that the best course of action was to try and build a complete SIS from scratch, using tools already available. Faith’s approach, however, bogged down after a few months. It had created a first cut of the new SIS in Microsoft Access in November 2009, but the newly created system was difficult to move out of the database environment and required a huge amount of additional coding in ASP and Visual Studio.*

*Restarting their search, it became obvious to Faith’s IT team that they needed a development solution tailored to their needs, specifically:*

* *Easy-to-use, but still robust enough to create powerful applications;*
* *Swifter time to production;*
* *Streamlined application maintenance and management*.[[7]](#footnote-8)”

According to Sean M. Motta, Design of a Comprehensive Student Information System (SIS) and User Interface for the Honors College at USF

*“This research focuses on the design and implementation of a comprehensive student information system and user interface to replace the current paper records. Honors College Staff are able to directly access all aspects of a student’s academic progress through a secure, online interface embedded in the college’s website. The system utilizes user authentication, displaying only information necessary for an individual’s duties. Additionally, each sub-system has authentication allowing authorized users to create or update information in that sub-system. All data is thoroughly reviewed and validated on the server before actual record alteration occurs. In addition to a staff user interface, this system features a student user interface, allowing users to access information and submit requests electronically, saving both completion and processing time.[[8]](#footnote-9)“*

According to Maria Cecilia G. Cantos, Lorena W. Rabago, and Bartlome T. Tanguilig, Mobile Web-Based Student Integrated Information System, Manuel S. Enverga University,

*“Student Integrated Information System is now a facility which universities and colleges use to manage the records of their students. The convenience of accessing the educational resources online makes the programs ideal for working professionals and students alike. With the widespread employment of distance learning education program, even most conventional colleges and universities are now offering online education.[[9]](#footnote-10)”*

According to Nueva Vizcaya State University,

*“SIS is a secure, web accessible interactive computer system that allows you access to your grade reports, transcripts, schedule of classes, and remaining balance for the semester and register for your classes online. Through the system you will be assigned a unique identification number. All data to and from the university will use that unique identifier. The use of individual student records will:*

* *increase the admissions capacity to follow a students progress over time;*
* *provide better quality data to drive more enlightened policy decisions resulting in enhanced educational opportunities for all students;*
* *reduce data collection burden through a web enabled SIS; and*
* *as a tool of parents in monitoring the academic performance of their children.”[[10]](#footnote-11)*

**CHAPTER III**

**TECHNICAL BACKGROUND**

This chapter discusses everything about technical aspects of the proposed system; it will answer the questions, what are the hardware and software to be use, how the system is being developed and what are the procedures when using the system.

**3.1 TECHNICALITY OF THE PROJECT**

The proponent wants to develop an effective, efficient, reliable and a user-friendly system that can help the institutions system improvement.

Since, Visual Basic 6.0 is known for its simple yet user friendly components such as command button, text box, label box, image box, list box, combo box and etc., the proponents decided to use Visual Basic 6.0 as their programming language and MS Access 7.0 for its database manager.

For the portal, we used Net Beans and for its database we used XAMPP. And

The proponents use DAO (Data Access Object) and ADO (ActiveX Data Objects) as their data connection. They also use crystal report for them to create a good printable report from the system.

The proposed system will run in a network wherein there are only five (5) users allowed to use the system simultaneously, the admin, the accounting, the registrar, the teachers and the students.

**3.2 DETAILS OF TECHNOLOGY TO BE USED**

The proposed system would improve and upgrade the existing system. The proposed project would use computer in conducting transactions. It would also need a printer, for its printed reports and receipt.

These days, technology is being broader and wider which can help in providing quality services. Network computer or laptop is needed to maintain the productivity of the proposed system in the future. It will serve as the workstation of the user in accompanying clients. The users will use computer or laptop in checking and recording stocks. Installed printer will be required in using the system to offer hard copy of the database. The proposed system is designed in the future usage the proponents intended the system with the mouse driven interface and keyboard control button. Installed printed in each station is optional.

**3.3 HOW THE PROJECT WILL WORK**

Since we are dealing with the improvement of the institutions existing system, the proponents decided to lessen the process of the enrollment payment transactions of the customers same with process of inventory which is being performed for the past years.

The client doesn’t need to go to the school to inquire and reserve their child for a slot, it can be seen upon our portal.

On the other hand, the system offers a day-to-day report and updates to monitor the accounts of the users. The proposed system would help to lessen the work and the time consumed by the user. Users can have the needed report in an instant.

**CHAPTER IV**

**METHODOLOGY**

**4.1 ENVIRONMENT**

These are the study about information of the school such as organization, location, employees, students and the current system they use.

**4.2 LOCALE**

CORAMDEO CHRISTIAN ACADEMY is a private educational institution located at B6 L14, Mount Crest Subdivision, Banlat, TandangSora, Quezon City, Metro Manila. They are currently offering Kinder to Elementary education. This private school is currently using a manual system which the data of the students are archived using traditional approach. Figure 4.2.1 is a picture of a map that shows the location, or on how to reach the school’s location.



**Figure 4.2.1**

**4.3 POPULATION OF THE STUDY**

It has eight (8) teachers, who can help the school to improve and give the best service they could give.

**4.4 IN-DEPTH INTERVIEW**

The in-depth interview was used to obtain information such as the nature of the school, its policies, and processes. The principal is the one that answered inquiries with regards to the school’s information.

**4.5 ANALYSIS OF DOCUMENTS**

The researchers also conducted an interpretation of documents which pertains to the school’s vision, mission, objectives and goals. These would be subjected to further analysis to obtain more information. Table 4.5.1 shows how large the population the school handles and the number of people who the researchers interviewed in connection to the nature of the school.

|  |  |  |
| --- | --- | --- |
|  | NUMBER OF POPULATION | NUMBER OF PEOPLE INTERVIEWED |
| ADMIN | 1 | 1 |
| FACULTY | 8 | 2 |
| STUDENTS | 100 | 0 |

**Table 4.5.1**

**4.6 ORGANIZATIONAL CHART**

This is the organizational chart of the school. The principal is the head of the school. Under the principal are the admin assistants, who manage and assist the principal with school affairs. The accountant is in charge with school’s accounts. Lastly is the guidance counselor, teachers and staff that has immediate communication with their students.

ACCOUNTANT

STAFF

TEACHERS

GUIDANCE COUNSELOR

ADMINISTRATIVE ASSISTANTS

PRINCIPAL

SECURITY GUARD

NURSE

LIBRARIAN

**4.7 OPERATIONAL FEASIBILITY**

The system can add and store information of all old and new students accurately and easily by means of a computer. The system can also help compile all records of every student. Also, the system’s operation may help provide services in simplifying the transfer grades of every student, to their parents. The system would be able to maximize the tasks for each department such as admission, registrar, faculty and even releasing of grades for every student.

The Fishbone diagram is all about the cause and effect of the system. It will show that the problem, which is at the “head”, is having a long enrollment process. The cause would be, its “bones”, are technology, manpower, enrollees, and the facilities. This is what the system will be addressing. Any failure that will occur from these bones will greatly impact to the main bone.

**Figure 4.7.1 Fishbone Diagram**

MANPOWER

TECHNOLOGY

ENROLLEE

FACILITIES

SEPARATE BOOTHS FOR EVERY PROCEDURES

LONG ENROLLMENT PROCESS

LOW NUMBER OF EMPLOYEES

INEXPERIENCED EMPLOYEES

PAPER-BASED ENROLLMENT PROCESS

PAPER-BASED INFORMATION STORAGE

NEW ENROLLEES

INCREASING # OF ENROLLEES

INADEQUATE SPACE

**4.7.2 Functional Decomposition Diagram**

The functional decomposition diagram shows the specific functions, specifications and its main content of sets for each module.

**4.8 TECHNICAL FEASIBILITY**

STUDENT/PARENT MODULE

FACULTY MODULE

MANAGE STUDENT INFO

GET STUDENT INFO

SUBJECTS

ASSIGN TEACHER

SCHEDULES

ADMIN MODULE

REGISTRAR MODULE

ONLINE PORTAL

REMOVE STUDENT

VIEW GRADES

REGISTRATION FORM

SUBMIT GRADE

ADD/EDIT STUDENT

STUDENT RECORDS

EDIT GRADE

GRADES INPUT

STUDENT PERSONAL INFO

STUDENT ID

GRADES

SCHOOL INFORMATION SYSTEM

In this study, the company will be able to connect to the system’s provider for updates or trouble shooting concern. Details on how to monitor the items to be used, software's, and also the network service provider would be assessed here.

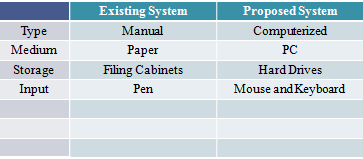
**4.8.1 Hardware Requirements**

* + System Unit
  + Processor: Intel Pentium dual-core or AMD A4 APU
  + Memory: 2GB RAM
  + Hard Drive: 80 GB Hard Drive
  + Networking Hardware: 10/100 Fast Ethernet Adapter / 802.11g or higher WiFi adapter
  + Mouse
  + Keyboard
  + Monitor
  + UPS(Uninterruptible Power Supply)
  + AVR(Automatic Voltage Regulator)

**4.8.2 Software Requirements**

* Operating System : Windows 7 and above
* Programming Language : Visual Basic 6.0
  + Application Software : MS Office
  + Databases :PHP , MS Access
  + Website : Notepad++
  + Website Design : Adobe Photoshop
  + SMS Gateway

Table 4.8.3 is a table of comparison from the school’s current system they’re using and the new system to be proposed for them.



**Table 4.8.3**

**4.9 ECONOMIC FEASIBILITY**

The economic feasibility will review the expected costs to see if they are in line with the projected budget or if the project has acceptable return on investments. At this point, the projected costs will only be a rough estimate. This is to determine if it is feasible, that the project costs will fall within the target budget.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Old System |  | Year | New System |

2017 17000 2017 40000

2018 16500 2018 5500

2019 14100 2019 5100

2020 15400 2020 6000

2021 15500 2021 6100

2022 16200 2022 4000

2023 14800 2023 4500

**Table 4.9.1**

**4.10 SCHEDULE FEASIBILITY**

This is the process wherein it assesses the time frame and completion dates for all major activities.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Jul | Sept | Nov | Jan | Mar | May | Jul | Sept | Oct | | 2016 | | | 2017 | | | | | |     Jul. 1 – Oct. 2  2016 |
| Planning | Nov. 5 – Sept. 20 2017 |
| Design |  |
| Deployment | Sept 22. – Sept. 30 2017 |
| Testing | Oct. 1 – 31  2017 |

This is a gantt chart that shows the dates the system gains major accomplishments. Every column signifies different tasks. For every process, their start and end dates are indicated.

**4.11 REQUIRED MODELLING**

The required modeling is the dissecting of the whole system into different parts. First is the input. It is where we recognize the software and hardware of the system. Next is the process which involves design and development of the system. Third is performance as it checks the capabilities and effectiveness of the system. Last is the output, or the outcome of the system.

**4.11.1 Input**

The input of the system is based on the knowledge of specific individuals, and the software that we used is Visual Basic 6.0 for programming language and Microsoft Access for the database of the system. For hardware are a set of PCs to be used.

**4.11.2 Process**

This is process that we created for the system’s execution. First is to analyze the nature of the company, check all needed requirements and then segregate tasks for each member with regards to their skills. Second is the design plan. To create a design that is needed and suitable for the system. Lastly, test the systems for errors and check for any room for improvements.

**4.11.3 Performance**

The system should be able to save and retrieve information of students in a much easier way. It would also lessen the hassle of long enrollment process; teacher’s grade management of students, parents should be able to access the system by logging in their unique username and password. Students would have easier enrollment process. It will also have a user-friendly interface when accessing the system.

**4.11.4 Output**

This will provide this following data; admission data, registrar records, grade results which can be accessed online.

**4.12 DATA AND PROCESS MODELLING**

The data and process modeling is the representation on the flow of the data in the system. This will be illustrated by the context level diagram and data flow diagram.

**4.12.1 Data Flow Diagram**

The data flow diagram suggests that from enrolment process, the student inputs their information to the system. The admin will be the one that manages it. Then the teachers will have their student’s list so they can input their grades and the database saves/keeps their record safe.

Fill up student information

Add/edit/delete records

ADMIN

STUDENTS

Enrollment form

Saves all records

TEACHERS

DATABASE

Encode grades

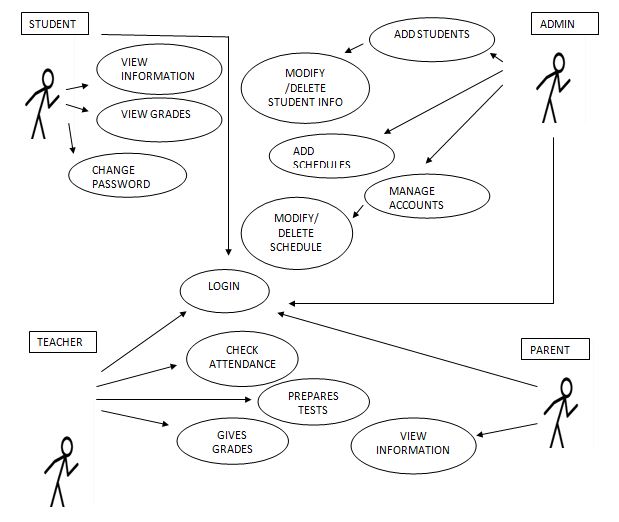
**Figure 4.12.1**

**4.13 OBJECTIVE MODELLING**

The objective modeling is the description of object architecture, which includes the details of the object structure, interfaces between objects and other functions.

**4.13.1 Use Case Diagram**

The use case diagram is a method for designing information system by breaking down each user’s functions. For the school system, the student with their parent can view their own info and grades. The admin has more function; he’s in charge of information storage. And the teacher inputs grades. They will all have to login to the system.



**4.13.2 Entity Relationship Diagram**

The entity relationship diagram shows the connection and attributes of each of the users involve in the system. The entities are represented by a rectangle and the attributes, by

ADMISSION

REGISTRAR

ADMINISTRATOR

CREATE

STUDENT

VIEW

GRADES

INPUT

an ellipse. Relationships are represented by a rhombus. All entities participating in a relationship are connected with lines.

TEACHER

**4.14 RISK ASSESSMENT ANALYSIS**

The first risk the system can encounter is about power loss. This may cause for works left unsaved. So to avoid this, an AVR and UPS for the computers should be included. The AVR is the one that regulates the amount of voltage in an electrical line. The UPS will serve as a battery backup in case of power interruptions.

Another risk would be the system security, data losses, which involves use of unauthorized persons, hacking, malwares and negligence. To avoid this, they must install updated antivirus and firewall to protect the system. All authorized personnel must use strong and unique passwords to avoid misuse of accounts. A backup for all these information should always be included.

Lastly, is the system’s condition. Some events can affect the performance of the hardware and software of the system. Like natural disasters and the like. To prevent this, the computers must be well maintained and checked regularly. Also equipments should be insured. The room should be well-ventilated.

In order to design a good and working system, the proponents used all the information from what we have researched for in connection to our system and the school. As we compare the existing and the proposed system, we can see changes with regards to efficiency and reliability of managing and handling information. This also shows the difference in speed on every process or transactions done when comparing the existing against the proposed system. Teachers and staff would benefit in the proposed system. Their workload would be optimized, transactions would be sped up and reliability of data will be high when using the proposed system.

**4.15 DESIGN**

CORAMDEO CHRISTIAN ACADEMY Student Information System design shows a minimalist approach as this caters mostly to students but would still follows what an enrollment procedure really is. The interface must be user-friendly and the design theme must be helpful to the company.

**CHAPTER 5**

**CONCLUSION AND RECOMMENDATIONS**

**5.1 CONCLUSION**

After analyzing the related literature and studies, results on interviews, gathered data, the proponents have found that there are standards that are being followed in an enrolment system. In a student information system, all records of each student are saved in the database. The school staff and teachers can access and search for information they need like grades, statement of accounts or personal information.

**5.2 RECOMMENDATIONS**

As for recommendations, the proponents can conduct seminars for the school’s staff so that we can ensure the usability of the system before we implement the system. In this training, the contents of the user manual and how to use the system properly will be discussed.

The school will be the one to provide all the needed hardware and software before deployment. All users must have read and understood the user manual to operate the system. The place or the environment on where the system is to be used must be prepared before implementation.

Foreseen risks must not hinder the system’s implementation. This must serve as motivation for pushing the school to accept this kind of technological advancements to make their enrolment process easier and faster. To be able to have a successful implementation, it is recommended to use the implementation plan prepared for the system.

**CHAPTER 6**

**IMPLEMENTATION PLAN**

Student Information system will have its required resources such as hardware, software, facilities and materials. Under the hardware resource, we prefer to use personal computer, in the software we use Microsoft Access as the database.

**6.1 PURPOSE**

The purpose of CORAMDEO CHRISTIAN ACADEMY Student Information System is the automation of enrollment process. This can help the staff in collecting and managing data from their students easier than the traditional approach. It can store information of the students, from their personal information, balances made in the school, grades and also their events. The system will lessen all the paperwork done before. It is designed to be user-friendly for the staff and also the students who are logging in to the system.

**6.2 SYSTEM OVERVIEW**

The CORAMDEO CHRISTIAN ACADEMY Student Information System will be used in Admission, wherein new students can apply also in the online portal of the school. This would help parents who are busy at that moment and they can set their desired date to take the test. Students can register in the computer terminals set up in the school. They will also have their own accounts so that they can log in to the system and view their information. The Accounting department can search and view information about statement of accounts per student so that they can remind them of their obligations at school. The teachers can also manage their students’ grades within the system.

**6.3 SYSTEM DESCRIPTION**

CORAMDEO CHRISTIAN ACADEMY Student Information System is a package of an offline and an online system. The online system would be a web portal for the students who will apply and reserve for exams. This is also for viewing of the students’ own information even if they are not at school. The online system would be connected to the offline system. All information needed online would be based from the offline system. The offline system is to be used mostly by the staff and faculty of the school. This is where they would get all the needed information from all students and would make the enrollment process easier than before.

**6.4 MANAGEMENT OVERVIEW**

To be able to implement the new student information system, the schedules made should be followed in order to achieve the desired goal and for the success of the plan. This system will manage enrollment; admission of the child, registration of personal information, statement of accounts and their grades.

**6.5 DESCRIPTION OF IMPLEMENTATION**

The CORAMDEO CHRISTIAN ACADEMY Student Information System deployment approach is the phase by phase deployment approach. It will take a lesser risk to implement not because the employee who will use it but for the old records that will be encoded inside the system.

**6.6 POINTS OF CONTACT**

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Designation | Number | E-mail |
| Kim Anthony M. Datwin | Project Manager/Programmer | 09063150624 | kimanthonydatwin@yahoo.com |
| Alaiza J. Dela Cruz | Researcher/Programmer | 09300453188 | alaizalubong@gmail.com |
| Christel Anne Mikee C. Acierto | Programmer | 09357290641 | christelannemcacierto@gmail.com |
| Vincent Rae S. Sta. Ana | System Analyst/Documentation | 09958141444 | svincentrae@gmail.com |
| Juliet Cervantes | Admin/Teacher |  |  |
| Erna Balasabas | Teacher |  |  |
| Mercy Fariscal | Teacher |  |  |
| AndreneFilone | Teacher |  |  |
| Babylyn Cervantes | Teacher |  |  |

**6.7** **MAJOR TASKS**

**6.7.1**  **Providing all needed information**

|  |  |  |  |
| --- | --- | --- | --- |
| Task to be accomplish | Resources Requirements | Responsible in the task | Criteria |
| Interview | Paper, ballpen | Kim Anthony Datwin | Must have the transcript of interview |
| Survey | Paper, laptop | AlaizaDela Cruz | A transcript of surveys |
| Research | Wifi, laptop | Christel Anne Acierto  AlaizaDela Cruz | For new information to add for the next system update |
| Brainstorming | Paper, pen | Christel Acierto  AlaizaDela Cruz  Vincent Sta. Ana  Kim Datwin | Must produce new ideas to add for the system |

**6.7.2** **Providing all needed assistance**

|  |  |  |  |
| --- | --- | --- | --- |
| Task to be accomplish | Resources Requirements | Responsible in the task | Criteria |
| Seminars for users | Computers | Christel Acierto  AlaizaDela Cruz  Kim Anthony Datwin  Vincent Sta. Ana | Must produce a nice and clean seminar for the users who will use the system |

**6.7.3** **Scheduling any special computer required for the implementation**

|  |  |  |  |
| --- | --- | --- | --- |
| Task to be accomplish | Resource Requirement | Responsible in the task | Criteria |
| Checking the system requirements for the system implementing | System requirements | Christel Acierto  AlaizaDela Cruz  Vincent Sta. Ana  Kim Datwin | Must know the complete computer system for the implementing |

**6.8 SECURITY**

As for the CORAMDEO Student Information System, we would also like to have our system secured at all times. Student’s stored data should be protected by the new automated system.

**6.8.1 FIREWALL**

With a firewall in the computer, this would be a great help to provide security for the computer and also the system. We have chosen the Windows Firewall to protect our hardware because it has a real-time protection and some special features for wireless connections. This will serve as the barrier for our software and system in the computer. It can make us be aware of any unauthorized efforts or attempts to use our system.

**6.8.2 ANTIVIRUS**

For the antivirus, AVAST free antivirus comes to our mind when it comes to protecting our system. It has a fully functioning antivirus and anti spyware engines to protect the computer housing our system against threats or attacks from Internet or even your files. AVAST is pretty consistent on being the most installed antivirus product so this can help us protect our student’s data from any attacks.

**6.8.3 COMPLEX PASSWORDS**

The systems administration is the one who will use and supervise the system. So using the system, he/she will be using the computer regularly and the only one who will be authorized to use it. The PC password and the system’s password we’re planning to use should be complex and different from each other so that the system would be difficult to get hacked or breached.

**6.9 SECURITY DURING IMPLEMENTATION**

During implementation, we want to assign some capable personnel to use and maintain the system. Like there would be a specific person to monitor the condition of the devices to be used, so that the systems administrator can focus on the system itself to maintain the software part. Data is to be stored in non-removable hard drives so that everything is in place and can also be save in cloud. The devices should only be in the assigned room to be used; no one other than the administrator of the system can take out or use it without his/her supervision. Even when it is in need to transport, the devices should be monitored of their condition, working capabilities. We would also like to ask if the school can provide cameras to be installed in the room where the computer system stays. It is for the surveillance of the devices even if the administrator is not there personally.

**6.10 HARDWARE, SOFTWARE, FACILITIES AND MATERIALS**

**6.10.1 HARDWARE**

* Monitor
* System Unit
* Keyboard
* Optical mouse
* UPS
* AVR

**6.10.2 SOFTWARE**

* Windows 7 OS
* Microsoft Access
* Visual Basic 6.0
* Notepad++
* PHP
* Adobe Photoshop

**6.10.3 FACILITIES**

* Broadband

**6.10.4 MATERIALS**

* HDD
* External Hard Drive
* Manual
* Cellphone

**6.11 PERSONNEL**

The staff should have knowledge on how the system works. They should understand each process and using the computer even troubleshooting it if there is a problem. They will be the one who will use and do maintenance on the equipments to be used in the system.

**6.11.1 PERSONNEL REQUIREMENTS AND STAFFING**

|  |  |  |
| --- | --- | --- |
| Personnel Needed | Qualifications | Work Hours |
| Network Administrator | Can organize and install computer systems and LANs easily. Undergo seminars on networking | 4-8hrs |
| Database Manager | Can analyze and troubleshoot database problems. Undergo seminars about database management | 4-8hrs |
| System Administrator | Knowledgeable in operation of systems hardware and software. | 8hrs |

**6.11.2 IMPLEMENTATION STAFF TRAINING**

Training Programs will be beneficial for the users of the system. This would give them enough experience and knowledge to handle our proposed system. We would also train some personnel within the school so that they use the system easily.

* System hardware software installation
* System support
* System maintenance

**6.12 PERFORMANCE MONITORING**

All equipments are to be checked regularly, the time they will heat up. Data transfer rates are also checked if it can handle gradual increase of data transfers. Also some parts needed to be changed or maintained. Also, it will be checked here how fast the system would provide the students’ information whenever he/she signs in.

**6.13 BACK-OFF PLAN**

A factor that will help us decide not to go through with the system is when our database encounter problems integrating with the school’s online portal. All information within the database is vital and if there are unmonitored changes or errors that would be beyond control, it would make us decide to halt the implementation.

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**GLOSSARY**

**DEFINITION OF TERMS**

**ActiveX Data Object**: is an application program interface from Microsoft that lets a programmer writing Windows applications get access to a relational or non-relational database from both Microsoft and other database providers.

**Adobe Photoshop**: is a raster graphics editor developed and published by Adobe Systems for macOS and Windows.

**AVR**: Short for Automatic Voltage Regulator, AVR is a hardware device used to maintain a voltage to electronic devices.

**AVAST**: is a Czech multinational cybersecurity software company headquartered in Prague, Czech Republic, that develops antivirus software and internet security services. It was founded by Pavel Baudiš and Eduard Kučera in 1988 as a cooperative and has been a private company since 2010. Avast holds the biggest share of the world market for antivirus applications[3] and its portfolio includes a wide array of security-related products targeting both consumer and corporate markets, such as Avast Antivirus and Avast SecureLine (virtual private network) for Android, Microsoft Windows, iOS and macOS platforms.

**Broadband**: is wide bandwidth data transmission which transports multiple signals and traffic types.

**Data Access Object**: is an object that provides an abstract interface to some type of database or other persistence mechanism. By mapping application calls to the persistence layer, the DAO provides some specific data operations without exposing details of the database.

**DBMS**: database management system (DBMS) is system software for creating and managing databases. The DBMS provides users and programmers with a systematic way to create, retrieve, update and manage data.

**Firewall**: a part of a computer system or network that is designed to block unauthorized access while permitting outward communication.

**Microsoft Access**: is a database management system (DBMS) from **Microsoft** that combines the relational **Microsoft** Jet Database Engine with a graphical user interface and software-development tools.

**Net Beans**: is an open-source integrated development environment (IDE) for developing with Java, PHP, C++, and other programming languages. NetBeans is also referred to as a platform of modular components used for developing Java desktop applications.

**PC**: personal computer (PC) is a multi-purpose computer whose size, capabilities, and price make it feasible for individual use. PCs are intended to be operated directly by an end user, rather than by a computer expert or technician.

**PHP:** (Hypertext Preprocessor) is a widely-used open source general-purpose scripting language that is especially suited for web development.

**Portal**: a specially designed website that brings information together from diverse sources in a uniform way like emails, forums, and search engines etc.

**Student Information System:** student management system, school administration software or student administration system is a management information system for education establishments to manage student data.

**Student Records System**: used to store, administer and manage all aspects of student information.

**UPS**: (Uninterruptible Power Supply) A device that provides battery backup when the electrical power fails or drops to an unacceptable voltage level. Small UPS systems provide power for a few minutes; enough to power down the computer in an orderly manner, while larger systems have enough battery for several hours.

**Visual Basic**: 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.

**Web-based** **application**: a software package that can be accessed through the web browser. The software and database reside on a central server rather than being installed on the desktop system and is accessed over a network.

**Windows**: a computer operating system with a graphical user interface.

**XAMPP**: stands for Cross-Platform (X), Apache (A), MariaDB (M), PHP (P) and Perl (P). It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing and deployment purposes.

**APPENDICES**

1. **QUESTIONNAIRE, INTERVIEW SHEET, SURVEY SHEET**

Interview Questionnaire

Date:

Name of Contact:

Phone Number:

E-mail Address:

Address:

1. What is the name of the company? The nature of the company?
2. What are the vision, mission, objectives and philosophy of the company?
3. How many employees are in the company now? Who are the customers? How many customers does it serve now?
4. What are the different processes in the company and how it works?
5. How efficient is the company? What technology do you use?
6. What area of the company do you want to be improved in terms of technology?
7. What are the problems on this area of the company?
8. Can you give suggestion on how we can help to eliminate this problem?

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