



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

i

College of Computer Studies

LUISA MEDEL NATIONAL HIGH SCHOOL AUTOMATED STUDENT RECORDS MANAGEMENT SYSTEM WITH CHATBOT SUPPORT

A System Project
Presented to the
Faculty of the College of Computer Studies
Carlos Hilado Memorial State University
Alijis Campus, Bacolod City

In Partial Fulfillment
of the Requirements for the Degree
Bachelor of Science in Information Systems

by

Milton Carl C. Armonio

Jonalyn F. Fajardo

Gina Templado

January 2024



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

1

College of Computer Studies

APPROVAL SHEET

This System Project entitled

"LUIZA MEDEL NATIONAL HIGH SCHOOL AUTOMATED STUDENT RECORDS MANAGEMENT SYSTEM WITH CHATBOT SUPPORT"

Prepared and submitted by **Milton Carl C. Armonio**,
Jonalyn F. Fajardo and **Gina Templado** in partial fulfillment
of the requirements for the degree of Bachelor of Science in
Information Systems who are hereby recommended for Oral
Examination.

Giovani N. Ten, PhD
Adviser

Approved and accepted the Committee on Oral Examination
with a rating of PASSED on January 12, 2024.

Wayne Custer G. Alegata, PhD
Chairman

Roldan M. Raymundo Jr., MIT
Member

Daroel M. Fuenteabella, MTM
Member

Accepted in partial fulfillment of the requirements for
the degree of Bachelor of Science in Information Systems.

Mark Jarus T. Talanquines, MIT Engr. **Joe Marie D. Dormido, DIT**
System Project Professor Dean, CCS



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

11

i

College of Computer Studies

ACKNOWLEDGEMENT

The researchers were not able to complete this endeavor without the help and support of countless people who contributed and extended their valuable assistance. Therefore, the researchers would like to express their deepest gratitude, sincerest appreciation, and praises to the following individuals who made this capstone project possible.

First and foremost, to the one above all of us, the **Almighty God**, for His shower of blessings, divine guidance, provisions, wisdom, and knowledge, which have been significant in the completion of this project. All praises be upon Him.

To our capstone project professor, **Mark Jarus T. Talanquines, MIT**, for his untiring and continuous support, for his patience, for the guidance, as well as for giving us constructive feedback about the system and for explaining it to us step by step, especially in our documentation process.

Our capstone project adviser, **Giovani N. Ten, PhD.**, for the unwavering support and for his immense knowledge that is valuable and significant in achieving the objectives of our



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

V

College of Computer Studies

system, as well as for the corrections regarding our documentation. As well as to the SHS teachers **Mrs. Bernadette M. Latoza** and **Mr. Jete Latoza** of Luisa Medel National High School, for their time, accommodation, and invaluable assistance in helping us understand the manual process of keeping student records of the school.

Additionally, our dear panelists headed by **Wayne Custer G. Alegata, PhD.**, followed by **Darоel M. Fuentebella, MTM**, and **Roldan Raymundo, MIT**, who were instrumental in sharing their valuable insights, feedback, recommendations and suggestions that helped in developing the system.

For our project sponsors, **Mrs. Ianne Kho** and **Mr. Oscar Kho**, **Mrs. Evelyn Bernal** and **Mr. Orlando Bernal** for providing us the resources needed in making this project a success.

Finally, we extend heartfelt gratitude to our **Families**, **Friends**, and **Classmates** for their unwavering support and encouragement throughout this journey.

To all who generously shared their knowledge, time, resources, and dedication: We extend our profound thanks; your contributions are cherished deeply, and we are eternally and forever grateful.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

v

College of Computer Studies

ABSTRACT

The LMNHS Automated Student Records Management System with Chatbot Support was developed as a web-based application that can be accessed through both web and mobile devices. This system is to be implemented at Luisa Medel National High School to provide an easy access and a user-friendly interface for specific users such as admin, teachers, staff, and students. The main purpose of this system is to digitize the manual record-keeping of student records specifically in managing SF9 and SF10 and to automate the beginning and end of the school year reports, particularly in Junior High. In the development process, the researchers employed an iterative development model, which allows for a series of steps to be revised, and improved within each cycle. Additionally, the researchers utilized ISO/IEC 25010:2011 standard for software product quality requirements, along with survey questionnaires for testing and evaluation. Thirty respondents (30) were directly involved in the system's evaluation, these respondents were familiar with the system and actively participated in its evaluation and testing for further refinement. Based on the data gathered from the respondents, the overall mean result was 4.46, indicating a very good interpretation. It indicates that the system meets the criteria for software product quality as outlined in the standard evaluation tool and fulfills the requirements of the end-users. This system is said to be beneficial and valuable to users and anyone interested in its application. Additionally, chatbot support, a rule-based innovation, is uniquely incorporated into the system, enabling students to ask questions about the school.

Keyword(s): Automated Student Records Management System, Chatbot Support, Web-based application, Digitized Manual Record Keeping, Automate BOSY and EOSY Reports, SF9 & SF10, Iterative Development Model, ISO/IEC 25010:2011 Evaluation Standard, Software Product Quality Requirements, Rule-Based Innovation





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

1

v

College of Computer Studies

TABLE OF CONTENTS

	Page
TITLE PAGE	i
APPROVAL SHEET	ii
ACKNOWLEDGEMENT	iii
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES.....	ix
LIST OF TABLES	xi
Chapter I. Introduction	1
Background of the Study	1
Objectives of the Study	3
Scope and Limitations	5
Significance of the Study	7
Definition of Terms	9
Chapter II. Review of Related Literature/Studies	11
Foreign Studies/Literatures	11
Local Studies/Literatures	14
Synthesis	18





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

11

v

College of Computer Studies

Chapter III. Design and Methodology	22
System Development Life Cycle	23
Operational Framework	31
Context Diagram	32
Data Flow Diagram	34
Entity Relationship Diagram	37
Use Case Diagram	39
Data Dictionary	41
Recommended Hardware and Software	
Requirements	53
Time Table (Gantt Chart)	56
Chapter IV. Results and Discussion	59
Profile of the Respondents	59
Chapter V. Summary of Findings, Conclusions and Recommendations	66
Summary of Findings	66
Conclusions	68
Recommendations	69
References	72
Appendices	74
A. Transmittal Letters	74
B. System Diagrams	75





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

v

College of Computer Studies

C.	User's Guide	81
D.	Research Instruments	105
E.	Grammarians Certificate	112
F.	Curriculum Vitae	113



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

i
X

College of Computer Studies

LIST OF FIGURES

Figure(s)	Page
1. SDLC Iterative Model	24
2. Operational Framework	31
3. System Context Diagram	33
4. Data Flow Diagram	35
5. Entity Relationship Diagram	38
6. Use Case Diagram	40
7. Gantt Chart	57
8. Admin Dashboard	81
9. Navigation Bar	82
10. Manage Student Records	84
11. View/Print SF9	85
12. View/Print SF10	86
13. Chatbot FAQ Report	87
14. School Year Session Manager	88
15. School Calendar Manager	89
16. Academic Quarter Manager	90
17. Teacher Dashboard	91
18. Student Record Management Module (Enrolling and Promoting)	92
19. Student SF9 Records	95
20. Student SF10 Records	96
21. Grades Management Module	97



college.computerstudies@chmsc.edu.ph

(034) 434 8148

chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

x

College of Computer Studies

22.	Attendance Management Module	98
23.	BOSY and EOSY Reports	99
24.	Student Online Portal	100
25.	Student Grades Viewing Module	101
26.	Chatbot Assistant Dashboard	102
27.	Chatbot Responses Management Module	103



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

1 X

College of Computer Studies

LIST OF TABLES

Table(s)	Page
1. school_year	42
2. student_list	43
3. my_students	46
4. Att_sc_calendar	47
5. quarters	48
6. attendance	49
7. std_subject_Grades	50
8. responses	51
9. questions	52
10. Profile of the Respondents	60
11. Likert's Scale	63
12. System Product Quality Result	64





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Chapter I

INTRODUCTION

Background of the Study

Tracking the students' records and progress is a care job for teachers and staff. According to Bellana (2021), a school needs a Student Record Management System to automate school tasks; relevant data and information will be readily available in the system. Retrieving such data can be dreadful, especially when no system is followed. The student record management system gauges a competitive streamline of work in the school. On the other hand, one such technological advancement is the use of an Automated Student Records Management System with Chatbot Support can alleviate the burdens of the guidance, teachers, and administrative staff.

Luisa Medel National High School in Bacolod City faces challenges managing student records manually due to a rising student population. Records stored in hard copies on office shelves make retrieval tedious and time-consuming.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Implementing proposed changes will streamline record management, enhances efficiency, and enable easier access, including transcript and result slip printing.

Budhrani et al. (2018) stated that the design and implementation of a student information system is to replace the current paper-based records. College faculties can access all aspects of a student's academic progress, attendance details, and various student activities through a secure online interface. In addition, integrating Chatbot Support enhances the system's functionality, providing real-time assistance with academic, and school queries and guiding users through the system.

The Automated Student Records Management System with Chatbot Support improves efficiency, streamlines record management, and enhances academic processes at Luisa Medel National High School. It handles registration, attendance, grading, and transcript management while offering real-time updates and reducing workload. This system enhances data security and accessibility, benefiting students, teachers, and guidance.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Objectives of the Study

The purpose of this study is to develop an "Automated Student Records Management System with Chatbot Support" to be implemented at Luisa Medel National High School starting in Grade 7 to Grade 10 to reduce the workloads and time consumed for storing and retrieving student records manually.

Specifically, this study aims to:

1. digitalize manual record keeping of the following;
 - 1.1 Student demographic, academic, and relevant data storage and enforce data validation checks during entry
 - 1.2 Standardized templates and formats for digitized records
2. automate the beginning and end-of-the-school year reports such as;
 - 2.1 School Year Session Manager Module
 - 2.2 School Calendar Manager Module



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

2.3 Quarter Management

2.4 Report templates of school forms (SF9 and SF10) and student data report (BOSY and EOSY Reports)

2.4 Integrate data sources to auto-populate reports

2.5 View generated reports

3. provide stakeholders with easy and secure access to information through a user-friendly interface;

3.1 User access levels and permissions based on roles

3.2 Generate system password for student online portal access

3.3 Responsive interface

4. enable admin, teachers, and students to track academic performance;

4.1 School forms viewing and printing

4.2 Report card management

4.3 Grades viewing through online portal

5. integrate a chatbot support technology;



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

5.1 Questions and response creation

5.2 Editable and customization of responses

5.3 Provide top frequent questions report

5.4 Keyword base response recognition

6. test the effectiveness of the system using ISO/IEC 25010: 2011 standard tool.

Scope and Limitations of the Study

The proposed web-based system is for the Grade 7 to Grade 10 student records of Luisa Medel National High School. It automates the manual processes and data handling of students' records which will be accessible to authorized users. An admin is the authorized user to manage the system by creating or setting the school sessions into active or inactive, setting the school calendar by indicating the start date and end date of the prescribed number of school days and managing the quarters by setting the status to active if current academic quarters is still going on and deactivate if said quarters is done or before starting the next quarters. This would allow



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

teachers to start accessing the system by letting it register students and manage its records in the following academic or school year. The major purpose of this system is for admin record keeping, wherein an admin can enter and manage the master list or the student records, view and print the school forms (SF9 and sf10), monitor the chatbot reports that show the most FAQs, and retrieve comprehensive student data of such academic year or based on what teachers are being encoded. Teachers, with some limited access to student personal information, can only view and edit student information. A teacher can perform tasks like registering students and creating classes, managing class data, entering grades and attendance information. The system organizes all entered information for easy retrieval, utilizing unique student accounts based on LRN numbers. The system emphasizes reporting and analytics, enabling users to analyze student data and generate transcripts and enrollment summaries. In order for students to monitor and track academic progress, a system-generated password was given by the teacher upon the registration process. Aside from the designated LRN to every student, the unique password given will serve as the student's



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

entrance to log in to the online portal to access the quarterly grades in such year level. Additionally, a chatbot support feature facilitates communication, allowing students to ask questions and access information generated by a staff (guidance staff). Only basic information and questions that are readily made by the staff can be answered and responded to by the chatbot. In addition, to ensure quality and effectiveness, the researchers will employ ISO 25010:2011 as a standard tool for systematically evaluating and documenting both functional and non-functional aspects of the "Automated Student Records Management System with Chatbot Support."

Significance of the Study

This study provides a brief description of various significance of developing the system to the following:

Guidance Office. The system will facilitate data-driven decision-making by providing comprehensive student performance analytics and identifying students who might require additional support.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Luisa Medel National High School (LMNHS). The findings of the study will benefit the school in terms of keeping up efficient student record details and enhancing the current manual student record keeping.

Students. Students will have secure access to their academic records, progress reports, and announcements through a user-friendly portal. The chatbot feature can answer frequently asked questions and provide basic information.

Teachers. The system will streamline access to student information and enable them to track student progress more efficiently. Teachers can also utilize the secure communication features to connect with parents.

Researchers. This system is a valuable resource for researchers seeking access to academic data, which they can utilize to conduct studies and analyze trends. The proposed system would be a vital tool for advancing research in student record-keeping automation.

Future Researchers. As a result of this research, the Automated Student Records Management System with Chatbot Support will be a reference for future researchers interested



✉ college.computerstudies@chmsc.edu.ph
☎ (034) 434 8148
🌐 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

in exploring similar topics or pursuing related research in this field.

Definition of Terms

For clarity and a better understanding of this study, the following terms are defined below:

Analytics – Refers to the process of analyzing the data stored in the system to gain insights and make informed decisions related to student's information.

Auto-Populate – The system's ability to automatically fill in student information or data fields without the need for manual input by the user in other modules.

Chatbot – It is designed to assist students with frequently asked questions (FAQs) about the school.

Digitalize – The process of converting the manual process of traditional paper-based student records into digital formats.

Digitize – This involves transforming paper-based



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

documents, files, and workflows into electronic data that can be stored, managed, and accessed digitally.

Real-Time - The capability of the system to provide and update information instantly and any changes or additions to student records, such as grades, attendance, or personal information, are reflected in the system immediately without any delay.

Rule-Based - Refers to the chatbot's behavior using a set or predefined rule and these rules dictate how the chatbot responds to user inputs based on specific keywords, phrases, or patterns it recognizes.

Student Records - This refers to a collection of students' personal details and academic records, maintained throughout their time at the school.

Tracking - A process of keeping the information of students organized and updated, including their personal details, sections, attendance, grades, and other relevant data to effectively monitor and manage students' educational journey.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Web-based - It is a system accessible through a web browser and hosted on a server.

Chapter II

REVIEW OF RELATED LITERATURES AND STUDIES

Considering the advantages, this chapter presents the following foreign and local related studies about the proposed system by scholars reviewed by the researchers.

Foreign Related Studies

These are the studies or literature produced outside of the country that are relevant to the proposed system.

Student Information Management System



- college.computerstudies@chmsc.edu.ph
- (034) 434 8148
- chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

According to the study of Gomathy (2022) that describes a student information system designed to manage student data electronically. The system emphasizes efficient data management and retrieval for college administration departments. While this system shares the goal of improving data management, our proposed system goes beyond by incorporating features like a chatbot for student support and role-based access control for enhanced security.

A New Model of the Student Attendance Monitoring System Using RFID Technology Management System for Private HEIs in the Philippines

Based on the study of Ula et. al (2021) the development of information technology today has been widely used to provide convenience, speed up, and streamline work. The presence system that is still applied is the type of precession using manual presence using paper media and is inefficient when viewed in terms of time, a recapitulation of data on the existence and accuracy or authenticity of the



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

data presented. There is often the habit of leaving a signature as proof of an employee's presence. This study aims to provide a new model for conducting a presence, a presence system that uses RFID technology. RFID will utilize sensors to read data. RFID is used to facilitate lecturers' and students' monitoring of class attendance. The RFID card has a radio frequency affixed to the reading machine; the system automatically sends student data into the database. Thus, students can do it quickly, and data can be agreed promptly and adequately. In addition, students and lecturers are also motivated to arrive early because the system can store and display data directly.

Automating Student Management System Using Chatbot and RPA Technology

Robotic Process Automation (RPA) is a technology that is increasingly used to allow users to automate, manage, analyze, and update existing databases efficiently and without any error. This paper highlights how RPA is being



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

used to integrate repetitive tasks within an ERP system and automate many processes when managing a Student Management System. The solution is designed to allow students, Faculty, and Group Admin to access records and databases from a platform-free web-based solution using both desktops and mobile phones. It will enable faculty and admin to post student-related notifications and assign assignments, class schedules, and examination dates, among many others, singularly for an individual and a group of students. A ChatBot Module has also been integrated within the solution, allowing users to retrieve important information using a GUI (Gajra et al., 2020).

Local Related Studies

These are the studies or literature that are made within the country in reference to our proposed system.

Student Information System for King Edison Kindergarten School, Inc.





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

In the study of Porteza et al., in 2020 the development of a student information system that would solve the client's problems. It highlights the following benefits such as RDBMS that helps with data integration; security features including a login form to serve as the gateway for the administrator to the system and secures data from unauthorized access, and change the password that would allow the administrator to change password that allows three attempts then the system will freeze. It has features like registering which enables the administrator to add a new account if needed, and monitoring that identifies the students who passed and have not yet passed the school requirements. In addition, it has functionalities like adding, searching, updating, and printing information. Similar to this study, the proposed system has also an integrated set of components for information processing to organize and store data in the database to make it more accurate and secure, and a search engine that allows the administrator to search entities. However, the proposed system goes beyond in terms of the target audience since the system caters to Grade 7-10 student records, whereas the reviewed study targets a kindergarten



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

school only. Also, for the additional functionalities of the proposed system, it offers chatbot support, reporting and analytics, and role-based access control.

Designing and Implementing E-School Systems: An Information Systems Approach to School Management of a Community College in Northern Mindanao, Philippines

Colleges and Universities have been established to provide educational services to the people. Like any other organization, the school has processes and procedures similar to business or industry that involve admissions, processing of data, and generation of reports. Those processes are made possible through a centralized system for storing, processing, and retrieving data and information; most schools in the country are already adopting computer-based systems to address their needs, especially in student and school-related transactions. The absence of a computer system and the complexity of the transactions of the college, which makes the personnel be loaded with paperwork in storing and keeping student records and information, is the motivating factor why



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

the School Management Information System has been designed and developed for a community college in the northern part of Mindanao. The faculty and staff have benefited from making use of the system. The overall quality and performance of the system were outstanding in terms of functionality, usability, and reliability. Recommendations: It is recommended that future developments such as smartphone and tablet-based attendance monitoring should be integrated, and a kiosk for grades and schedule viewing should also be placed inside the campus that is connected to the database server. Online student information systems should also be developed to easily monitor school-related activities and requirements for the benefit of the students and parents. Research Implications: The study enabled the centralization of school and student data storage, processing, and retrieval. The System has been implemented in the college and has been updated now and then for continuous quality improvement. (Grepon et al., 2021).

Supporting Student-Teacher Interaction through a Chatbot



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Nowadays, an important part of academic education comes from online information, such as class topics, homework, and practices. In this sector, chatbots can be a valuable tool in the teaching/learning process by providing information about courses, procedures, and school services. Thus, the deployment of chatbots in schools and universities has become a high priority for academic staff. Nevertheless, most chatbots need more mechanisms to adequately integrate into educational activities since they should be helpful for teachers, students, and educational assistant personnel (e.g., social workers, psychologists, pedagogues, and prefects). In this article, we propose a chatbot whose primary objective is to serve as an extra-school tool and as an intermediary between teachers and students. In this way, students could express themselves more freely since the chatbot acts as a bridge between their teachers and other involved personnel. Our prototype was developed as a Web application that provides a text-based user interface and defines several interaction profiles to encompass the specific functions of the different actors in the teaching/learning process. We evaluated the proposed chatbot



✉ college.computerstudies@chmsc.edu.ph
☎ (034) 434 8148
🌐 chmsc.edu.ph

GREEN CHMSU ExCELSIOR! ¹⁸

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

with the participation of third-year middle school students and teachers. In particular, we measured the workload perceived by our participants after performing a series of tasks. According to our results, our chatbot mainly obtained positive impressions from the test participants (Mendoza et al., 2020).

Synthesis

The abovementioned local and foreign studies align with and support the development of the "Luisa Medel National High School Automated Student Records Management System with Chatbot support," which aims to automate manual record-keeping of student records and enhance the efficiency of data management.

Drawing inspiration from foreign studies like the one by Gomathy (2022), which designed a system to manage student records electronically for efficient data management and incorporated features like chatbot and role-based access control for security, our proposed system not just only ensures security and efficient data management but also



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

automates school forms such as SF 9 or the Report Card, SF10 or the Form 137, and Student Data Report which is the Beginning and End of School Year Report. It is already a standardized template in the system similar to the format by the DepEd to easily manage record keeping and easy retrieval of student personal information or records anytime. Moreover, Ula et al. (2021), introduce a new model of student attendance monitoring using RFID, which uses radio frequency for easy tracking of student attendance. Our developed system not only focuses by only on attendance but it focuses as a whole, it is developed to automate school records. It also can track attendances by inputting the number of days present and absent and it will reflect or auto-populate on the student report card (SF9). Additionally, in the study by Gajra et al. (2020, highlighted how Robotic Process Automation (RPA) can integrate repetitive tasks within an ERP system to manage student information more efficiently. While in the proposed system, will generate reports in a fixed and standardized format without the need for repetitive data entry and then can be printed right away.

On the other hand, local studies by Porteza et al. (2020)



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

focus on data storage management and security features, but with the proposed system can handle large amounts of data since it caters Grade 7 to Grade 10 students compared to the study that only focuses on kindergarten level. The system also ensures the security of student data from unauthorized access, and has features for adding, editing, and deleting records. Moreover, the study by Grepon et al. (2021), focuses on designing and implementing e-school systems for admissions, data processing, and report generation. This study also relates to the developed system, but the advantage of the system is that it can enroll students and will automatically fill in various school forms without the repetition of data entries, allow admin, teachers, and students to monitor academic progress, automates the beginning and end of school year report, and digitalized the manual record keeping by monitoring the student demographic, as the main objective of the system. Lastly, the study by Mendoza et al. (2020) supports student-teacher interaction through a chatbot that assists students with queries in real-time about school procedures and services. The system also integrates a rule-based trainable chatbot that allows for



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

the customization of responses to support student queries.

By integrating these elements, the system aims to enhance efficiency, ensure data privacy, and reduce manual workloads for teachers and administrators.

Chapter III

DESIGN AND METHODOLOGY

The purpose of this chapter is to present a brief description of the methodology that the study employed, these include the System Development Life Cycle (SDLC) and its Conceptual Model, and the Unified Modeling Language (UML) Diagrams such as Operational Framework, Context Diagram, and Data Flow and Entity Relationship Diagram, Use Case Analysis, and Data Dictionary to visually represent the architecture, design, and implementation of the proposed system. This chapter will also provide the Recommended Hardware and



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Software Requirements chosen in the development, implementation, and deployment of the system. A Gantt is presented in the last part of this chapter to state the planning and scheduling of the activities. In this chapter, the data considered necessary to build the system were collected and analyzed thoroughly to ensure that the proposed system would benefit the proposed learning institution.

Systems Development Life Cycle

The System Development Life Cycle is a specific software development process or methodology adopted in this study. It would serve as a roadmap for the development of the project. The researchers utilize an Iterative Development Model by TutorialCampus (2021), to ensure the systematic and structured approach to each particular activity and deliverables associated with the system's development. This type of model is used since the researchers considered the development of this system to be significant work because it has four users, and there is a requirement for changes in future use. Using this development model will carry out the



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

initial development of work based on well-stated basic requirements, and successive enhancements will be added to the base piece of the system through iterations to meet evolving needs and accommodate future changes in usage until the final system is built. This structured methodology allows thorough requirement gathering, analysis, design, development, testing, review, deployment, and maintenance, where each phase of the system development will be carried out as illustrated by the diagram below.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

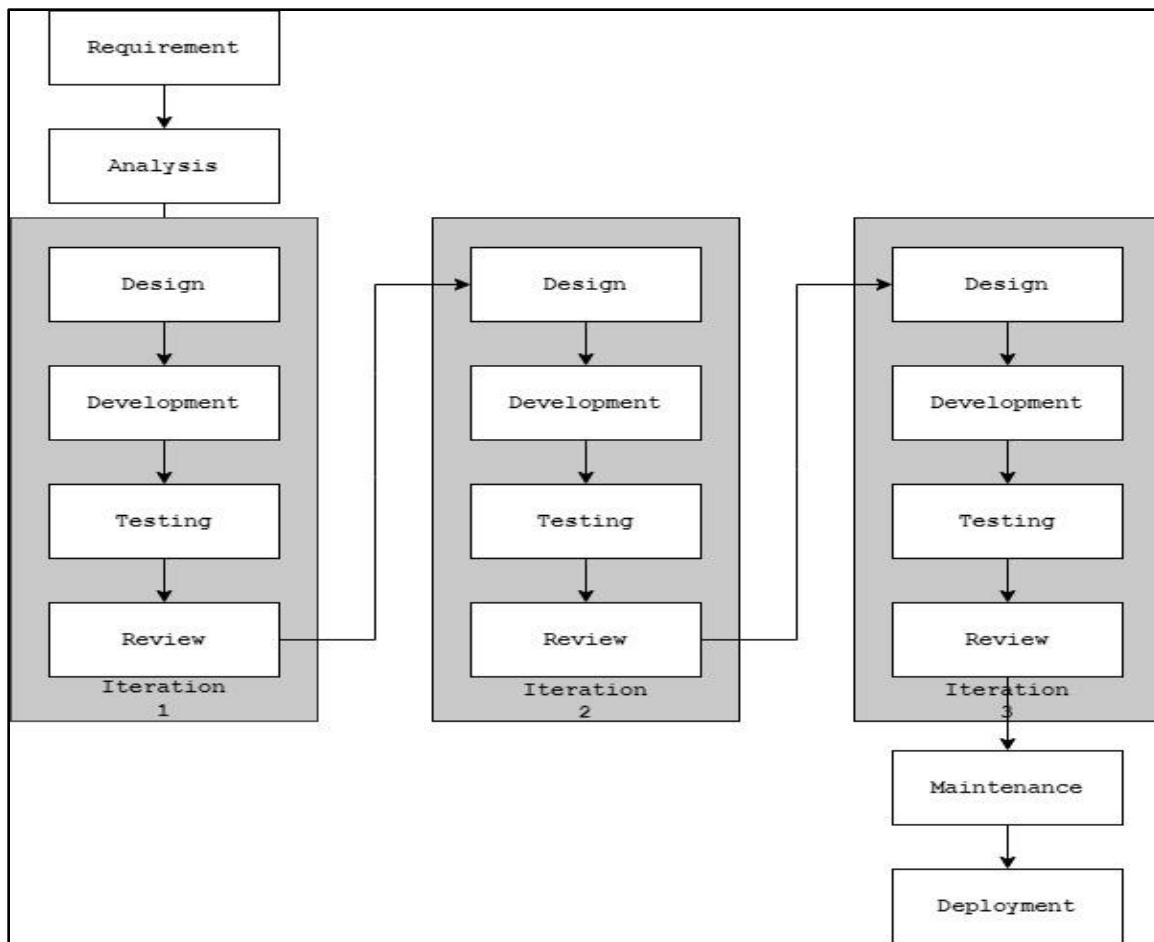


Figure 1. Iterative Model

Requirement

The first phase involves defining system objectives, identifying stakeholders, and gathering requirements for automating student record-keeping. Researchers aim to develop



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

a system that manages records and provides chatbot support in a suitable school setting. Talks with potential users inform understanding, and requirements are prioritized and aligned with project goals. A detailed project plan is created, outlining resources, timelines, milestones, and success criteria for iterative development while addressing risks and challenges. Throughout this phase, communication with users is established to inform documentation progress and gather feedback, ensuring alignment and managing expectations.

Analysis

After the requirement phase, the researchers conduct and understand a detailed analysis of the current process of managing the student records of Luisa Medel National High School. In doing so, the researchers identify the current process's disadvantages, limitations, and areas that need improvements to understand further how the school handles student records, data storage, and the interaction of people involved in record keeping. Detailed analysis determines the system's scope and boundaries in this phase. After the



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

gathering process, it clarifies what features and functionalities will be included in the system. Also, the gathered details and information about the analysis findings from the current record-keeping process evaluation, user requirements, and prioritized features are determined.

Design

During this phase, researchers establish the architecture design blueprint for the Luisa Medel National High School Automated Student Records Management System with Chatbot Support, aligning it with prioritized requirements from the analysis phase. This phase is the development of a system concept and outlining components such as the student management module, chatbot module, user interface, and database. The user interface is designed for intuitive access and management of student records, while the database is structured to accurately represent student data, ensuring integrity and security. The chatbot design follows a rule-based approach for handling user queries, with high-level designs and workflows developed for seamless integration and data flow. Additionally, considerations for security measures



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

to protect sensitive student information are identified, and Unified Modeling Language (UML) diagrams and flowcharts are created to visualize the system design, completing this phase.

Development

In the implementation phase, the system components are developed and integrated, bringing the proposed system to its purpose. To begin this phase, the researchers will develop a basic and functional version of the system with its core functionalities, such as enabling users to add, update, and retrieve student records. Also, integrating a rule-based essential chatbot feature that can respond to common queries is part of this phase. During this phase, unit testing will be performed to ensure the module's individual functionality. Integration testing will also be conducted to verify the interaction and compatibility of different modules.

Testing



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Since it is an Incremental Development Model, this phase is continuous testing and assurance of the quality to address any bugs, issues, and inconsistencies that might be identified, gathering user feedback for an iterative refinement of the new features and enhancements introduced in the system's version, and preparing the release of the system version by communicating and informing it to the users. For continuous review and improvements of the code, regular meetings or demonstrations will be conducted to update stakeholders or potential users on the progress of the system. Plan the next iteration based on the feedback and incorporate the suggested enhancements. During this phase, the researchers will plan and implement the changes and additions, such as expanding the student record management module functionalities that generate reports and handle student data imports—and then improving the chatbot capabilities by expanding its knowledge base. Repeat this phase and the testing process for each subsequent system version or iteration.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Review

This phase ensures that the final system meets and achieves the system's objectives, users' expectations, and quality standards of the proposed system. As the system version is finalized upon iteration, the researchers will conduct comprehensive testing, including its overall functionality, performance, and security measures to fix bugs and issues. For the final review, engaging a representative user such as the admin, teacher, principal, or student to perform the User Acceptance Testing (UAT) on the system to evaluate the system's usability and effectiveness is part and necessary of this phase. Doing a User Acceptance Testing, if any inconsistencies are identified, performing an essential code adjustment, debugging, and testing will be done to ensure the fixer is implemented properly.

Deployment

In this phase, the researchers will conduct a final test to verify the system's readiness for deployment. When no issues are found, the system is then ready for deployment to



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

the chosen organization or school, with the documentation provided, such as user manuals and installation instructions.

Maintenance

To maintain the reliability and efficiency of the system that continuously meets the needs of the users over time, the researchers will offer ongoing technical support and assistance to address user inquiries, concerns, and issues after the deployment. This will be done by monitoring the system's performance and stability and continuously gathering users' feedback in the school environment to identify areas of further improvement for a new feature request. In doing so, communication with stakeholders or potential users will keep seeking feedback and input about the system's performance in emerging technologies and changing requirements after deployment. To address the evolving need, planning for future updates and enhancements, such as security updates, regular backups, and disaster recovery, will be established to enhance



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

the system's functionality and the user experience for the long-term success and usability of the system.

Operational Framework

The operational framework is a discussion of how the different parts of the system are connected to each other and how they work. It represents a particular part of a system, usually represented graphically. Also, it is discussed accordingly how these parts work.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

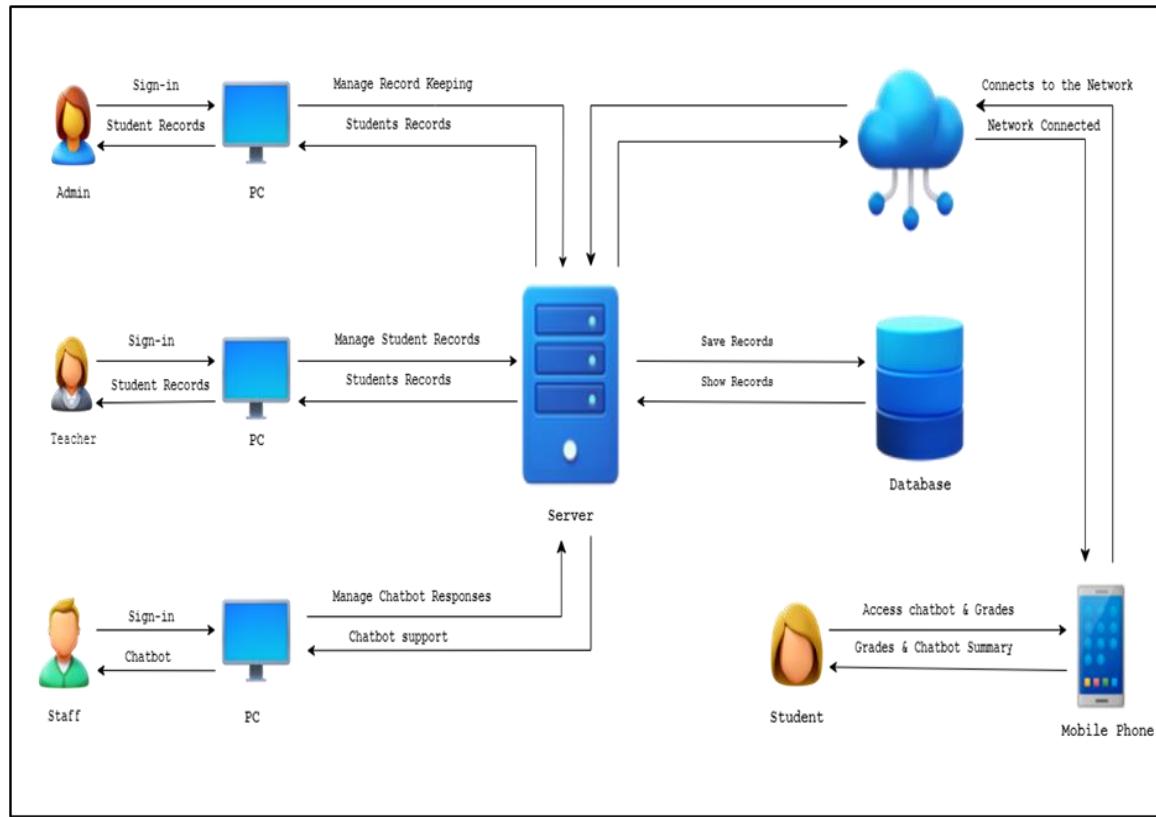


Figure 2. Operational Framework

Figure 2 shows that as key users, Admin is granted access to manage record-keeping tasks such as tracking and retrieving student records and is responsible for overseeing school sessions and calendars and creating reports. Meanwhile, the teachers can perform tasks such as registering and adding students, creating classes, viewing or editing students' personal information, encoding attendance, encoding





Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

grades, managing student records, and generating reports or summaries. The other one is the staff; this user manages chatbot responses and oversees the most frequently asked questions to assist the students with their queries. The chatbot serves as an interactive tool, allowing students to seek information, ask questions, and receive immediate assistance about the system.

Context Diagram

A context diagram of an Automated Student Records Management System with Chatbot Support is a visual representation that provides an overall view of a system by showing its relationships with external entities. The primary process of this system is the automation of record-keeping, which is the core functionality of the system. The system is depicted as a single process box, indicating that it is the focal point of the diagram. The actors (Teachers, Admin, Staff, and Students) interacting with the system are represented as external process boxes surrounding the main



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030

(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

process box. The relationships between the system and its entities are shown through input and output flows.

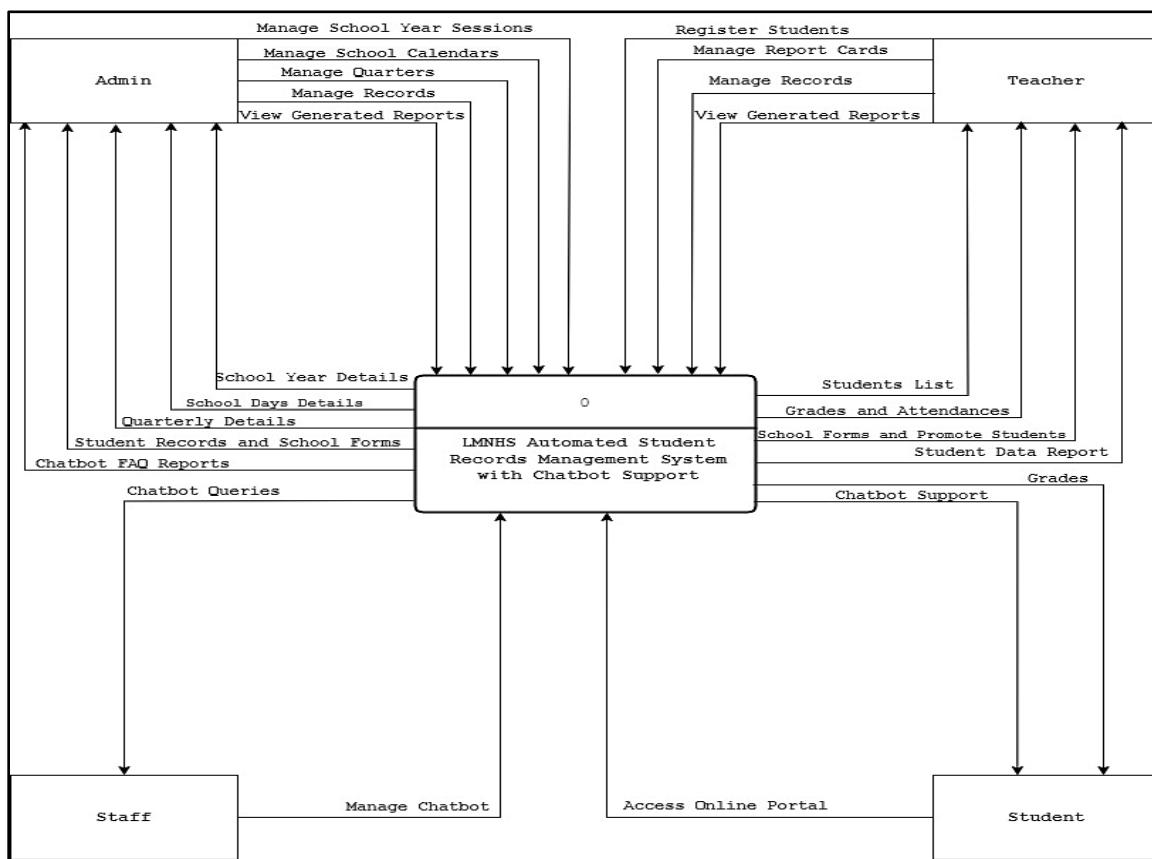


Figure 3. Context Diagram

The diagram shown in Figure 3 illustrates the context diagram of the proposed system, showcasing the functions of four user roles: admin, teacher, staff, and students. The admin is responsible for managing school year sessions, the





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

school calendar, quarters, and student records. One of the primary functions of the admin is to oversee record-keeping. Meanwhile, the teachers will be the ones to register students and manage report cards by adding, editing, and changing. The teacher can also handle student records while the staff is tasked with managing chatbot responses and reports. Lastly, the students are granted access to the online portal to view grades and ask queries or questions through the chatbot.

Data Flow Diagram

The Automated Student Records Management System with Chatbot Support utilizes a data flow diagram (DFD) to represent the flow of data within the system visually. This DFD illustrates the processes of transferring data from the input to the file storage, outlining how various entities interact with the system. In the diagram, the processes are depicted in the middle boxes, while the entities are situated on the left side, and the data storage is represented on the right side. This system has eight distinct processes, each serving a specific purpose.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

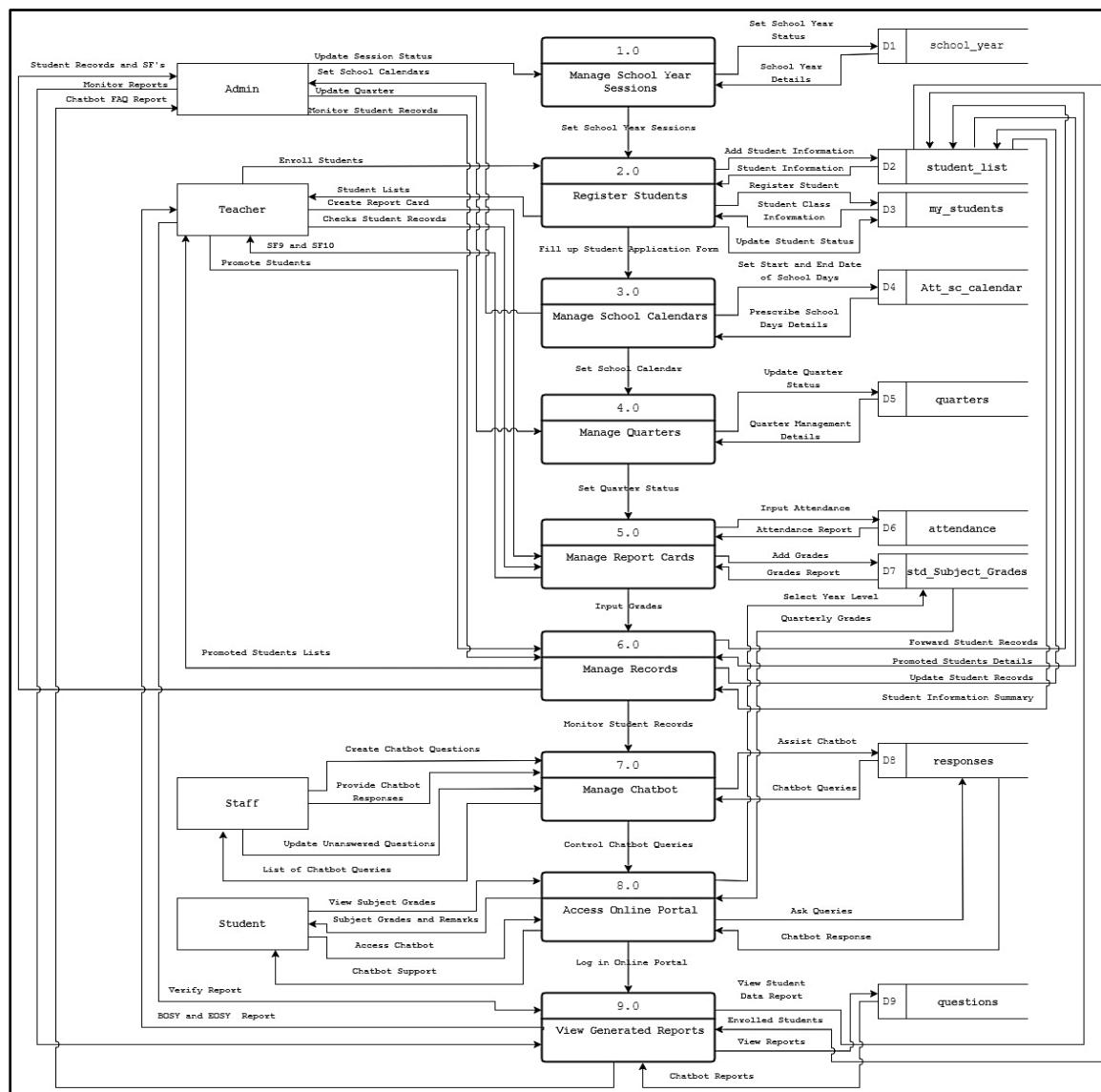


Figure 4. Data Flow Diagram



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

As shown in Figure 4, there are nine (9) processes, such as registering students, managing school year sessions, managing school calendars, quarters, and report cards, managing student records, managing chatbot, accessing online portal, and generating reports. The first process is for the admin to set the status of the school year so that it would allow the registering students, which falls under the responsibility of the teachers and involves enrolling, adding, and updating the basic information of the students, ensuring that students' information is encoded correctly. Teachers will be the ones to manage student report cards and generate reports. As the first and second steps are done, the admin can then manage the school calendar by setting the start and end date, and the number of prescribed days for the whole school year. For the start of classes, the admin is responsible for setting and updating the status per quarter to allow teachers to access or activate other functionality of the system such as creating report cards and school forms where the admin can view and release as per student records. One of the main responsibilities of the admin is to manage the record-keeping of student records. On the other hand,



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

staff will be the ones to manage the chatbot, such as chat responses and queries, and can create chatbot reports. Lastly, the students are granted access to access online portal in viewing grades and ask questions through the chatbot.

Entity Relationship Diagram

The entity relationship diagram is a graphical representation of entities and their relationships in the Automated Student Records Management System with Chatbot Support. It illustrates how different tables are related, indicating the flow of functions within the system. Each table represents an entity, and these entities have their attributes, which define the properties or characteristics of each entity. The relationships between the tables/entities are depicted using lines or connectors, showing how they are connected and related. Each process has independent tasks and requires data to be fetched and saved from/to the respective tables/entities.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

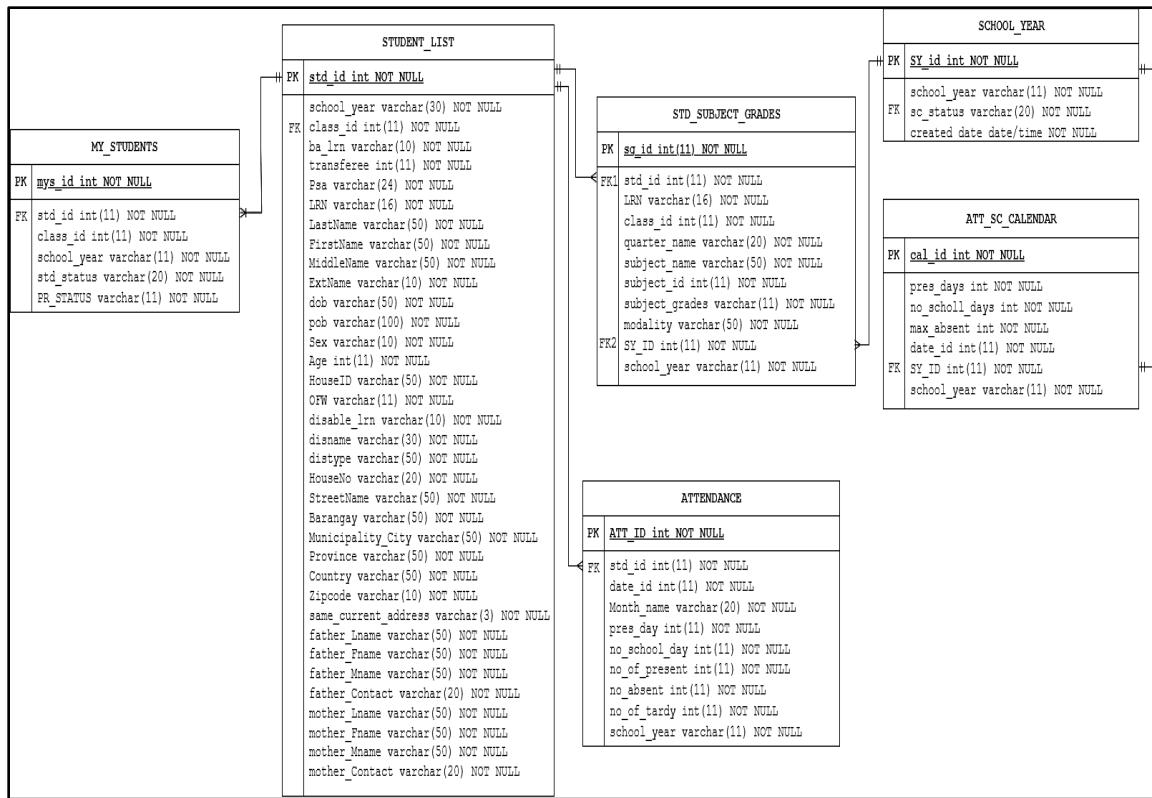


Figure 5. Entity Relationship Diagram

As shown in Figure 5, the Entity Relationship diagram displays six interconnected tables that clarify how the system handles various data provided by users. These tables include the student table, student list table, student subject grades table, attendance table, school year table, and school calendar table. The student table stores student information, while the student list table organizes enrolled



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

students. Academic performance is recorded in the student subject grades table, and student attendance is tracked in the attendance table. Additionally, the school year table manages academic years, while the school calendar table coordinates the beginning and end of the school year. Together, these tables create a structured framework for efficient data storage and management within the system.

Use Case Diagram

The use case diagram below provides a high-level overview of the interactions between actors and a system, serving as a powerful tool for understanding system functionality and user interactions. In the context of the Automated Student Records Management System with Chatbot Support, such a diagram provides a visual representation of how various actors, such as administrators, teachers, students, and staff interact with the system's functionalities. By depicting these interactions through solid lines connecting actors to specific use cases, stakeholders can grasp the system's scope and functionalities at a glance. This visual aid facilitates communication



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

between stakeholders and developers, ensuring a shared understanding of system requirements and functionality.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

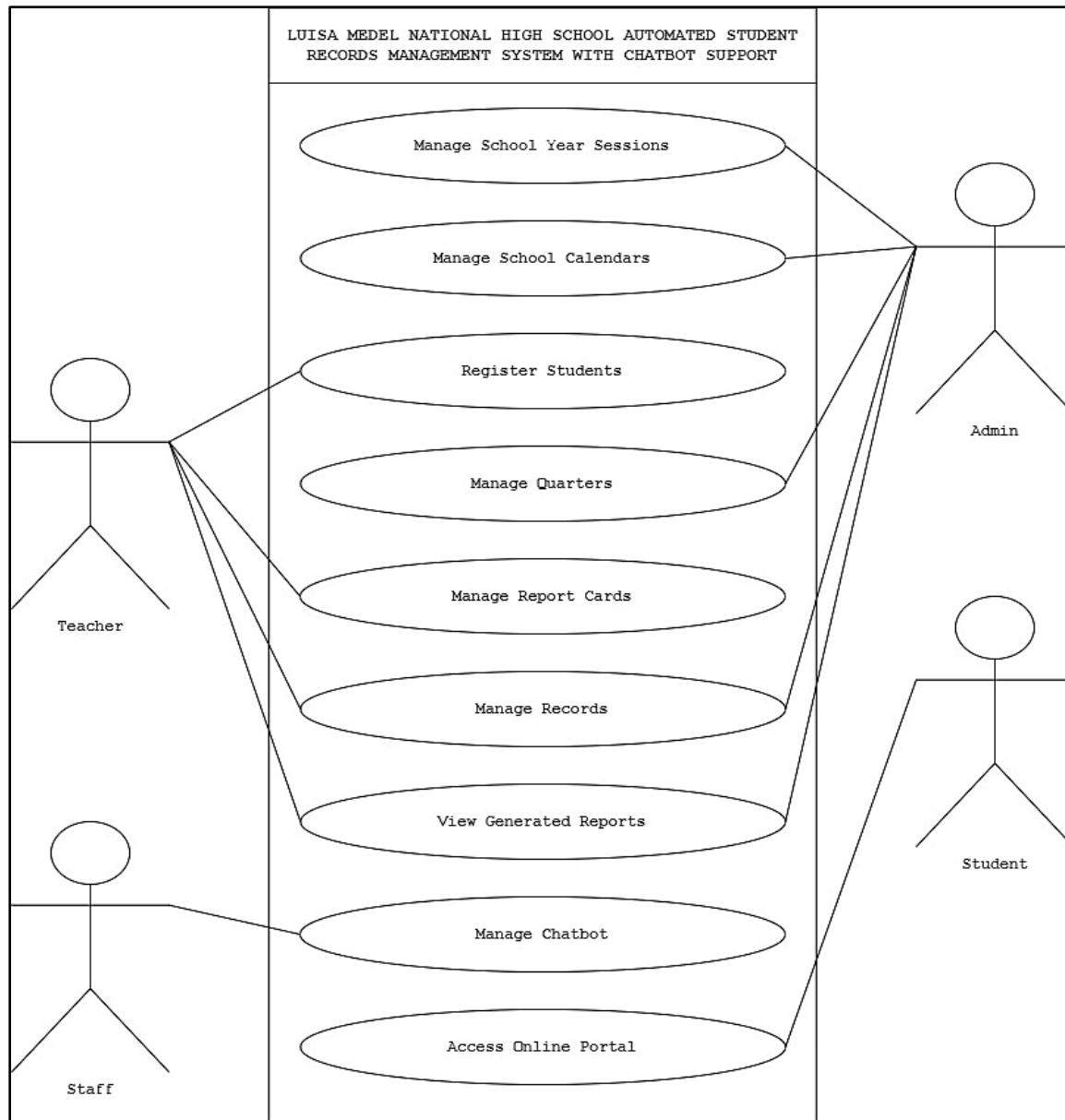


Figure 6. Use Case Diagram

The diagram shown above in Figure 6, depicts the four actors that will be part of the system. The teachers can





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

register students, manage report cards and records, and view generated reports. As another essential actor, the guidance or admin has access to manage student information, school year sessions, school calendars, quarters, records, and view-generated reports. Meanwhile, the staff has the authority to manage chatbot responses by providing answers to such queries asked by students who are the only ones who can access the chatbot. Lastly, students have access to an online portal in order to view grades and access the chatbot, allowing them to seek information, ask questions, and receive immediate assistance from a chatbot.

Data Dictionary

A data dictionary is a valuable tool used to analyze data flows within a system. Its purpose is to provide clear definitions and descriptions of the contents of each data flow and process, eliminating any confusion about the specific data being collected and stored. In the case of an Automated Student Records Management System with Chatbot Support, a data dictionary would include a comprehensive listing of all



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

tables in the system, along with their corresponding fields and attributes.

The data dictionary would specify the data type, size, and description for each field within a table. The data type indicates the format or category of the data, such as int, char, varchar, string, or Boolean. The size refers to the maximum length or capacity of the data field. The description provides a clear explanation or definition of the data being stored in that field.

Table 1: school_year

Field Name	Data Type	Size/Length	Description
sy_id	int	11	Unique identifier for each school year record
school_year	varchar	11	Academic year during which the data was recorded
sc_status	varchar	20	Status of the school year
created_date	datetime	20	Date and time when the school year record was created





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Table 1 shows the following school year data along with its corresponding attributes, such as the academic year, which the data recorded, the status of the school year to identify if it is active or inactive, and the date and time when the school year was created.

Table 2: student_list

Field Name	Data Type	Size/Length	Description
std_id	Int	11	Unique identifier for each student
school_year	varchar	11	Academic year in which the student is enrolled
class_id	Int	11	Identifier for the class student belongs to
ba_lrn	varchar	15	Identify if student is balik aral
transferee	varchar	11	Indicates if the student is a transferee
Psa	int	10	Philippine Statistics Authority number
LRN	varchar	16	Learner Reference Number
LastNAME	varchar	50	Last name of the student





Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

FirstName	varchar	50	First name of the student
MiddleName	varchar	50	Middle name of the student
ExName	varchar	50	Extended name or additional name
dob	Date	10	Date of birth of the student
pob	varchar	50	Place of birth of the student
Sex	varchar	11	Gender of the student
Age	Int	11	Age of the student
HouseID	Int	11	Identifier for the student's house
disable_lrn	varchar	11	Indicates if the student has a learning disability
disname	varchar	50	Name of the disability, if applicable
distype	varchar	50	Type of disability, if applicable
HouseNo	varchar	20	House number of the student's address
StreetName	varchar	50	Street name of the student's address
Barangay	varchar	50	Barangay of the student's address



college.computerstudies@chmsc.edu.ph

(034) 434 8148

chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Municipality_City	varchar	50	Municipality or city of the student's address
Province	varchar	50	Province of the student's address
Country	varchar	50	Country of the student's address
Zipcode	varchar	10	ZIP code of the student's address
same_current_address	varchar	30	Indicates if the permanent and current addresses are the same
father_Lname	varchar	50	Last name of the student's father
father_Fname	varchar	50	First name of the student's father
father_Mname	varchar	50	Middle name of the student's father
father_Contact	varchar	20	Contact number of the student's father
mother_Lname	varchar	50	Last name of the student's mother
mother_Fname	varchar	50	First name of the student's mother
mother_Mname	varchar	50	Middle name of the student's mother
mother_Contact	varchar	20	Contact number of the student's mother





Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

The data dictionary presented in Table 2 shows the students list, it is an overview of the student information stored within the database, including the attributes that present all the data of students, including their personal information, academic year, status, and academic records.

Table 3: my_student

Field Name	Data Type	Size/Length	Description
mys_id	int	11	Unique identifier for each record
std_id	int	11	Unique identifier for each student
class_id	int	11	Identifier for the class of student
school_year	varchar	11	Academic year during which the data was recorded
std_status	varchar	20	Status of the student
PR_STATUS	varchar	11	Status related to student performance or progress

The Table 3 shows the following data about student class information that the system would require to identify the student's section and its status. It displays the ID of





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

student, class ID, academic year, status of the student and the status related to student performance to identify if the student is promoted or retained.

Table 4: Att_sc_calendar

Field Name	Data Type	Size/Length	Description
cal_id	int	11	Unique identifier for each calendar record
pres_days	int	11	Number of days present
no_school_days	int	11	Number of school days in the calendar
max_absent	int	11	Maximum allowed absent days according to the calendar
date_id	int	11	Identifier for the date
SY_ID	int	11	Identifier if the School Year
school_year	varchar	11	Academic year during which the data was recorded

Table 4 presents the following data that the system would provide when creating an attendance school calendar along with corresponding attributes such as the ID of a student,





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

prescribed days provided by the DepEd, number of school days, maximum absent, and student ID.

Table 5: quarters

Field Name	Data Type	Size/Length	Description
q_id	int	11	Unique identifier for each quarter record
quarter_name	varchar	11	Name or label for the quarter
q_status	varchar	11	Status of the quarter
modality	varchar	11	Modality or type of the quarter
q_start	date	10	Start date of the quarter
q_end	date	10	End date of the quarter

The data dictionary presented in Table 5 provides information about the number of quarters or quarter management for each school year. Table 5 displays the ID of the school year along with its corresponding attributes, such as the ID of the quarter, the quarter name describing the label (e.g., Q1, Q2), the status of the quarter to identify





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030

(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

whether it is active or inactive, modality during the quarter to determine if it is face-to-face or online learning, and the start and end dates of the quarter.

Table 6: Attendance

Field Name	Data Type	Size/Length	Description
att_id	int	11	Unique identifier for each attendance record
std_id	int	11	Unique identifier for each student
date_id	int	11	Identifier for the date ID
Month_name	varchar	20	Name of the month for the attendance record
pres_day	int	11	Number of present days in the month
no_school_day	int	11	Number of days in the month
no_of_present	int	11	Number of days the student was present in the month
no_absent	int	11	Number of days the student was absent in the month



college.computerstudies@chmsc.edu.ph

(034) 434 8148

chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

no_of_tardy	int	11	Number of days the student was tardy in the month
school_year	varchar	11	Academic year during which the data was recorded

Table 6 presents the data required for student attendance, including the ID of the attendance record and the student, along with corresponding attributes such as the number of present days in a month, the number of days the student was present in the month, the number of days the student was absent in the month, the number of days the student was tardy in the month, and the academic year during which the data was recorded.

Table 7: std_subject_Grades

Field Name	Data Type	Size/Length	Description
sg_id	int	11	Unique identifier for each subject grade record
std_id	int	11	Unique identifier for each student
LRN	varchar	16	Learner Reference Number for the student





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

class_id	int	11	Identifier for the student classroom
quarter_name	varchar	20	Name or label for the quarter
subject_name	varchar	50	Name of the subject for which grades are recorded
subject_id	int	11	Identifier of the subject
subject_grades	varchar	11	Grades achieved by the student in the subject
modality	varchar	50	Modality or type of subject instruction for the subject
SY_ID	int	11	School year Identifier
school_year	varchar	11	Academic year during which the data was recorded

Table 7 presents the data dictionary for student subject grades, including corresponding attributes such as student ID, student's LRN, student's classroom or section, label of the quarter, name of the subject, identifier of the subject, grades achieved by the students, modality of learning each quarter, school year, and academic year during which the data was recorded.





Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Table 8: responses

Field Name	Data Type	Size/Length	Description
id	varchar	30	Unique identifier for each response record
response_message	text	250	The message or response content

Table 8 presents the data about chatbot responses to identify the most frequently asked questions based on the reports generated by the system; there, one will see the unique identifier of each response record and the message or response content.

Table 9: Questions

Field Name	Data Type	Size/Length	Description
id	int	11	Unique identifier for each question record
question	text	150	The content of the question
response_id	int	11	Foreign key referencing the responses table





Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Lastly, Table 9 presents the data dictionary of chatbot questions along with its attributes, such as the identifier of questions, the content of the question, and the foreign key referencing the responses table.

Hardware and Software Requirements

The proposed system can only become a reality with the necessary hardware and software. The following requirements have been carefully chosen as the recommended components for the development, implementation, and deployment of the system.

Hardware Requirements

Client Side:

- **Processor:** i3 @ 2.30GHz
- **Memory:** 4.00 GB DDR4
- **Storage:** 1 terabyte
- **Operating System:** Windows 10



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

- **Peripherals:** Any compatible such as mouse, keyboard and monitor.

Server Side:

- **Processor:** i7 5.30 GHz
- **Memory:** 64 GB
- **Storage:** 1 terabyte
- **Operating System:** Windows 10
- **Peripherals:** Any compatible such as mouse, keyboard and monitor

Software Requirements

Every project always has system software recommendations or requirements to run the processes. The software requirements are carefully chosen to ensure compatibility, reliability, optimal performance of the



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

system. With proper software requirements, the system would be rendered effectively, streamline administrative tasks, enhance user experience and facilitate efficient communication between admin, teachers, students, and staff. After conducting thorough research and exerting significant effort, the developers have determined the following software recommendations for the Automated Student Records Management System with Chatbot Support.

Client Side:

Accessing the systems involves the utilization of browser-based technology for the client-side interface. The system will be accessible through modern web browsers, ensuring compatibility across various platforms and devices to deliver a responsive and interactive user experience. The user interface is intuitive, with easy navigation and clear presentation of information. Additionally, with a responsive user interface design, it adapts seamlessly to different screen sizes and resolutions to provide an optimal viewing experience on desktops, tablets, and mobile devices.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Server Side:

The researchers have effectively employed software tools to design, develop, and access the proposed system development. A specific web server software was used for hosting the project, ensuring efficient communication between the server and clients. Additionally, the researchers used a versatile and popular source code editor which enabled developers to write, modify, and manage their source code easily. Also, the researchers employed the use of particular browsers to facilitate user interaction, presentation of the user interface, cross-browser compatibility, and enforcement of security measures.

Time Table (Gantt Chart)

The figure presents the timetable or schedule devised by the researchers to develop the system. It provides precise dates for each task conducted by the researchers. Utilizing a Gantt chart is highly advantageous in project planning as



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

it aids in estimating the project's duration and enables the proper arrangement of events according to task dependencies. This approach empowers researchers to effectively plan and manage project timelines, guaranteeing seamless progress and timely completion of each task. Additionally, the Gantt chart serves as a visual representation that enhances communication and coordination among team members, ensuring everyone is on the same page regarding task deadlines and project milestones.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

[Alijis Campus](#) • [Binalbagan Campus](#) • [Fortune Towne Campus](#) • [Talisay \(Main\) Campus](#)

A leading GREEN institution of higher learning in the global community by 2030

(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

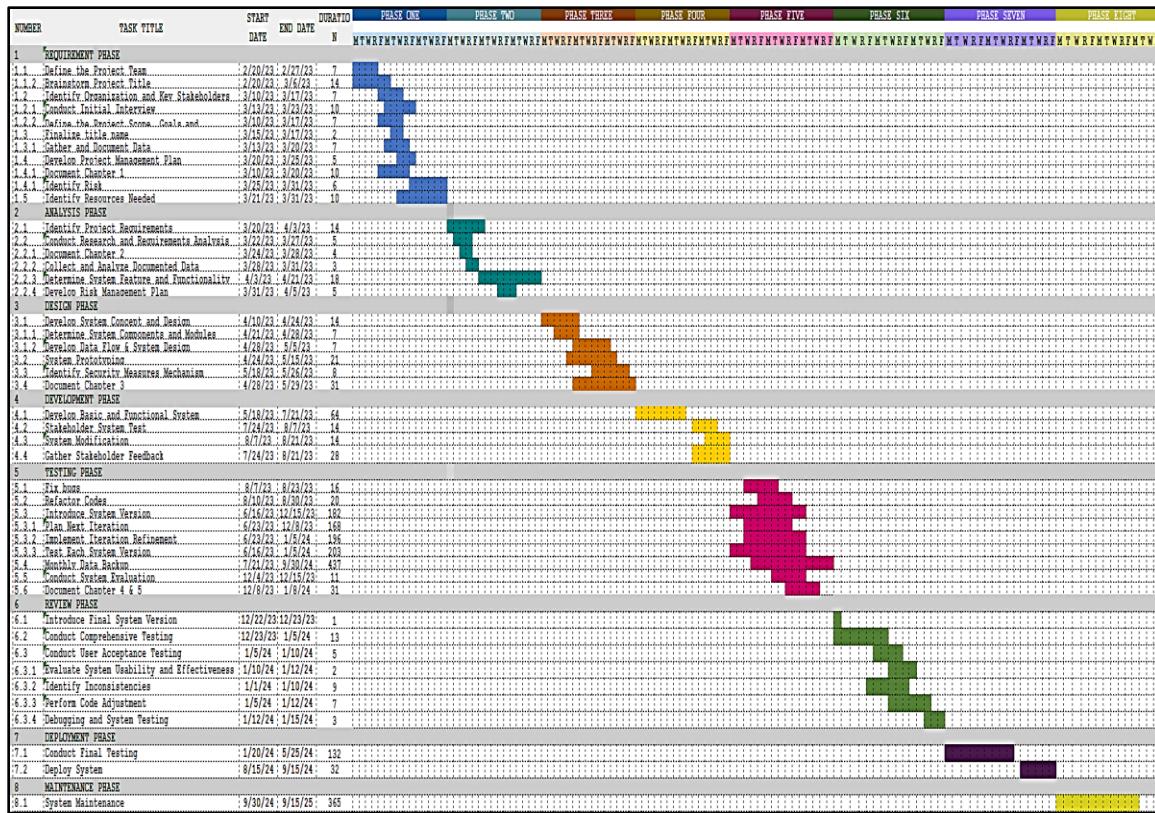


Figure 7. Gantt Chart

Figure 7 outlines the activities and tasks executed by the researchers during the development process of the Automated Student Records Management System with Chatbot Support. The process encompasses five phases: planning, analysis, design, testing, and implementation. In the planning stage, the researchers define the project team, gather necessary data for title proposals, and finalize key



 college.computerstudies@chmsc.edu.ph

 (034) 434 8148

 chmsc.edu.ph

GREEN CHMSU⁶⁴ ExCELSIOR!

Excellence · Compassion · Environmentalism · Love of Country · Social Responsibility · Integrity · Openness · Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

stakeholders. During the analysis stage, project requirements are identified, the scope is defined, and research is conducted, including a review of related literature and data analysis. In the design phase, the researchers analyze the system project, and prototype functionalities, conduct stakeholder tests, and code version 2. Testing involves gathering stakeholder feedback, bug fixing, code refactoring, and testing version 2. Finally, in the implementation phase, a backup plan is established, and the system's effectiveness is evaluated.

Chapter IV

RESULTS AND DISCUSSION



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030

(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

This chapter presents the outcomes of the research effort, focusing on the findings of the study entitled "Automated Student Records Management System with Chatbot Support." The researchers begin by providing an overview of the profile of the respondents involved in this study, followed by a discussion of the PER objectives. Furthermore, the researchers also conducted rigorous testing of the system using standard evaluation tools to assess its quality. The researchers also included a table to display the system's product quality results to showcase the overall mean result, which is crucial for understanding the system's performance and impact.

Profile of the Respondents

The system is presented to the evaluators-respondents involved in the study; it is specifically composed of six professionals or the non-stakeholders consisting of 20% of the total respondents, four professionals or the stakeholders, which is the guidance and its staff, and the two teachers of grade 7 that takes up the 13.33% of total



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

respondent. The twenty students consist of 66.67% of the overall thirty respondents. The professionals or non-stakeholders mentioned or those experts and knowledgeable about the system. Then the professionals or stakeholders mentioned are the possible users that would benefit from the system. Lastly, the students selected in this survey are those taking Information System courses.

Table 10. Profile of the Respondents

Respondents	f	%
Professionals/Non-stakeholders	6	20.00%
Professionals/Stakeholders	4	13.33%
Students	20	66.67%
Total	30	100%

Digitalize Manual Record Keeping

In this objective, the Automated Student Records Management System has effectively attained its goal to digitize the manual student record-keeping process of Luisa Medel National High School. It transforms a change to the way how the student and academic records are being handled and managed since its intended outcome is to eliminate the paper works and further provide data accuracy, especially





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

for the admin and teachers' side.

Automate the Beginning and End-Of-The-School Year Report

This objective has successfully achieved its purpose of automating the student records for the beginning and end-of-the-school year report, streamlining the reporting process present in the Student Data Report to the Teacher's side. This offers advantages such as providing the complete information and the details of the official lists of enrolled students separating the males and females.

Provide Stakeholders with Easy and Secure Access to Information through a User-Friendly Interface

The system also fulfilled its mission to provide stakeholders an easy and secure access to students, enabling an easy access to information while maintaining its security of data. With the system's user-friendliness, it provides an intuitive and easy navigation for all stakeholders and ensures that sensitive information is being protected.

Enable Admin, Teachers, and Students to Track Academic



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Performance

With the help of this system, it effectively enables admin, teachers, and students to manage and track academic performances like the progress of the students. This yields advantages such as real-time academic monitoring and individualized performance metrics by tracking progress both individually and at group levels.

Integrate a Chatbot Support Technology

The system has also successfully achieved its purpose by integrating a rule-based chatbot support technology which introduces a unique element to provide instant support and guidance to the students' queries. This feature contributes to seamless communication and engaging interaction between students and the system.

Testing the Quality of the System using a Standard Evaluation Tool

The quality of the system is tested using the ISO/IEC 25010:2011 standard as the criteria for evaluating the quality characteristics of software products, including both



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ⁶⁶ ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

functional and non-functional aspects. The evaluation sheet was distributed to different and mentioned respondents, where the questionnaire has a scale of 1 to 5. The evaluation sheet enumerates eight indicators: functionality, suitability, performance, efficiency, compatibility, usability, reliability, security, maintainability, and portability. Based on the equivalent and mean score rating, the survey results will be interpreted and further discussed below.

Table 11: Likert's Scale

Scale	Equivalent	Mean Rating Score
5	Excellent	4.51 – 5.00
4	Very Good	3.51 – 4.50
3	Good	2.51 – 3.50
2	Fair	1.51 – 2.50
1	Poor	1.00 – 1.50

Table 11 shows the Likert's Scale that researchers have used in the software evaluation, its equivalent interpretation and mean rating score are designed to capture ranges probability after averaging the scores will be then stated in the following table to rate the software attributes





Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

as the result of the product quality of the system.

Table 12: System Product Quality Result

No.	SOFTWARE ATTRIBUTE	Mean Score	Interpretation
1	Functional Suitability	4.51	Excellent
2	Performance Efficiency	4.56	Excellent
3	Compatibility	4.54	Excellent
4	Usability	4.39	Very Good
5	Reliability	4.11	Very Good
6	Security	4.58	Excellent
7	Maintainability	4.50	Very Good
8	Portability	4.48	Very Good
	Overall Mean Score	4.46	Very Good

Based on the systems evaluation questionnaire survey, Table 12 shows that the system is found to be "Excellent" in the attribute functional suitability with a rating of 4.51. On the other hand, the system is "Excellent" in Performance Efficiency as it has a mean rating of 4.56. Also, according to the survey results, the system's software attribute compatibility is rated "Excellent" with a score of 4.54. The system scored "Very Good" for the usability





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

attribute with a score of 4.39. The system was rated as "Very Good" with an attribute reliability mean of 4.11. The results for software attribute security were "Excellent", with a mean of 4.58. The system is also deemed to be "Very Good" in terms of maintainability, with a mean score of 4.50. Furthermore, attribute portability got a mean of 4.48, indicating it was "Very Good". The method suggests that it was "Very Good" for the overall mean score because it had a mean score of 4.46 from the entire mean score of eight attributes.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Chapter V

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

This chapter presents the summary of findings, conclusions, and recommendations of the proposed system made by the researchers.

Summary of Findings

Based on the scale and result of the survey in Table 12, the following is the summary of findings of the eight (8) criteria System Product Quality Result:

On Functional Suitability (4.51), the evaluators found the system to be functionally complete, correct, and appropriate. It can further enhance to achieve specified tasks and functions in the long used.

For Performance Efficiency (4.56), the users found the system to be time-saving and efficient in performing its function and meeting its desired requirements.

With regards to Compatibility (4.54), the system is excellent and can function effectively across different



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

platforms, devices, and technologies without encountering significant issues. Facilitating seamless integration with other software systems can be enhanced.

On Usability (4.39), the evaluators found the system to be operable, it is easy to learn and use with a well-designed interface.

Regarding Reliability (4.11), the results demonstrate that the system consistently producing accurate results and operating without errors. Enhancements can be made to ensure its performance aligns precisely with user specifications.

In terms of Security (4.58), users found the system to be secured with a resilient environment, preventing unauthorized individuals or entities from compromising the integrity of the system and its sensitive information.

For Maintainability (4.50), the system is easy to update, modify, and maintain over time. Long-term viability and effectiveness in meeting the needs of users and stakeholders can be enhanced.

Lastly, in terms of Portability (4.48), the evaluation indicates that the system is portable, easily transferable, or adaptable to different environments, platforms, or



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

devices with minimal effort. Its capability for seamless deployment and operation across diverse environments and platforms is highlighted as an enhancement.

Conclusion

The following are conclusions that were derived based on the concerns stated in the objectives of the study and results of the evaluation conducted:

1. The evaluation results demonstrate that the proposed Automated Student Records Management System with Chatbot Support successfully achieved its objectives for Luisa Medel National High School. The system has effectively automated and digitized student record-keeping, reducing manual workloads for administrators and teachers.
2. It streamlines administrative tasks for generating reports (e.g., school forms and beginning and end-of-year reports) and enhances overall efficiency.
3. Stakeholders (including administrators, teachers, guidance staff, and students) praised the system's user-



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

friendly interface and secure access to student information based on user roles.

4. It effectively enables the admin to manage record keeping, help teachers manage student records in real-time, and students to monitor academic progress through an online portal.
5. The integrated rule-based chatbot empowers students to access information and ask questions conveniently, reducing the need for physical visits to the guidance office.
6. Overall, the positive evaluation results, with a majority of respondents rating the system as excellent or good, confirm its effectiveness in meeting user needs and improving student record management at Luisa Medel National High School.

Recommendations

Although the system can function as intended, there are a few minor ideas and improvements for the current system suggested by the respondents and panels. Based on the





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

results of the study, the evaluation identified several areas for potential improvement. The following are some key recommendations:

As Suggested by Panels:

1. Integrate chatbot enhancements by implementing a "most frequently asked questions" button within the chatbot to address student queries efficiently. This can be prioritized as it can be implemented relatively quickly and improve user experience.

For Future Researchers:

1. Consider integrating Natural Language Processing (NLP) capabilities into the chatbot in the future. This would allow the chatbot to understand and respond to more complex student inquiries, further improving its effectiveness.
2. Enhance system security by implementing a multi-authentication protocol (e.g., two-factor authentication with email or phone verification) to ensure only authorized users can access student



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

information.

3. Implement voice recognition technology to allow users to interact with the system using voice commands, making it more accessible and user-friendly.
4. Explore the possibility of integrating communication platforms like messaging and video conferencing functionalities into the system. This could allow for improved communication and collaboration between students, teachers, and parents.
5. Introduce functionality for teachers to easily track and manage student attendance for each class session.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ⁷⁵ ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

REFERENCES

Online Sources

Abang, K.R., Gatmaitan, D.V., Manalo, F.R., Torcelino, M.R., Rodriguez, R.L., & Serrano, E.A., (2022, December). CCT Online Request of Students Credentials: A Document Management System for Private HIEs in the Philippines. <https://ieeexplore.ieee.org/document/10071559>

Asbar, Y., Fajri, R., Fuadi, W., Hardi, R., Pratama, A. L., & Ula M., (2021, April). A New Model of the Student Attendance Monitoring Systems using RFID Technology Management System for Private HEIs in the Philippines. https://www.researchgate.net/publication/351024869_A_New_Model_of_The_Student_Attendance_Monitoring_System_Using_RFID_Model_of_The_Student_Attendance_Monitoring_System_Using_RFID_Technology

Adame, L.M., Decouchant, D., Leon, M.H., Mendoza, S., Rodriguez, J., & Viveros, A.M., (2020, July). Supporting Student-Teacher Interaction Through a Chatbot. https://link.springer.com/chapter/10.1007/978-30305050-6_8

Azucena, M., Dela Cruz, M.J., Delos Reyes, L., Garde, K.M., Penasa, M.R., (2015, January). System for Payment of Other Fees During Enrolment at John B. Lacson Foundation Maritime University. https://www.academia.edu/11346623/SYSTEM_FOR_PAYMENT_OF_OTHER_FEES_DURING_ENROLLMENT_AT_JOHN_B_LACSON_FOUNDATION_MARITIME_UNIVERSITY_MOLO





Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Baran, N.T., Grepon, B.G., Gumonan, K.C., Lacsa, M.E., & Martinez, L.M., (2021, September). Designing and Implementing e-School Systems: An Information Systems Approach to School Management of a Community College in Northern Mindanao, Philippines.
<https://arxiv.org/abs/2109.0019>

Bhanushali, R., Gajra, V., Lakdawala, K., & Patil, S., (2020, April). Automating Student Management System Using Chatbot and RPA Technology.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=35653

Dipin B., Vivek M., Yugchhaya G., (2018, January). Student Information Management System.
https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=student+information+management+system+by+Dipin+Budhrani+2018&btnG=

Espeña, C J., Malaga, M., Narvaza, M.E., Nocum, M.A., Pereyra, J.B., Porteza, D.J., & Tedria, M.C., (2020, March). Student Information System for King Edison Kindergarten School, INC.
<https://ojs.aaresearchindex.com/index.php/aasgbcpjmra/article/view/2291>

Gomathy, C.K., (2022, March). Student Information Management System.
https://www.researchgate.net/publication/359120519_STUDENT_INFORMATION_MANAGEMENT_SYSTEM

Ranoliya, B.R., Raghuwanshi, N., Singh, S., (2018, September). Chatbot for university related FAQs. In: 2018 International Conference on Advances in Computing, Communications and Informatics.
<https://doi.org/10.1109/ICACCI.2017.8126057>





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Appendix A

Transmittal Letter

Republic of the Philippines

**CARLOS HILADO MEMORIAL STATE
UNIVERSITY**



College of Computer Studies

Alijis Campus, Bacolod City



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030

(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

April 26, 2023

Ms. Cherish L. Flor

Principal III

Luisa Medel National High School
Ramyu Drive, Tangub, Bacolod City

Dear Madam:

Greetings!

The undersigned are students of ISSPR 1 (IS Systems Project 1) and are currently developing an application in Business Organizations and as such we would greatly appreciate if your company/department/office could be included in our study.

We humbly ask that we may interview you or some of your personnel and learn how the proposed System Application/Information System can possibly help your company/department/office. In return, if you will be asking for the results of our study, we can furnish you a copy.

We would be glad if you would be kind enough to leave us a note, with your secretary or any of your personnel, regarding your availability for an interview.

We do hope for a positive response on this matter. You can contact us through our cellphone number, 09070801550 or via email at ginatemplado26@gmail.com.

Thank you very much and Godspeed!

Very truly yours,

Milton Carl Armonio
Jonalyn Fajardo
Gina Templado

Noted by:

MARK JARUS T. ALANQUINES, MIT
Assistant Professor X
ISSPR1 Subject Professor

Appendix B

System Diagrams

A systems diagram is a graphic representation of a system, its parts, and how they work together. It outlines the required system inputs and outputs.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience

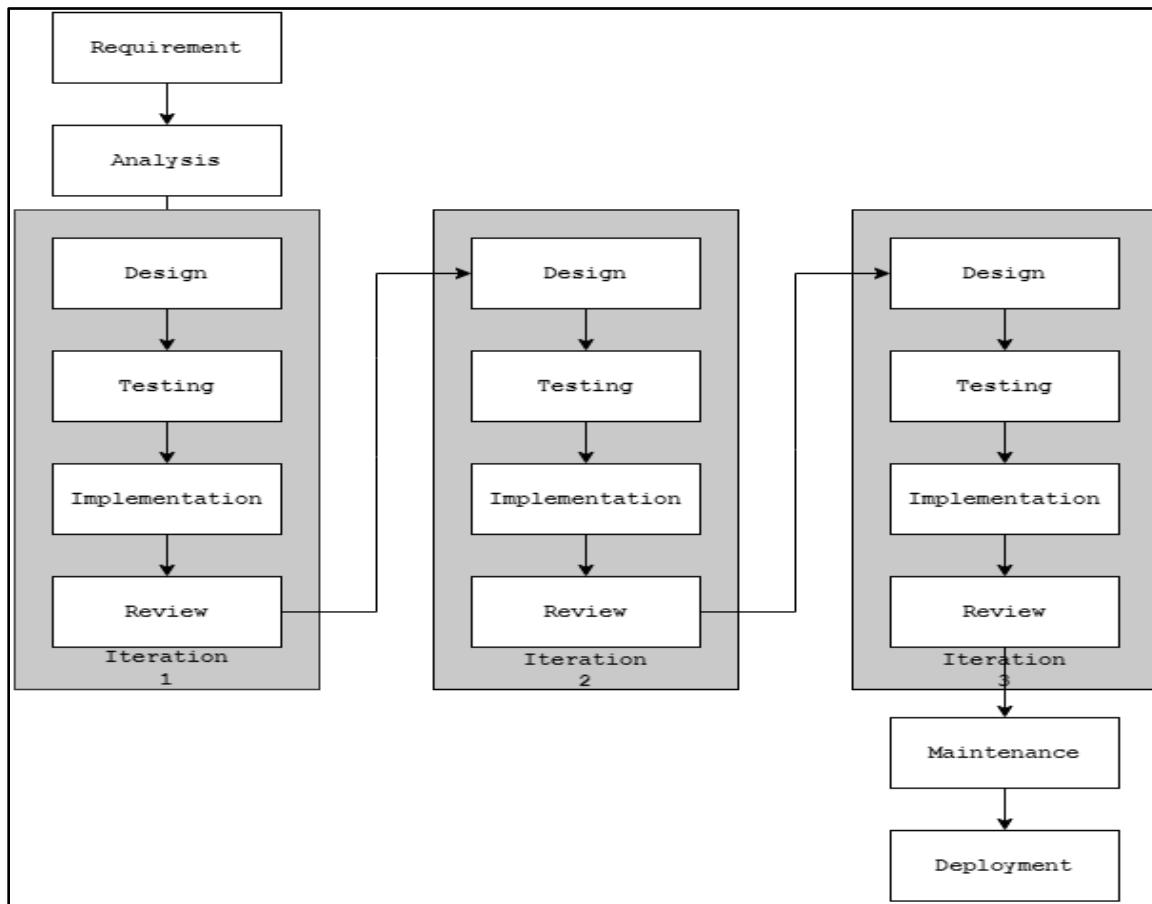


Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies



Iterative Development Model



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience

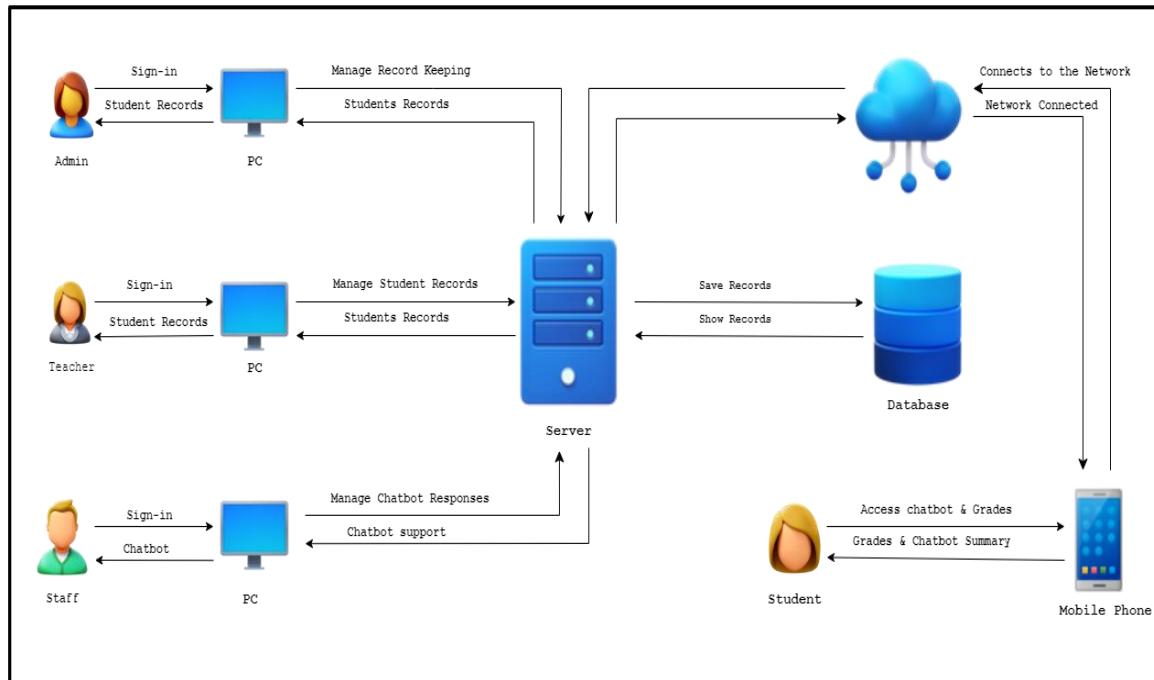


Carlos Hilado Memorial State University

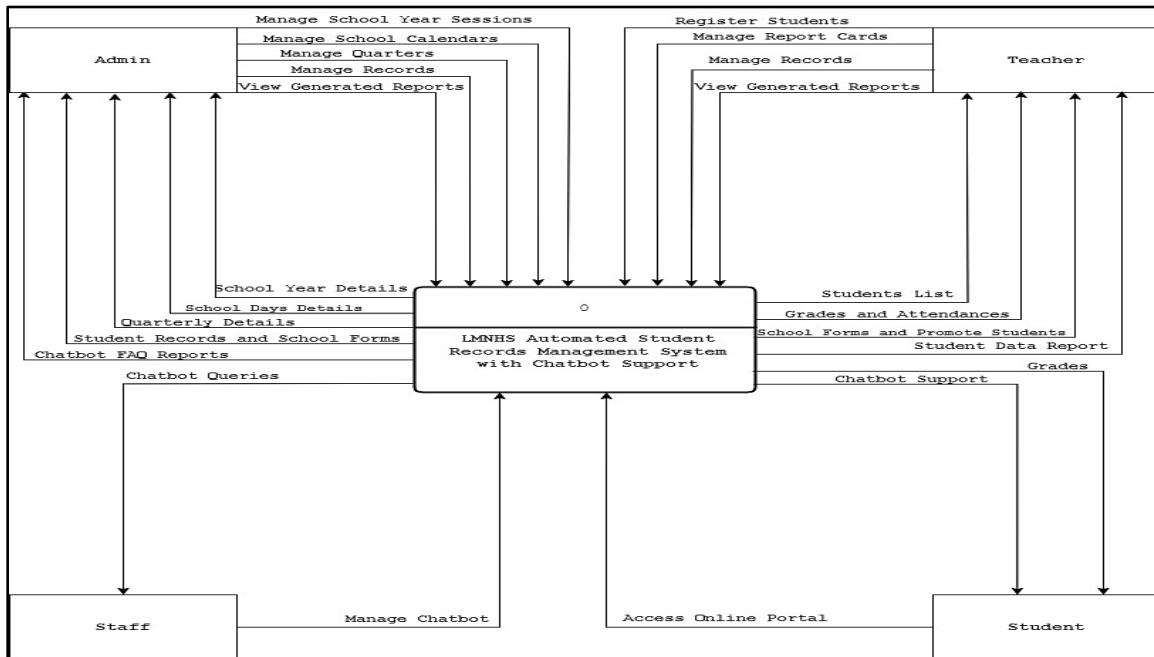
Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies



Operational Framework



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030

(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Context Diagram



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience

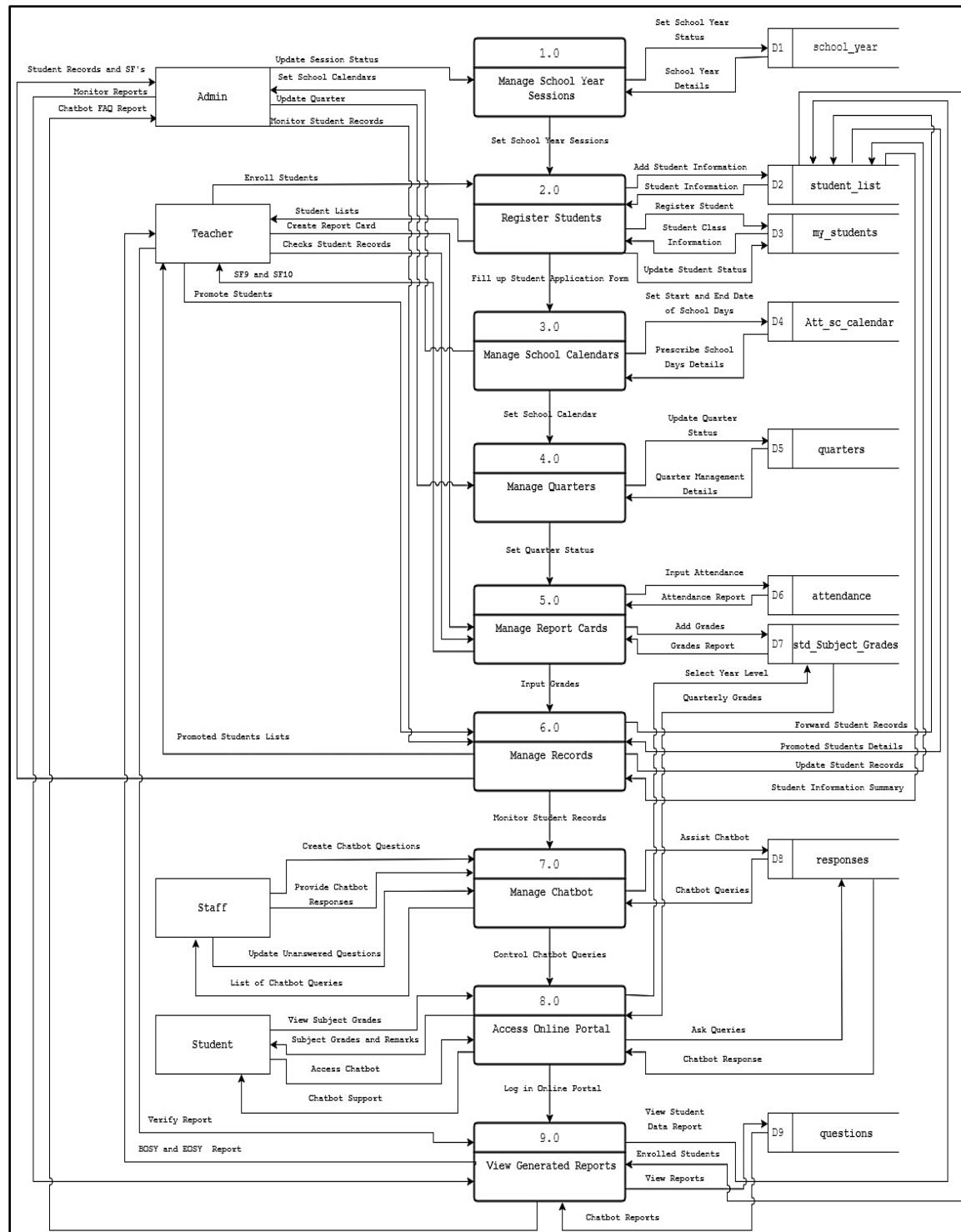


Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies





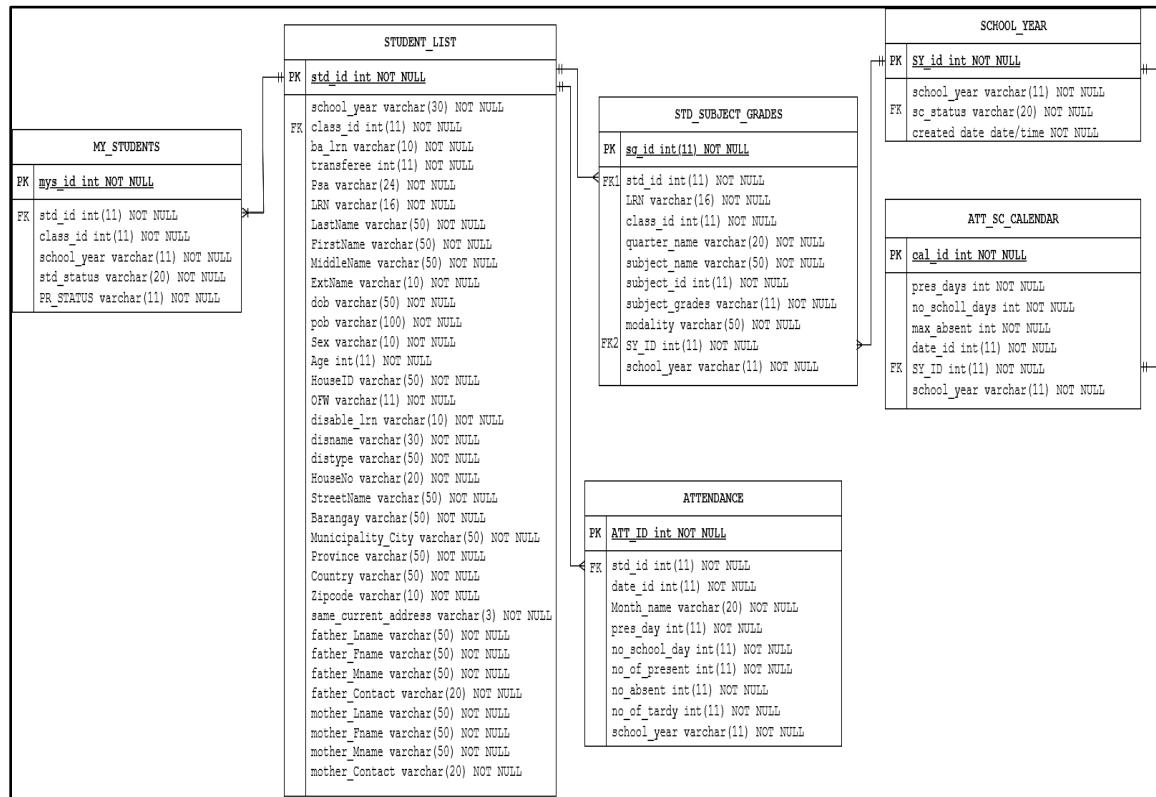
Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Data Flow Diagram



Entity Relationship Diagram



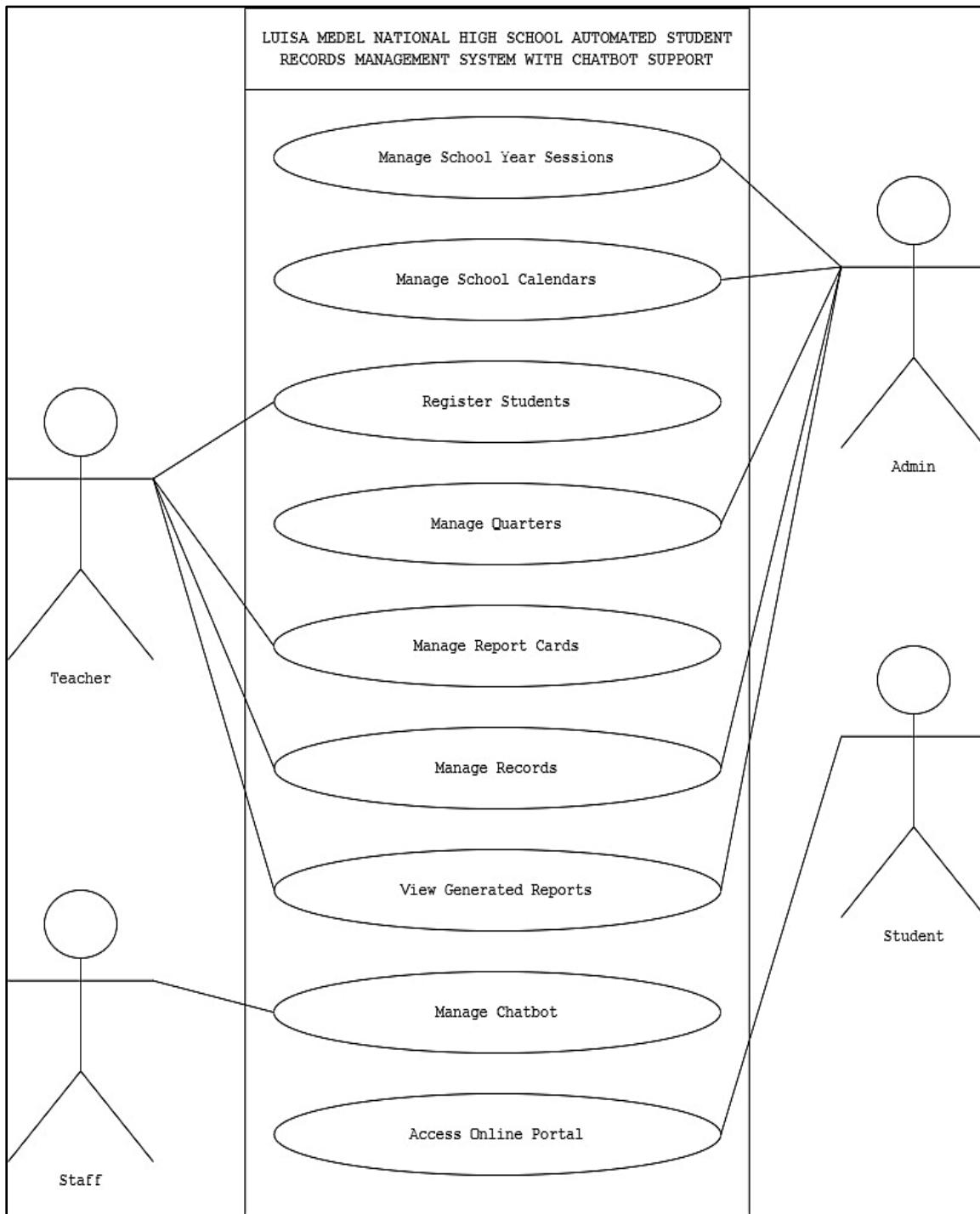


Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies





Carlos Hilado Memorial State University

[Alijis Campus](#) • [Binalbagan Campus](#) • [Fortune Towne Campus](#) • [Talisay \(Main\) Campus](#)

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Use Case Diagram

Gantt Chart



 college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU⁸⁵ ExCELSIOR!

Excellence · Compassion · Environmentalism · Love of Country · Social Responsibility · Integrity · Openness · Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030

(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Appendix C

User's Guide

This is the organization user manual or guide, which provides guidelines and a foundation for how the business uses the system. The procedures and features of the system will be discussed in the following features, which will also show users how to access and fill out the necessary forms.

Admin Side:



- college.computerstudies@chmsc.edu.ph
- (034) 434 8148
- chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

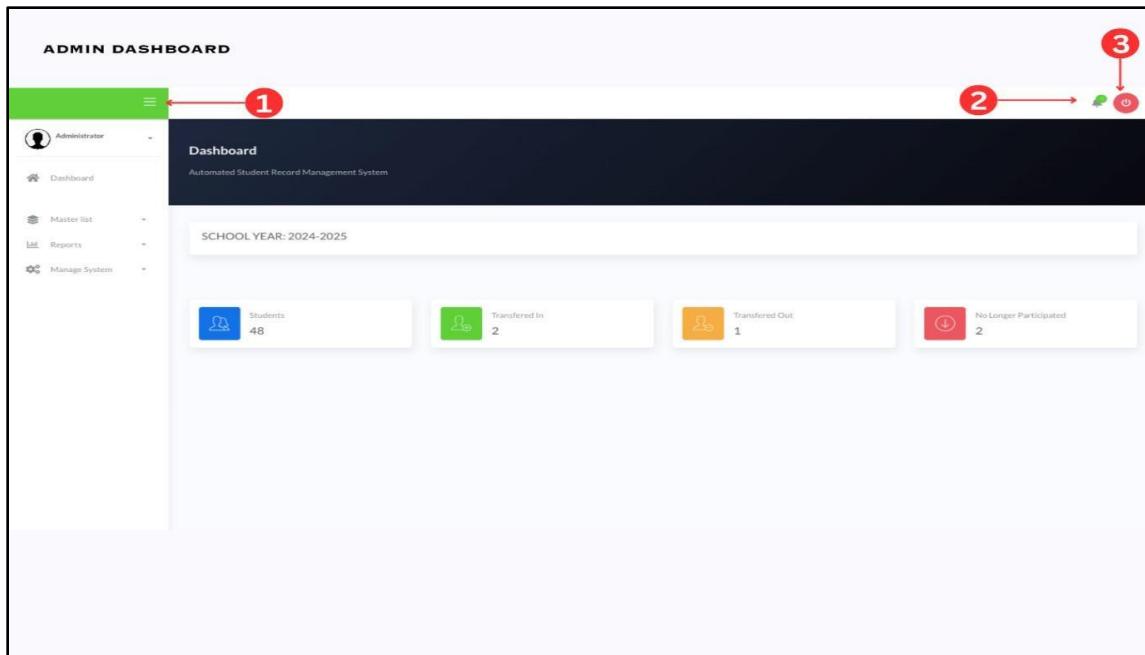


Figure 8. Admin Dashboard

1. Left Side Navigation Bar - By clicking this button, the admin can access main features such as the dashboard, master list, reports, and system management.
2. Notification Bell - This feature notifies the admin about system updates or student-related status changes.
3. Log Out - Designed to log out the user's account for security and privacy.





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

The screenshot shows the navigation bar of the CHMSU Admin Portal. It includes a green header bar with a menu icon (1), a user profile for 'Administrator' (2), and a 'Dashboard' link (3). Below this is a 'Master list' section with 'Manage Records' (4), 'SF9' (5), and 'SF10' (6). A 'Reports' section follows, containing 'Chatbot Reports' (7). The final section is 'Manage System' with 'School Year Session' (8), 'School Calendar' (9), and 'Manage Quarters' (10).

Figure 9. Navigation Bar

4. Manage Records - It allows the admin to view, retrieve, and track student academic records efficiently.
5. SF9 (School Form-9) Details - It enables the admin to view a student's report card.
6. SF10 (School Form 10) Details - This would allow the admin to view and print students Form 137.





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

7. Chatbot Reports - By clicking this, the admin can access Chatbot reports provided by staff and view the most frequently asked questions of students.
8. School Year Session - It enables the admin to manage the ongoing school year session.
9. School Calendar - This creates a school calendar, covering the beginning to the end of the school year.
10. Manage Quarters - It is to efficiently manage quarters, including activation and deactivation.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

The screenshot shows a web-based application titled "MANAGE STUDENT RECORD". On the left is a sidebar with a green header containing the user role "Administrator". Below it are three menu items: "Dashboard", "Master list", and "Manage System". The main area is titled "Manage Student Records" and displays a table of student records. The columns are: School Year, LRN, LAST NAME, Grade Section, and Action. There are 10 entries listed. Red numbers are overlaid on the interface: "11" points to the "Edit" button for the second record; "12" points to the "View" button for the third record; and "13" points to the "Delete" button for the third record.

School Year	LRN	LAST NAME	Grade Section	Action
2024-2025	082803828989898	ARMONIO MILTON CARL CANADA	7-CANCER	Edit
2024-2025	100000000000002	BELTRAN BRYAN UMALI		View
2024-2025	100000000000001	CARINA LUCIANA	7-ARIES	Delete
2024-2025	100000000000028	CRUZAT BIANCA BERNARD	7-ARIES	Action
2024-2025	100000000000026	DELFINO ZENITH ZOE	7-ARIES	Action
2024-2025	100000000000029	FLORES CLARK CASSANDRA	7-ARIES	Action
2024-2025	100000000000014	GARCIA NICO NATHANIEL	7-ARIES	Action
2024-2025	100000000000024	GARCIA XENA XAVIERO	7-ARIES	Action
2024-2025	100000000000006	GUEVARA FELIX FELICIANO	7-ARIES	Action
2024-2025	100000000000030	GUTIERREZ DEREK DANIELA	7-ARIES	Action

Figure 10. Manage Student Records

11. Edit Button - It is designed to edit students' personal information or student records.
12. View Button - This enables Admin to view student records for quick reference.
13. Delete Button - It is specifically designed to delete a specific student record.





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

SCHOOL FORM 7/REPORT CARD

SF9 RECORDS

GRADE 7

#	LRN	NAME	Action
1	2024-2025 15	082803828989898 ARMONI MCARL CANADA	
2	2024-2025	1000000000000002 BELTRAN BRYAN UMALI	
3	2024-2025	1000000000000001 CARINA LUCIANO VALENCIA	
4	2024-2025	1000000000000028 CRUZAT BIANCA BERNARD	
		Delfino Zenith Zoe	
		Flores Clark Cassandra	
		Garcia Xena Xavier	
		Garcia Nico Nathaniel	
		Guevara Felix Feliciano	

Figure 11. View/Print School Form-9

14. View Button - It is designed to view the fixed progress report card and has the option to print it upon viewing it.
15. Year Level Button - that an admin can choose in managing student records. In the figure, it shows the Grade 7- A records.





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

SCHOOL FORM 10/FORM-137

SF 10 RECORDS

Show: 10 entries Search:

#	SY	LRN	NAME	Action
1	2024-2025	08280382898989	ARMONIO MILTON CARL CANADA	
2	2024-2025	1000000000000002	BELTRAN BRYAN UMALI	
3	2024-2025	1000000000000001	CARINA LUCIANO VALENCIA	
4	2024-2025	1000000000000028	CRUZAT BIANCA BERNARD	
5	2024-2025	1000000000000026	DELFINO ZENITH ZOE	
A preview of School Form 10 (SF10) record #16 is displayed. The form is a DepEd template with fields for student information, parents/guardians, and other details. A red arrow points from the 'View' button for record #16 to the preview window.				
#	SY	LRN	NAME	Action

Showing 1 to 10 of 51 entries

Previous  2 3 4 5 6 Next

Figure 12. View/Print School Form-10

16. View Button - By clicking this, the admin can access the Form 137 of the student or SF10 records and print it.



 college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

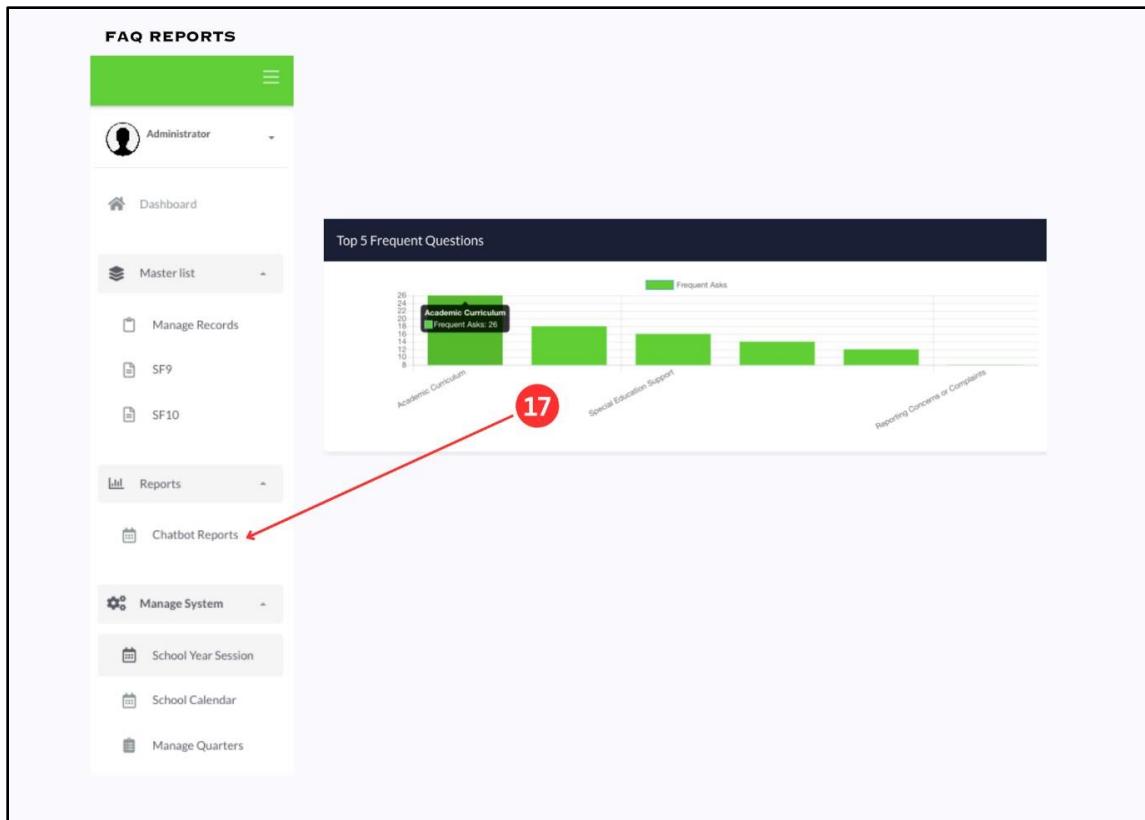


Figure 13. Chatbot FAQ Report

17. Chatbot Reports - It is to assist the admin in viewing Chatbot Reports, identifying the most frequently asked questions by students.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

The screenshot shows the 'SCHOOL SESSION MANAGER' application. On the left, a sidebar menu includes 'Administrator', 'Dashboard', 'Master list' (with 'Manage Records', 'SF9', 'SF10'), 'Reports' (with 'Chatbot Reports'), 'Manage System' (with 'School Year Session' highlighted), 'School Calendar', and 'Manage Quarters'. A red circle labeled '18' points to the 'School Year Session' item. In the center, a modal window titled 'School Year Session Manager' displays a table with two entries:

#	School Year	Status	Action
1	2024-2025	Active	
2	2025-2026	None Active	

Below the table, a red circle labeled '19' points to the 'Create New' button. A red arrow points from the 'Create New' button to a smaller modal window titled 'School Year' which contains fields for 'School Year' (set to '2024-2025') and 'Select Status' (set to 'Active'). A red circle labeled '20' points to the 'Update Session Status' window, which also shows 'School Year' (2024-2025) and 'Update Status' (set to 'Active').

Figure 14. School Year Session Manager

18. School Year Session - It is designed to create a school session for each school year along with its corresponding status.

19. Create New Button - It is specifically designed to create a new school year, allowing the admin to set its status as active or inactive.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

20. Edit Button - By clicking this, the admin can update session status, school year, and identify whether it is active or inactive.

The screenshot shows the 'SCHOOL CALENDAR MANAGER' application. On the left, a sidebar menu includes 'Administrator', 'Dashboard', 'Master list', 'Manage Records', 'SF9', 'SF10', 'Reports', 'Chatbot Reports', 'Manage System', 'School Year Session', 'School Calendar' (which is highlighted with a red arrow and circled with a red number '21'), and 'Manage Quarters'. The main area has three sections: 'SCHOOL CALENDAR' showing a grid of months (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct), 'SCHOOL DAYS DATA' showing values for Prescribe Days (20), NO. School Days (20), Maximum absent (4), and Month (January), and 'PRESCRIBE # OF SCHOOL DAYS' with input fields for Prescribe # of Days*, # of school Days*, and Maximum absent for this month January*. A 'Save' button is at the bottom right of this section.

Figure 15. School Calendar Manager

21. School Calendar - Designed to manage school days data, including prescribed days, the number of school



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

days, maximum student absences, and the number of classes in a month.

The screenshot shows the 'QUARTER MANAGEMENT' section of the system. On the left, there's a sidebar with 'Administrator' selected, and a list of options: Dashboard, Master list (with sub-options Manage Records, SF9, SF10), Reports (with sub-options Chatbot Reports), and Manage System (with sub-options School Year Session, School Calendar, Manage Quarters). A red arrow points from the 'Manage Quarters' option in the sidebar to the 'Action' column in a table. The table has columns for 'Quarters', 'Status', 'Modality', and 'Action'. It lists four quarters: Q1 (green dot, active, FTF, with an edit icon), Q2 (red dot, inactive, FTF, with an edit icon), Q3 (red dot, inactive, FTF, with an edit icon), and Q4 (red dot, inactive, FTF, with an edit icon). A second red arrow points from the 'Edit' icon in the 'Action' column of Q1 to an 'Update Quarter' modal window. The modal has fields for 'Quarter' (Q1), 'Update Status' (Active), 'Update Modality' (FTF), 'Quarter Start' (08/01/2024), and 'Quarter End' (01/04/2024). It includes 'Update' and 'Close' buttons. Red circles labeled '22' and '23' are overlaid on the 'Edit' icon and the 'Update' button respectively.

Figure 16. Academic Quarter Manager

22. Manage Quarters - It is designed to efficiently manage quarters, including their status, type of learning modality, and actions related to the status.
23. Update Status Button - It is designed to update the status of each quarter such as setting it into active and inactive options, also enabling the admin to modify the quarter, modality, and set the beginning and end of the school year.





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Teacher Side:

The screenshot shows the 'TEACHER DASHBOARD' interface. On the left is a sidebar with 'TEACHER' selected, and options for 'Dashboard', 'Master list', 'Manage Report Card', and 'Reports'. The main area has a title 'Automated Student Record Management System with Chabot Support'. It displays four status boxes: 'Students' (8), 'Transferred In' (1), 'Transferred Out' (0), and 'No Longer Participated' (0). Below this is a green bar showing 'Grade: 7 CANCER' and 'ACENAS EMBER JOY O'. A search bar with a red circle containing the number '24' is highlighted. The main table lists student details:

ID	LRN	NAME	Sex	Grade Section	Status
741	10000000000037	OLANO KIMBERLY KEVIN	MALE	7-CANCER	●
742	10000000000038	LEO LILIANA PANGAN	FEMALE	7-CANCER	●
743	10000000000029	NICOLE NATHAN QUIZON	MALE	7-CANCER	●
744	10000000000040	OLIVIA OLIVER RAMIREZ	MALE	7-CANCER	●
745	10000000000041	REYES PETER PAULA	MALE	7-CANCER	●

Figure 17. Teacher Dashboard

24. Search Box - Designed to assist teachers in efficiently finding specific student names.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

MANAGE STUDENT RECORD MODULE ENROLL/PROMOTE

LEN	NAME	Action
100000000000027	OLANO KIMBERLY KEVIN	[Actions]
100000000000028	LEO JULIANA RANGAN	[Actions]
100000000000029	NICOLE NATHANIA QEZON	[Actions]
100000000000030	OLIVIA OLIVER RAMIREZ	[Actions]
100000000000041	REYES PETER PAULA	[Actions]
100000000000042	QUINN QUEENIE SALVADOR	[Actions]
100000000000043	RACHEL ERINA TORRES	[Actions]
738782372388082	ZUBIN CARLOS AURNAZ	[Actions]

MANAGE STUDENT RECORD MODULE ENROLL/PROMOTE

NAME	Grade & Section	Promote/Raise
ALAN CARLOS JAVADA	SELECT	SELECT
LEO JULIANA RANGAN	SELECT	SELECT
NICOLE NATHANIA QEZON	SELECT	SELECT
OLANO KIMBERLY KEVIN	SELECT	SELECT
OLIVA OLIVER RAMIREZ	SELECT	SELECT
QUINN QUEENIE SALVADOR	SELECT	SELECT
RACHEL ERINA TORRES	SELECT	SELECT
REYES PETER PAULA	SELECT	SELECT



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

The screenshot shows a web-based application interface for managing student records. At the top left, there's a green button labeled '+ Enroll' and an orange button labeled 'Promotion'. A red arrow points from the text '25' to the 'NAME' column of a student record. Another red arrow points from the text '26' to the 'Promotion' button. The interface includes a search bar for 'LRN' and 'NAME', and a table listing student information such as LRN, NAME, Grade & Section, and Promote/Rate. Action buttons for each row include 'Edit', 'Update Status', and 'Delete'.

Figure 18. Student Record Management Module (Enrolling and Promoting)

25. Enroll Button - Clicking on this button enables teachers to add or register students. Upon activation, it redirects to another page where teachers can validate the student's Learner Reference Number and then fill in the required student information.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU 100 ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

26. Promotion Button - It is designed to promote student to another grade level or retain the student in its current year level.
27. Edit Button - Designed to be utilized for changing or editing student records, including grades, attendance, and other personal details.
28. Update Status Button - It is intended for altering the status of a specific student, indicating whether they have been promoted, retained, or are no longer participating.
29. Delete Button - This function is designed to permanently remove a student's record from the system.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU¹⁰¹ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

SF9/REPORT CARD

STUDENT SF9 RECORDS

LRN	NAME	Action
100000000000037	OLANO KIMBERLY KEVIN	
100000000000038	LEO LILIANA PANGAN	
100000000000039	NICOLE NATHAN QUIZON	
100000000000040	OLIVIA OLIVER RAMIREZ	
100000000000041	REYES PETER PAULA	
100000000000042	QUINN QUEENIE SALVADOR	
100000000000043	RACHEL RYAN TORRES	
738782372388382	JUAN CARLOS JUANIZA	

Show: 10 entries Search:

30

31

Student Grades

Quarter	Subject	Grade	Action
1	English	91	
1	Mathematics	92	
1	Science	93	
1	Avg./Performance Score	92	

Figure 19. Student SF9 Records

30. Print Button – Enables to print the fix report card of students.

31. View Button – It is designed to view students' grades.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR! ¹⁰²

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

SF10/FORM137

SF 10 RECORDS

LRN	NAME	Action
10000000000037	OLANO KIMBERLY KEVIN	
10000000000038	LEO LILIANA PANGAN	
10000000000039	NICOLE NATHAN QUIZON	
10000000000040	OLIVIA OLIVER RAMIREZ	
10000000000041	REYES PETER PAULA	
10000000000042	QUINN QUEENIE SALVADOR	
10000000000043	RACHEL RYAN TORRES	
720782372360382	JUAN CARLOS JUANIZA	

Showing 1 to 8 of 8 entries

32

DRAFT

Figure 20. Student SF10 Records

32. View Button – It is designed to view students' SF10 or Form 137.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR! 103

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

The screenshot shows the 'GRADES MANAGEMENT MODULE' interface. At the top, a header bar reads 'MANAGE STUDENT GRADES FOR TRANSFEREE'. Below it, a sub-header 'QUARTER SUBJECTS' has a step indicator '1 SELECT SUBJECT'. A table lists student names: JUAN CARLOS JUANIZA, LEO LILIANA PANGAN, NICOLE NATHAN QUIZON, OLANO KIMBERLY KEVIN, OLIVIA OLIVER RAMIREZ, RACHEL RYAN TORRES, and REYES PETER PAULA. Each student row contains an 'input grades here...' button (circled in red as 34), a 'FTF' modality dropdown (circled in red as 35), and a dropdown arrow (circled in red as 33). At the bottom right are 'SUBMIT GRADES' and 'CLOSE' buttons.

Figure 21. Grades Management Module

33. Selection of Subject - It is empowered by a drop down feature wherein a teacher chooses a specific

subject and input the quarterly grades of students.

34. Input Grades Here Button - By clicking it, the teacher can input grades for students in a specific

subject.





Carlos Hilado Memorial State University

[Alijis Campus](#) • [Binalbagan Campus](#) • [Fortune Towne Campus](#) • [Talisay \(Main\) Campus](#)

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

35. Dropdown Modality - It is designed to choose the learning modality, whether it is online or face-to-face.

36. Transferee Button - This feature is designed to allow teachers to manage student grades for transferees.

ATTENDANCE MANAGEMENT MODULE

MANAGE STUDENT ATTENDANCE REGULAR

TRANSFEREES

Show 10 entries Search:

LRN	NAME	Action
100000000000037	OLANO KIMBERLY KEVIN	
100000000000038	LEO LILIANA PANGAN	
100000000000039	NICOLE NATHAN QUIZON	
100000000000040	OLIVIA OLIVER RAMIREZ	
100000000000041	REYES PETER PAULA	
100000000000043	RACHEL RYAN TORRES	
73872372388382	JUAN CARLOS JUANIZA	

37

MANAGE ATTENDANCE

NAME	PRESENT	ABSENT	LATE	EARLY	EXCUSED
OLANO KIMBERLY KEVIN	0	0	0	0	0
LEO LILIANA PANGAN	0	0	0	0	0
NICOLE NATHAN QUIZON	0	0	0	0	0
OLIVIA OLIVER RAMIREZ	0	0	0	0	0
REYES PETER PAULA	0	0	0	0	0
RACHEL RYAN TORRES	0	0	0	0	0
JUAN CARLOS JUANIZA	0	0	0	0	0

LAST NAME Action

Figure 22. Attendance Management Module



 college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU 105 **ExCELSIOR!**

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

37. Attendance Monitoring - It is where a teacher can input total of the monthly attendance such as the number of days present and absent of a particular student.

BOSY/EOSY REPORTS

The screenshot shows the CHMSU Teacher Portal interface. On the left, there's a sidebar with a green header bar, followed by sections for 'TEACHER', 'Dashboard', 'Master list', 'Manage Report Card', 'Reports' (which is currently selected), and 'Student Data Report'. The 'Reports' section contains two large tables: 'Beginning of Year Data' and 'End of Year Data', both with columns for 'Category', 'Days', 'Gens', and 'Total'. Below these tables is another table titled 'Report on Student Age' with columns for 'Age', 'Days', 'Gens', and 'Total'. A red arrow points from the 'Student Data Report' link to a red circle containing the number 38.

Figure 23. BOSY and EOSY Reports

38. Student Data Report - It that provides the Beginning of the School Year Report (BOSY) and the End of School Year Report of the Official List of Enrolled





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Students in a class of a particular teacher. This provides a summary of the information and details of individual students in a section separating the male and female.

Student Side:

STUDENT ONLINE PORTAL

The screenshot shows the Luisa Medel National Highschool Student Online Portal. At the top, there's a banner for DepED LUISA MEDEL NATIONAL HIGH SCHOOL. Below it, the portal has a dark theme with a green header bar. On the left, there's a green button labeled 'CHAT WITH LUISA'. To the right of the button is a white login form with two input fields: 'URN Number' and 'Password', and a 'LOGIN' button below them. Red numbers are overlaid on the image: '39' points to the 'CHAT WITH LUISA' button, '40' points to the 'URN Number' field, and '41' points to the 'Password' field.

Figure 24. Student Online Portal



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU¹⁰⁷ ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

39. Chat with Luisa - This feature is designed to allow students or parents to ask queries without the need to log in.
40. LRN Log in - It is designed for students to log in using their LRN number.
41. Password Log in - It is a system generated password to be inputted by a student given by the teacher they are enrolled to.



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ¹⁰⁸ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

The screenshot displays the 'Students Grades Viewing Module'. On the left, a sidebar titled 'Student Portal' shows 'Dashboard' and 'Grades' selected. Below 'Grades', 'Grade 7' is highlighted with a red circle containing the number '42'. A red arrow points from this circle to a red circle containing the number '43' located on the right side of the screen. The main content area is a table titled 'Grades' with columns for 'Subject', 'Grade', and 'Remarks'. The table lists subjects like Filipino, English, Mathematics, etc., with their corresponding grades and remarks.

Subject	Grade	Remarks
Filipino	89	Passed
English	90	Passed
Mathematics	99	Passed
Science	99	Passed
Araling Panlipunan (AP)	90	Passed
Edukasyon sa Paggagamot (ESP)	90	Passed
MARSH	89	Passed
Music	100	Passed
Arts	99	Passed
PE	99	Passed
Health	90	Passed

Figure 25. Students Grades Viewing Module

42. Year Level Grades - Students can see their quarterly grades as per year level.

43. Quarterly Grades - Quarters (Q1, Q2, Q3, and Q4) button is designed for viewing student grades each quarter.

Staff Side:



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ¹⁰⁹ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

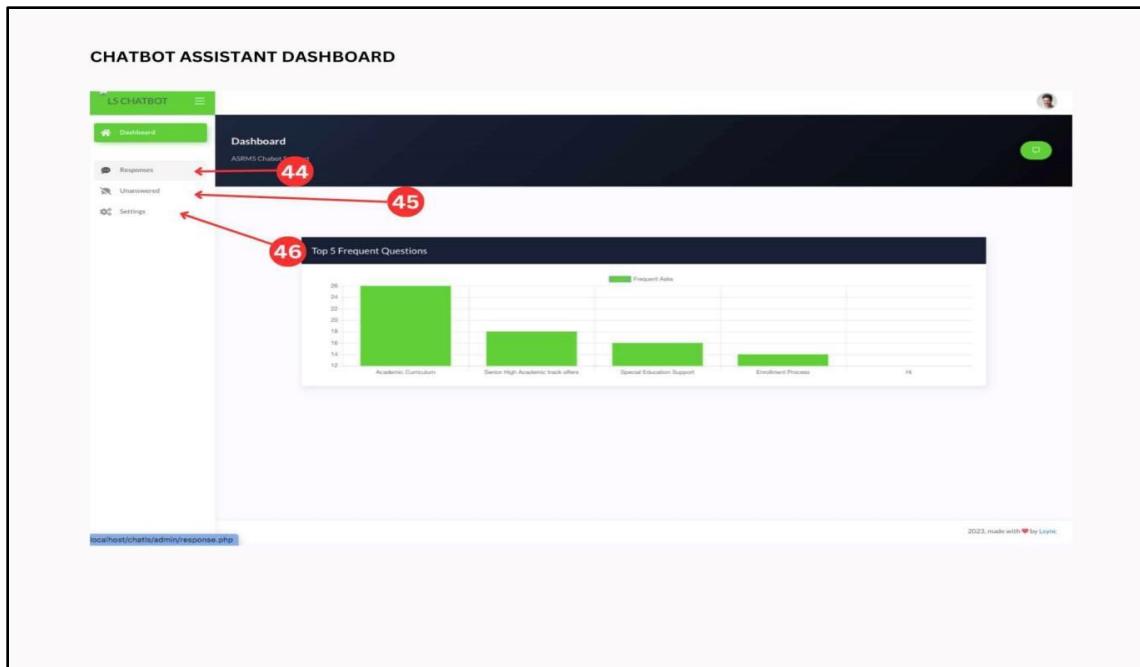


Figure 26. Chatbot Assistant Dashboard

44. Responses - This is designed to manage Chatbot responses.

45. Unanswered - These is where the unanswered questions made and asked by students are found.

46. Settings - Designed to assist staff in viewing 5 most frequently asked questions.





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

The screenshot displays the 'CHATBOT RESPONSES MANAGEMENT MODULE' interface. It includes three main sections:

- Questions and Responses:** A list of questions and responses made. A red circle labeled '47' points to the 'Responses' button in the sidebar.
- Create Question & Response:** A form for creating new questions and responses. A red circle labeled '48' points to the 'Unanswered' button in the sidebar.
- List of Unanswered Questions:** A table showing a list of unanswered questions. A red circle labeled '49' points to the 'Actions' column in the table.

Figure 27. Chatbot Responses Management Module

47. Questions and Responses Section – By clicking the “Responses” it redirects user to the lists of questions and responses made. The “Create New” button will enable staff to create new sets questions and responses.

48. List of Unanswered Questions – By clicking the “Unanswered” it reveals a list of asked questions in the Chatbot, helping staff identify and update responses for uncommon queries.





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030

(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

49. Edit - This button is designed for the staff to update such question with the corresponding response to a particular unanswered question of student.

Appendix D

Research Instrument



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

"LMNHS AUTOMATED STUDENT RECORDS MANAGEMENT SYSTEM WITH CHATBOT SUPPORT"

SYSTEM EVALUATION SURVEY QUESTIONNAIRE

Part I. Name of Respondent (Optional): _____

Respondent Status: Please check Professional Student

Part II. The Questions

Direction: Below are the statements that will measure the software product quality of a System Project using the **ISO/IEC 25010: 2011** standard. Kindly check the appropriate box of every statement corresponding to the answer of your choice. Please be assured that your responses will be treated with utmost confidentiality.

Please use the following answer codes:

Code	Interpretation	Description
5	Excellent	4.51 - 5.00. The system is complete and fully functional.
4	Very Good	3.51 - 4.50. The system is complete and functional.
3	Good	2.51 - 3.50. The system is somewhat complete and functional.
2	Poor	1.51 - 2.50. The system is incomplete and somewhat functional.
1	Very Poor	1.50 - below. The system is incomplete and non-functional.





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

A. Functional Suitability	5	4	3	2	1
1. Functional completeness. Degree to which the set of functions covers all the specified tasks and user objectives..					
2. Functional correctness. Degree to which a product or system provides the correct results with the needed degree of precision..					
3. Functional appropriateness. Degree to which the functions facilitate the accomplishment of specified tasks and objectives.					
Total Score / Mean Score					

B. Performance Efficiency	5	4	3	2	1
1. Time Behavior. The response and processing times and throughput rates of a product or system, when performing its functions meet requirements.					
2. Resource Utilization. The amount and types of resources used by the system, when performing its functions, meet requirements.					
3. Capacity. The maximum limits of a product or system parameter meet requirements.					
Total Score / Mean Score					

C. Usability	5	4	3	2	1





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

1. Appropriateness recognizability. Degree to which users can recognize whether a product or system is appropriate for their needs.					
2. Learnability. degree to which a product or system can be used by specified users to achieve specified goals of learning to use the product or system with effectiveness, efficiency, freedom from risk and satisfaction in a specified context of use.					
3. Operability. Degree to which a product or system has attributes that make it easy to operate and control.					
4. User error protection. Degree to which a system protects users against making errors.					
5. User interface aesthetics. Degree to which a user interface enables pleasing and satisfying interaction for the user.					
6. Accessibility. Degree to which a product or system can be used by people with the widest range of characteristics and capabilities to achieve a specified goal in a specified context of use.					
Total Score / Mean Score					



college.computerstudies@chmsc.edu.ph

(034) 434 8148

chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

D. Compatibility	5	4	3	2	1
1. Co-existence. Degree to which a product can perform its required functions efficiently while sharing a common environment and resources with other products, without detrimental impact on any other product.					
2. Interoperability. Degree to which two or more systems, products or components can exchange information and use the information that has been exchanged.					
Total Score / Mean Score					

E. Reliability	5	4	3	2	1
1. Maturity. Degree to which a system, product or component meets needs for reliability under normal operation.					
2. Availability. Degree to which a system, product or component is operational and accessible when required for use.					
3. Fault tolerance. Degree to which a system, product or component operates as intended despite the presence of hardware or software fault					
4. Recoverability. Degree to which, in the event of an interruption or a failure, a product or system can recover the data directly affected and re-establish the desired state of the system.					
Total Score / Mean Score					



college.computerstudies@chmsc.edu.ph

(034) 434 8148

chmsc.edu.ph

GREEN CHMSU ¹¹⁶ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Aljis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

F. Security	5	4	3	2	1
1. Confidentiality. Degree to which a product or system ensures that data are accessible only to those authorized to have access.					
2. Integrity. Degree to which a system, product or component prevents unauthorized access to, or modification of, computer programs or data.					
3. Non-repudiation. degree to which actions or events can be proven to have taken place, so that the events or actions cannot be repudiated later.					
4. Accountability. Degree to which the actions of an entity can be traced uniquely to the entity.					
5. Authenticity. Degree to which the identity of a subject or resource can be proved to be the one claimed.					
Total Score / Mean Score					

G. Maintainability	5	4	3	2	1
1. Modularity. Degree to which a system or computer program is composed of discrete components such that a change to one component has minimal impact on other components.					
2. Reusability. Degree to which an asset can be used in more than one system, or in building other assets.					
3. Analysability. Degree of effectiveness and efficiency with which it is possible to					





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

assess the impact on a product or system of an intended change to one or more of its parts, or to diagnose a product for deficiencies or causes of failures, or to identify parts to be modified.				
4. Modifiability. Degree to which a product or system can be effectively and efficiently modified without introducing defects or degrading existing product quality.				
5. Testability. Degree of effectiveness and efficiency with which test criteria can be established for a system, product or component and tests can be performed to determine whether those criteria have been met.				
Total Score / Mean Score				

H. Portability	5	4	3	2	1
1. Adaptability. Degree to which a product or system can effectively and efficiently be adapted for different or evolving hardware, software or other operational or usage environments.					
2. Installability. Degree of effectiveness and efficiency with which a product or system can be successfully installed and/or uninstalled in a specified environment.					
3. Replaceability. Degree to which a product can replace another					





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030

(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

specified software product for the same purpose in the same environment.					
Total Score / Mean Score					
Overall Score and Mean Score					

Comments and Suggestions

Thank you very much for your time. God Bless!

Date: _____

Milton Carl C. Armonio

Jonalyn F. Fajardo

Gina Templado

Researchers



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ¹¹⁹ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Appendix E

Grammarian Certificate

This is to certify that the undersigned has reviewed and went through all the pages of the Capstone Project entitled "**Luisa Medel National High School Automated Student Records Management with Chatbot Support**" in contrast to the set of the structural rules that govern the composition of sentences, phrases, and words in English language.

Signed:


JECE MEA PALERMO HUERTE

License no.: 20-4147406

Registration no.: 1188920



 college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Appendix F

Curriculum Vitae

Milton Carl C. Armonio
Prk. Angela, Brgy. Vista
Alegre, Bacolod City
09935340839
miltonarmonio@gmail.com



PERSONAL INFORMATION

Date of Birth: May 22, 2000

Age: 23

Civil Status: Single

Height: 5'7'

Weight: 60 kg.

Religion: Roman Catholic

Father's Name: Leonilo F. Armonio

Mother's Name: Mitos C. Armonio

EDUCATIONAL ATTAINMENT

2024

Tertiary Education

Bachelor of Science in Information Systems
Carlos Hilado Memorial State University
Brgy. Alijis, Bacolod City



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030

(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

2020 **Senior High School**

ABM

ABE Bacolod

Luzuriaga street, Bacolod City

2018 **Secondary Education**

Angela Gonzaga National High School

Brgy. Vista Alegre Bacolod City, Neg. Occ.

2013 **Primary Education**

Don Fernando F. Gonzaga Elementary School

San Jose Street, Villa Homes Subd. Brgy. Vista

Algere Bacolod City

ACTIVITIES/ HONORS/ AWARDS

2023 - 2024 1st Semester Dean's Lister

2022 - 2023 ROTC 3rd Class Officer

2022 - 2023 2nd Semester Dean's Lister

2021 - 2022 2nd Semester Dean's Lister



college.computerstudies@chmsc.edu.ph

(034) 434 8148

chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Jonalyn F. Fajardo
Prk. Sta. Antonia, Brgy.
Pahanocoy, Bacolod City
09302283371
jonalynfajardo0712@gmail.com



PERSONAL INFORMATION

Date of Birth: July 12, 2001
Age: 22
Civil Status: Single
Height: 5'1'
Weight: 43
Religion: Roman Catholic
Father's Name: Rosendo L. Fajardo
Mother's Name: Gigi Fajardo

EDUCATIONAL ATTAINMENT

2024

Tertiary Education

Bachelor of Science in Information System
Carlos Hilado Memorial State University
Brgy. Alijis, Bacolod City



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

2020

Senior High School

TVL-ICT

Luisa Medel National High School

Ramylu Drive, Tangub, Bacolod City

2018

Secondary Education

Luisa Medel National High School

Ramyludrive, Tangub, Bacolod City, Neg. Occ.

2014

Primary Education

Rodolfo A. Medel Sr. Elem. School

Barangay Tangub, Bacolod City, Neg. Occ.

ACTIVITIES/ HONORS/ AWARDS

2023 – 2024 1st Semester Dean's Lister

2022 – 2023 1st & 2nd Semester Dean's Lister

2021 – 2022 1st & 2nd Semester Dean's Lister

2020 – 2021 1st & 2nd Semester Dean's Lister





Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030

(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

Gina Templado

Prk. Punta Bato, Brgy.
Tangub, Bacolod City
09070801550
ginatemplado26@gmail.com



PERSONAL INFORMATION

Date of Birth: June 01, 2000

Age: 23

Civil Status: Single

Height: 5'1'

Weight: 49 kg

Religion: Aglipay

Father's Name: Vergilio P. Rondina

Mother's Name: Elna G. Templado

EDUCATIONAL ATTAINMENT



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030
(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies

2024

Tertiary Education

Bachelor of Science in Information System
Carlos Hilado Memorial State University
Brgy. Alijis, Bacolod City

2020

Senior High School

TVL-ICT
Luisa Medel National High School
Ramylu Drive, Tangub, Bacolod City

2018

Secondary Education

Manghanoy National High School
Brgy. Manghanoy, La Castellana Neg. Occ.

2011

Primary Education

Manghanoy Elementary School
Barangay Manghanoy, La Castellana, Neg. Occ.

ACTIVITIES/ HONORS/ AWARDS

2023 – 2024 1st Semester Dean's Lister

2022 – 2023 1st & 2nd Semester Dean's Lister

2021 – 2022 1st & 2nd Semester Dean's Lister

2020 – 2021 1st & 2nd Semester Dean's Lister



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience



Carlos Hilado Memorial State University

Alijis Campus • Binalbagan Campus • Fortune Towne Campus • Talisay (Main) Campus

A leading GREEN institution of higher learning in the global community by 2030

(Good governance, Research-oriented, Extension-driven, Education for Sustainable Development, and Nation-building)

College of Computer Studies



college.computerstudies@chmsc.edu.ph
 (034) 434 8148
 chmsc.edu.ph

GREEN CHMSU ExCELSIOR!

Excellence • Compassion • Environmentalism • Love of Country • Social Responsibility • Integrity • Openness • Resilience