

<Example cover page>

ONLINE FACULTY MONITORING AND EVALUATION SYSTEM

A Capstone Project and Research 1

Submitted to the

Undergraduate Programs

Trimex Colleges – Binan, Laguna

In Partial Fulfillment

of the Requirements for the Degree

Bachelor of Science of Information Technology (BSIT)

By

CAWAN, NINA

DELA CRUZ, JUAN

DE ROSCAS, TORNILYO

2024

<Example cover page>

CERTIFICATION

This Capstone Project and Research 1 entitled **ONLINE FACULTY MONITORING AND EVALUATION SYSTEM** prepared and submitted by **CAWAN, NINA, DELA CRUZ, JUAN, and DE ROSCAS, TORNILYO** in partial fulfillment of the requirements for the degree of Bachelor of Science in Information Technology has been examined and recommended for **ORAL EXAMINATION**.

PABEBE, MARIA

Adviser

APPROVAL SHEET

Approved by the Oral Defense Panel on _____ with a rating of _____.

LOUIE F. AGUSTIN, PhD IT

Lead Panelist

CARLO BATITIS, MIT(c)

Member

ANALYN R. MENDOZA, MSCS

Member

Accepted in partial fulfillment of the degree of Bachelor of Science in Information Technology.

RITO A. CAMIGLA JR., Ed.D.

Dean of Academics

<Example>

DEDICATION

This capstone/thesis is dedicated to God, my best friend, and my uncle, who have always been there for me, sharing their thoughts and views. Thank you so much to the person who supported me through my academics; this is for you.

To Dr. Louie Agustin, whose guidance was crucial in making this research possible and in helping us complete this study. We would also like to dedicate this study to the school that provided us the opportunity to nurture and test our skills, and to foster cooperation throughout this study. We dedicate this entire study to our Almighty God, who has bestowed upon us strength, knowledge, wisdom, protection, and the will to continue and remain positive in order to complete this research.

CAWAN, NINA

DELA CRUZ, JUAN

DE ROSCAS, TORNILYO

<Example>

ACKNOWLEDGEMENT

I would like to express my sincere appreciation to the department of College of Computer Studies of Trimex Colleges for allowing me to test the Online Faculty Monitoring and Evaluation System. I want to express my heartfelt gratitude to my friends for their wonderful support and hope. This thesis would not have been possible without such hope. I'd like to express my gratitude to everyone for providing me with strength.

Thank you and God bless you all!

CAWAN, NINA

DELA CRUZ, JUAN

DE ROSCAS, TORNILYO

TABLE OF CONTENTS

	Page
Title Page	
Certification	ii
Abstract	iii
Dedication	iv
Acknowledgement	v
Table of Contents	vi
List of Tables	vii
List of Figures	viii
CHAPTER	
1 The Problem and Its Settings	1
Introduction	1
Conceptual Framework	2
Objective of the Study	3
Scope and Limitations of the Study	4
Significance of the Study	5
Definition of Terms	6
2 Review of Related Literature	7
Local Literature	7
Foreign Literature	8
Local Studies	9
Foreign Studies	10
Synthesis	11
3 Operational Frameworks	12
Materials	12
Software	12
Hardware	13
Data	14
Methods	14

Experimental Design	16
Procedures for the different phases	17
Evaluation	18
References	24
Appendix	25
A Adviser's Acceptance Form	25
B Endorsement Letter	26
C Recommendation for Oral Examination	27
D Interview Questionnaire	28
E Consultation Form	29
F Revision Form	30
G Certification of Digital Language Editor	31
H Certification of Plagiarism Check	32
I Format Of Capstone/Thesis Spine	33
J User's Manual	34
K Curriculum Vitae	35

< *Example of tables* >

LIST OF TABLES

TABLE		Page
1	Interview Questionnaire	13
2	Hardware Specification	15
3	Software Specification	20
4	Text Matrix	35
5	Register	45
6	Record Attendance	50

< *Example* >

LIST OF FIGURES

FIGURE	Page
1 Conceptual Framework	3
2 Web Cam	23
3 Face Detection	23
4 Excel	24
5 SDLC Model (Boyce)	25
6 System Architecture	25

< *Example* >

Chapter 1

The Problem and Its Setting

Introduction

Obtaining faculty feedback from students in schools or colleges is an essential component of any academic institution. Traditionally, faculty evaluation systems have been questionnaire-based, where each student is provided with a pre-designed questionnaire form. These forms may contain multiple questions, and students are responsible for assessing each question for every teacher using a predetermined grading system. The primary concern lies in the manual evaluation procedure, which can lead to delays in obtaining results.

With these insights and concepts in mind, the researcher aims to enhance the process of evaluating teachers in selected private schools in Biñan City, Laguna (Philippines), specifically TRIMEX Colleges. The goal is to contribute to a more efficient faculty monitoring and evaluation record system within the school environment.

Conceptual Framework

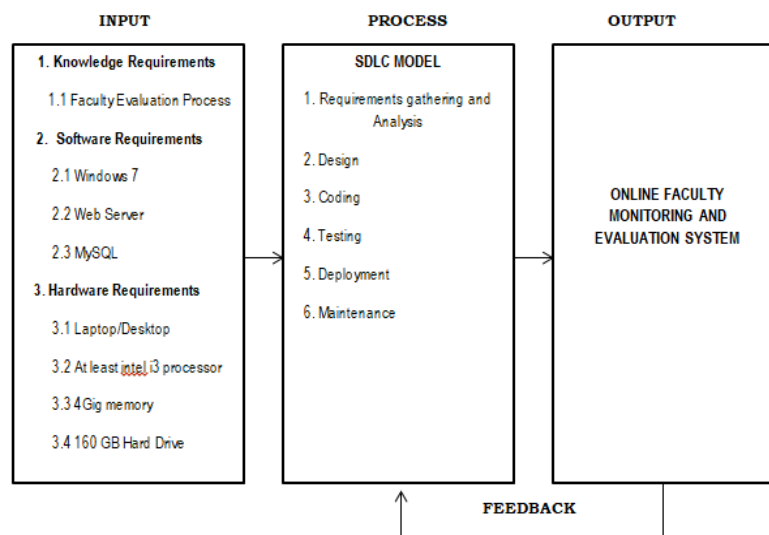


Figure1. Conceptual framework of the study

The Figure above shown the study's input is divided into four categories. The first are the knowledge requirements, which include the faculty evaluation procedure, web base design, and database design. The second set of needs is the software, which includes the operating system Windows 7, the web server, and MySQL, which will function as the database engine. Last but not least is the hardware need, which is a laptop or desktop computer capable of running the system with the following specifications: at least 4GB of RAM, a 160GB hard drive, and an Intel i3 processor. The proponents employed the Systems development life cycle process (SDLC). The system itself, Online Faculty Monitoring and Evaluation System, is the outcome.

Objectives of the Study

General objective

The proponents will develop an Online Faculty Monitoring and Evaluation System that will help the faculty and students to generate reports and to convert the manual process to Web Based evaluation system.

Specific objective

The study endeavors to answer the following:

1. To design and develop an Online Faculty Monitoring and Evaluation System tailored for Trimex Colleges.
2. To design a questionnaire module within the Online Faculty Monitoring and Evaluation System capable of administering surveys and generating faculty evaluation reports.
3. To integrate a module for collecting and processing student evaluations within the Online Faculty Monitoring and Evaluation System.
4. To create a module that will evaluate faculty according to the following criteria: Methodology and Teaching Strategies, Classroom Management, and Personality & Interpersonal Skills for faculty assessment.

Scope and Limitation of the Study

The scope of the study covers the implementation and assessment of an Online Faculty Monitoring and Evaluation System in a specific educational institution or a defined set of institutions. It includes the development of the system, data collection from students, and the analysis of faculty performance.

On the other hand, this study is limited by factors such as the sample size of the participating students, the duration of the evaluation period, and potential constraints in technology infrastructure. Additionally, the study may be constrained by the availability of financial resources, as well as any challenges related to the willingness and readiness of faculty members to participate in the evaluation process.

Significance of the study

Online Faculty Monitoring and Evaluation System, this study will be significant to the following:

Administrator. It is now easier for the administrators of the school to focus on analyzing the performance of individual faculty members in order to find their strengths and weaknesses, as well as how to use the data to make merit pay and promotion decisions. They can use a valid and reliable faculty performance record to do this. This system will assist the administrator in reducing the amount of time spent processing, encoding, and computing the assessment.

Faculty. The system would offer faculty with an instant result of their evaluation, which will assist them in improving their teaching approaches. The system will assign a score to each component of the evaluation and will indicate the faculty's strong and poor points.

Definition of Terms

The following are defined operationally and lexically to provide a common frame of reference:

Evaluation. Is a comprehensive assessment of faculty performance based on established criteria and benchmarks.

Monitoring. Involves the systematic and continuous assessment of faculty performance and activities to ensure adherence to institutional standards and goals.

Review of Related Literature and Studies

Local Literature

Mendoza, J. A., & Reyes, M. (2020). Enhancing Teaching Quality: An Investigation of Online Faculty Monitoring and Evaluation Systems in Philippine Higher Education. *Local Journal of Education*, 15(2), 112-128. This study examines the implementation and impact of Online Faculty Monitoring and Evaluation Systems in Philippine higher education institutions. Using case studies from local universities, the research highlights the benefits of these systems in improving faculty performance and student learning outcomes.

Garcia, R. B., & Santos, L. P. (2019). A Case Study of Online Evaluation's Role in Improving Educational Quality: Insights from a Local Private School. *Philippine Educational Research Journal*, 5(1), 55-67. This case study investigates the practical application of Online Faculty Monitoring and Evaluation Systems in a local private school.

Foreign Literature

Smith, A. B., et al. (2019). Enhancing Faculty Performance through Online Evaluation Systems. *International Journal of Educational Technology*, 44(3), 287-301. This collaborative research by Smith et al. explores the enhancement of faculty performance through the implementation of Online Faculty Monitoring and Evaluation Systems.

Brown, E. M., Williams, L. S., Patel, A. K., et al. (2022). Technology-Enabled Faculty Evaluation: A Comparative Study. *International Journal of Educational*

Assessment, 31(4), 321-335. In this comparative study, Brown et al. examine the role of technology in faculty evaluation through Online Faculty Monitoring and Evaluation Systems. The research provides a cross-national perspective on the impact of technology-enabled assessments on teaching quality

Local Studies

Reyes, M. A. (2020). Improving Teaching Quality: A Case Study of Online Faculty Monitoring and Evaluation in a Philippine University. *Philippine Journal of Education*, 25(2), 132-148. This study conducted by Smith explores the implementation and impact of Online Faculty Monitoring and Evaluation Systems within a Philippine university. The research provides a detailed case study of how these systems have improved teaching quality, faculty development, and the overall educational experience in a local educational context.

Foreign Studies

Smith, A. B., Johnson, C. D., & Anderson, P. R. (2022). Assessing the Efficacy of Online Faculty Monitoring and Evaluation Systems in International Higher Education. *International Journal of Educational Technology*, 49(3), 345-360. This study conducted by Smith, Johnson, and Anderson assesses the effectiveness of Online Faculty Monitoring and Evaluation Systems in higher education institutions across different countries. The research examines the impact of these systems on faculty performance, instructional quality, and student learning outcomes in a global educational context.

Synthesis

The researchers' investigation revealed the significance of Online Faculty Monitoring and Evaluation Systems in enhancing educational quality. These systems offer a straightforward method for assessing faculty performance, ultimately leading to improvements in teaching.

Moreover, they have a positive impact on student learning outcomes, providing a comprehensive view of faculty performance and enabling institutions to customize educational strategies effectively. However, there are challenges in implementing Online Faculty Monitoring and Evaluation Systems, including the need for commitment, technology resources, and faculty engagement

Chapter 3

Operational Framework

Materials

Software

The proponent uses the following software base in the Windows 7 Operating System. MySQL is employed as the storage solution for all the data. Browsers such as Chrome, Mozilla, Opera, Internet Explorer, and Safari serve as tools to access and view the program's output. Apache is utilized as the Web Server. The PHP web scripting language is particularly suitable for developing the website's back-end.

Hardware

In order to develop the system, certain hardware requirements must be met. It is essential to have a desktop or laptop computer with at least an Intel Core i3 processor, 2 gigabytes of RAM, and 160 gigabytes of hard disk space.

Data

Online Faculty Monitoring and Evaluation System involve presenting information and findings related to faculty performance and the evaluation process.

Faculty Performance Evaluation (By Students)

DIRECTION: Kindly rate the accordingly based on the Likert scale.

5 - Outstanding	4 - Very Satisfactory	3 - Satisfactory	2 - Needs Improvement	1 - Poor
-----------------	-----------------------	------------------	-----------------------	----------

(Note: Please answer as honestly and truthfully as possible so we can provide a better service to you.)

Teacher's Name _____

I. METHODOLOGY AND TEACHING STRATEGIES				
1. Encourage maximum participation of students in all activities.				
2. Makes use of whiteboard/ audio visual materials like pictures, graphs and other instructional materials to make the lesson more interesting.				
3. Provides students of more opportunities for learning by giving assignments, research work which would be accomplished within allotted time.				
4. Encourage students to ask intelligently and relevant questions.				
5. Evaluate students performance by giving quizzes from time to time.				
6. Integrates values and other related fields into the subject matter.				
7. Answers questions intelligently and satisfactory.				
8. Delivers the lessons sequence and logical manner.				

Figure2. Faculty Evaluation Form

The Figure above shows the Trimex Colleges uses the Faculty Evaluation Form to evaluate faculty, which is separated into three sections: Methodology and Teaching Strategies, Classroom Management, and Personality and Interpersonal Skills.

Methods

Experimental Design

The proponents will use developmental research method since the study focuses on designing, developing and evaluating instructional programs, processes, and products. The researcher follows the System Development Life Cycles which has six (6) phases that play dynamic roles which define the task to be completed at each step in the software development process. In the proponent project, the proponents used the Software Development Life Cycle or SDLC.



Figure3. SDLC Model (Boyce)

Figure 3 illustrates the steps carried out in the SDLC model is a process used by the software industry to design, develop and test high-quality software. The SDLC is designed to deliver high-quality software that meets or exceeds customer expectations and is completed within the estimated time and cost. SDLC is a process that is followed by a software development organization when working on a software project. It is a detailed plan outlining the steps involved in developing, maintaining, replacing, and altering or enhancing certain software. The life cycle approach

defines a process for enhancing the software's quality and the overall development process.

Procedures for the different phases

Requirement gathering and Analysis Phase

The researcher will interview the administrator of Trimex Colleges to gather possible information depending on the needs of the users. This information will include the use of the system, who the users are, and how long the development process will take. These are general queries that will be addressed during the requirement gathering phase.

The researcher has started to define the requirements and the software and hardware technology to be used has been identified.

Table 1

Interview Questionnaire

Questions	Yes	No
a. Are you satisfied with the traditional method of Online Faculty Monitoring and Evaluation System?		
b. Is the record retrieval process convenient for you?		
c. Are you confident that all entries are accurate and free of error?		
d. Are all you open to using Online Faculty Monitoring and Evaluation System?		
e. Do you find it easy to record information through the computer?		
f. Is said information easily recoverable in situations where records would be lost? (I.e. fires, floods, etc.)		
g. Do you believe that Online Faculty Monitoring and Evaluation System would be more efficient than a paper-based system?		
h. Do you believe that Online Faculty Monitoring and Evaluation System can help improve your organization?		

The table shows the Researchers conduct both interviews and questionnaires in capstone research to gather comprehensive data from different sources and for various purposes.

Design Phase

In the second stage, when requirements are already known, design for the system is created. In this stage, the system architecture is presented. It is not a detailed design and only includes the important aspects of the system, which gives an idea of the system to the user. The design will help in developing the system faster and better. The system architecture and flow of the system will be defined in this phase. The researchers will develop the system using PHP as the programming language, MYSQL for the database.

In table 2 and table 3, are hardware and software specifications of the proposed project.

Table 2

Hardware Specification

Item Name	Description
a. Desktop Computers/Laptop	At least i3 processor
b. Memory	4GB
c. Keyboard	USB, Optical Mouse
d. Mouse	USB, Optical
e. Monitor	LED, at least 15'
f. Hard Drive	160Gb

This table demonstrates that the hardware specifications of a computer are technical descriptions of the computer's many components and capabilities.

Table 3

Software Specifications

Item Name	Description
a. Operating System	At least Windows 7 or 8
b. Web Server	Apache
c. Database Server	MySQL
d. Scripting Language	PHP
e. Browser	Chrome/Mozilla/IE/Safari

The table above demonstrates how software specifications are used to precisely outline the system's intended capabilities, appearance, and interactions with users for software developers

Design of the Study



Figure4. System Architecture

The Figure shows the Online Faculty Monitoring and Evaluation System (OFMES) has numerous components, as illustrated in the figure above. User accounts and reports will be administered and monitored by administrators such as the Administrator, who will also be in charge of monitoring student assessments of teachers.

The student module is a component of the system that allows students to rate and assess faculty members and their performance in class. The Faculty Information will display the faculty data, while the Student Information will display the student data, and the Questionnaire Information will display the set of questions that were going to be used for the evaluation of the faculty. The Student Information will display the student data, while the Faculty Information will display the faculty data.

Database Schema

Figure 5 shows the database design of the proposed system. It establishes the organizational structure of data and the relationships between them. It specifies each constraint that will be applied to the data. The schema was created by database designers to assist programmers in understanding and making use of the database.

A database schema can be divided broadly into two categories:

Physical Database Schema - This schema is concerned with data storage and the different forms it might take, such as files, indices, and so on. Data will be saved in a secondary storage place based on the settings specified in this section.

Logical Database Schema - In this design, all of the logical restrictions that must be imposed to the stored data are specified in detail. It specifies the tables and views that will be used, as well as the integrity restrictions.

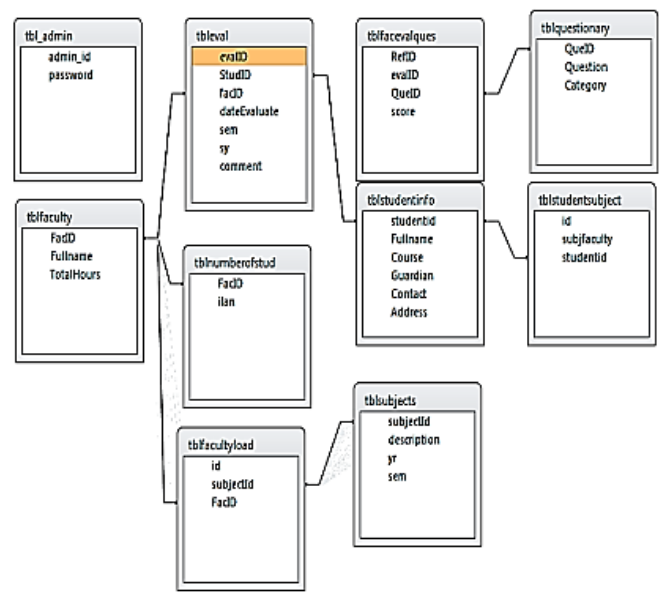


Figure5. Database Schema

It can be seen in the figure above that the database contains an entity relationship that may be established between the tables. It lets a relational database to efficiently store large amounts of data while also retrieving specific data quickly and efficiently.

Use Case Diagram

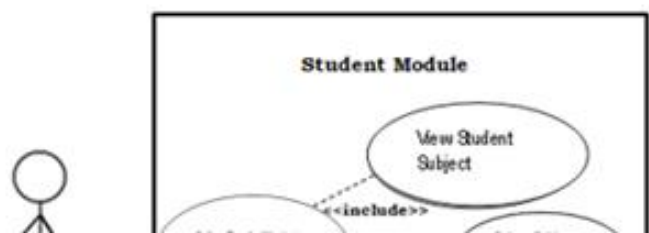


Figure6. Use Case Diagram for Student Module

The figure shows that the Student is responsible in logging in on the system, select instructor, and evaluate instructor. Students, through the evaluating their teachers, the student can provide insight about their instructors on what they are doing well and what they need

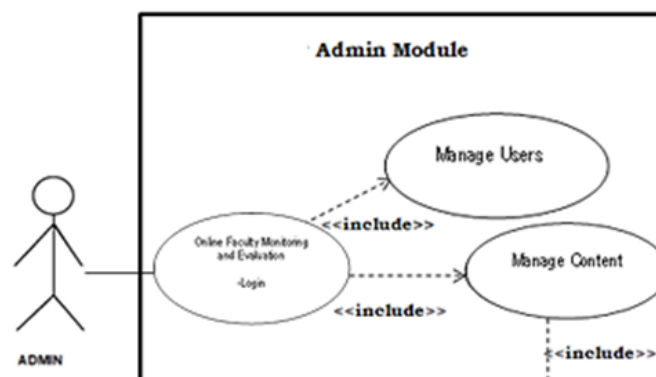


Figure7. Use Case Diagram for Admin Module

This use case diagram provides a comprehensive overview of the functionalities available in the Admin Module of the Online Faculty Monitoring and Evaluation System, including managing users, viewing reports, managing content, and viewing system logs.

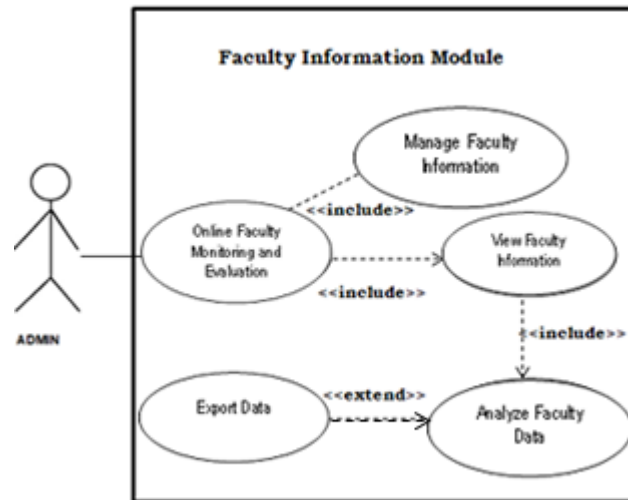


Figure8. Use Case Diagram for Faculty Information Module

This use case diagram provides a clear overview of the functionalities available in the Faculty Information System within the Online Faculty Monitoring and Evaluation System, including core features (manage and view faculty information) and optional extensions (analyze data and export data).

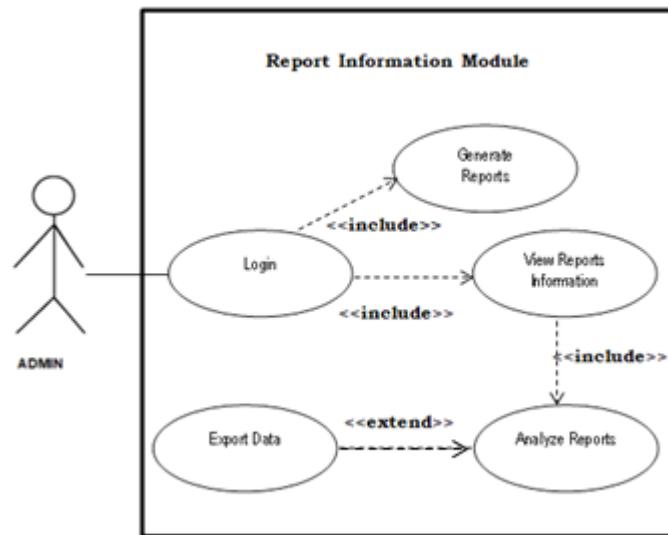


Figure9. Use Case Diagram for Report Information Module

This use case diagram provides a comprehensive overview of the functionalities available in the Report Information Module, including core features (generate and view reports) and optional extensions (analyze reports and export data).

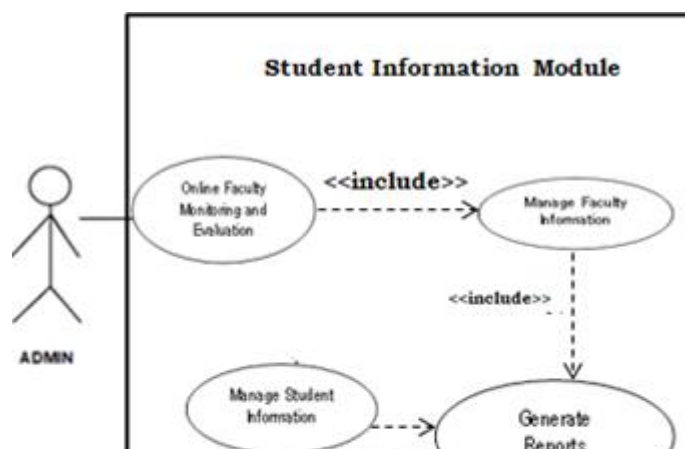


Figure10. Use Case Diagram for Student Information Module

This use case diagram provides a high-level overview of the key functionalities of an Online Faculty Monitoring and Evaluation System, including both core functionalities (such as managing faculty and student information) and optional extensions (such as generating reports).

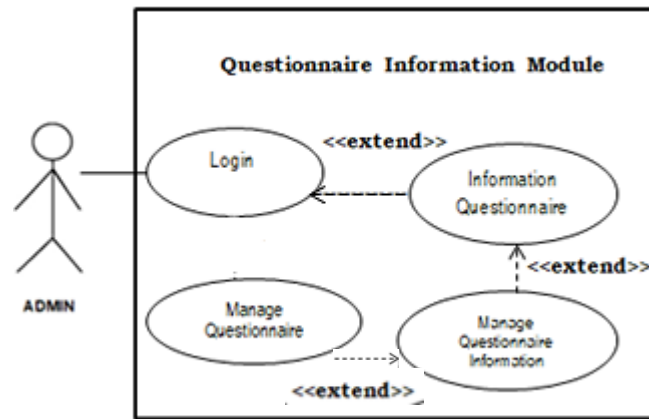


Figure11. Use Case Diagram for Questionnaire Information

This figure explains how a questionnaire administrator is in charge of the data collected through the questionnaire. An account login, questionnaire evaluation, and questioner management are all included in this module.

Coding Phase

Immediately after getting system design documentation, the real coding begins. The developer's attention is focused on this phase because the code is being written. This is the longest phase of the software development life cycle. PHP and were use in developing the software and MySQL as the medium for the database storage.

Testing Phase

During the testing process after the code has been written, it is compared against a list of requirements to make sure that the product fits those demands. Non-functional testing is also carried out at this phase, which includes unit testing, integration testing, system testing, and acceptance testing. Before software can be

used, it must go through four steps of testing: unit testing, integration testing, system testing, and acceptance are testing.

Unit Testing

Units are subjected to assessments that focus on specific software components to determine their functionality. This testing technique involves individual modules being tested by the developer to identify any flaws. It primarily concerns the standalone modules' functional soundness.

A unit in this phase might relate to a function, an individual program, or even a procedure, and White-box Testing is typically employed to accomplish the task. One of the most significant advantages of this testing phase is its ability to be executed whenever a piece of code is modified, enabling prompt bug fixes. Unit tests are commonly conducted by software developers before the software is sent to testers for formal testing.

The primary goal is to isolate each unit of the system, identify, analyze, and rectify defects. This process reduces bugs when modifying existing functionality and minimizes faults in newly developed features. It also reduces testing costs by detecting flaws early in the development cycle, and it improves code restructuring and design. When unit tests are integrated with the build, they provide valuable information about the build's quality.

Integration Testing

The purpose of integration testing is to verify the function, performance, and reliability between the modules that are integrated. Individuals can use integration testing to merge all of the modules within software and test them as a group. This is very useful because it determines how efficiently the units work together. Remember that no matter how efficiently each unit runs, if they aren't correctly integrated, the software program's functionality will suffer. Individuals can use a variety of testing methods to run these types of tests, but the precise approach that will be utilized to get the job done will be heavily influenced by how the units are specified

System Testing

The initial level of testing is system testing, which involves testing the entire program as a whole. At this level, the purpose is to determine whether the system has met all the requirements and whether it meets quality standards. System Testing (ST) is a black-box testing approach used to assess the overall system's compliance with defined requirements. The functionalities of the system are tested from beginning to end in system testing. System testing is typically performed by an independent team, separate from the development team, in order to evaluate the system's quality impartially. It encompasses testing for both functional and non-functional aspects.

Acceptance Testing

Acceptance testing, the final level, is a testing process used to verify whether or not the software system has satisfied the needed standards. The major goal of this test is to assess the system's compliance with business requirements and to confirm that it meets the criteria for delivery to end users. During the Software development life cycle, requirement modifications can be misconstrued in ways that do not fulfill the users' intended needs. During this final phase, the user will test the system to see whether the application meets the needs of their business. After this process is done and the software has been approved, the program will be delivered to production.

Coding Phase

Immediately after getting system design documentation, the real coding begins. The developer's attention is focused on this phase because the code is being written. This is the longest phase of the software development life cycle. PHP and were use in developing the software and MySQL as the medium for the database storage.

Testing Phase

During the testing process after the code has been written, it is compared against a list of requirements to make sure that the product fits those demands. Non-functional testing is also carried out at this phase, which includes unit testing, integration testing, system testing, and acceptance testing. Before software can be used, it must go through four steps of testing: unit testing, integration testing, system testing, and acceptance are testing.

Unit Testing

Units are subjected to assessments that focus on specific software components to determine their functionality. This testing technique involves individual modules being tested by the developer to identify any flaws. It primarily concerns the standalone modules' functional soundness.

A unit in this phase might relate to a function, an individual program, or even a procedure, and White-box Testing is typically employed to accomplish the task. One of the most significant advantages of this testing phase is its ability to be executed whenever a piece of code is modified, enabling prompt bug fixes. Unit tests are commonly conducted by software developers before the software is sent to testers for formal testing.

The primary goal is to isolate each unit of the system, identify, analyze, and rectify defects. This process reduces bugs when modifying existing functionality and minimizes faults in newly developed features. It also reduces testing costs by detecting flaws early in the development cycle, and it improves code restructuring and design. When unit tests are integrated with the build, they provide valuable information about the build's quality.

Software Test Plan Flow

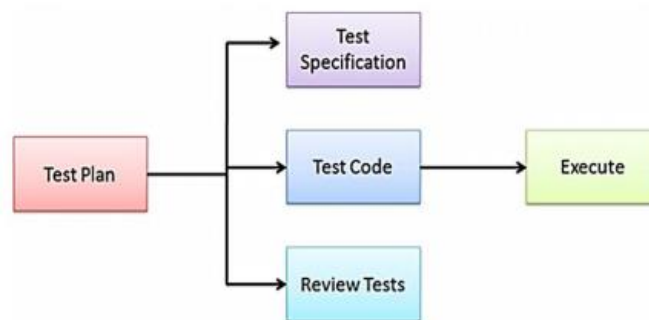


Figure12. Software Test Plan

The figure shows the programmers should test each module to ensure it performs as intended. Integration testing tests the interfaces between modules, while system integration testing is performed when the system needs to interface with other or third-party systems. These tests are conducted against the system requirements specification for interfaces to other systems. Acceptance testing is performed by the customer or end user to determine whether the software is acceptable. In the test code, you will be able to identify which module needs to be fixed or revised after execution and review the test results.

Table 4

Test Matrix for Online Faculty Monitoring and Evaluation System

Modules	Sub Modules	Test Type
Student Admin .		Unit Testing
	Faculty Information	Unit Testing
	Report Information	Unit Testing
	Student Information	Unit Testing
	Questionnaire Information	Unit Testing

The table shows the Test Matrix suggests that for each module and sub-module of the "Online Faculty Monitoring and Evaluation System," unit testing will be conducted. This ensures that each component is working properly on its own before testing how they interact with each other.

It's worth noting that while the Test Matrix specifies the type of testing for each module and sub-module, it doesn't provide specific test cases, steps, or expected results. Detailed test cases would typically be developed for each unit test to thoroughly verify its functionality.

The table below is the test plan for each module:

Table 5

Test Matrix for Student Module

Test ID	1	
Test Name	Student Module	
Description	Test the functionality of the student-related features in the Online Faculty Monitoring and Evaluation System.	
Pre-requisite	Student records must be available in the system.	
Test Environment	Testing Server	
Test Strategy	Unit Testing	

Step	Description	Expected Results
1	Student Registration	- Component passes unit and integration testing. - Student can successfully register for courses.
2	View Student Information	- Component passes unit and integration testing. - Users can view student information accurately.
3	Update Student Information	- Component passes unit and integration testing. - Users can update student information accurately.
4	Delete Student Information	- Component passes unit and integration testing. - Users can delete student information accurately.

The table above shows the outlines a comprehensive set of test cases for the Student Module, focusing on its various functionalities. By following these test cases and ensuring that the expected results match the actual outcomes, the reliability and performance of the Student Module can be evaluated. This helps ensure that it functions correctly and meets the desired standards.

Table 6

Test Matrix for Admin Module

Test ID	2
Test Name	Admin Module
Description	Test the functionality of the admin-related features in the Online Faculty Monitoring and Evaluation System.
Pre-requisite	Admin accounts must be set up in the system.
Test Environment	Testing Server
Test Strategy	Unit Testing

Step	Description	Expected Results
1	Log in to the admin panel.	The system successfully registers a new student.
2	Add a new admin user.	The system displays the student's information accurately.
3	Update an existing admin user's information.	The system successfully updates the student's information.
4	Delete an admin user.	The system successfully deletes the student's information.

As in the table the steps outline the specific actions to be taken during the test and the expected results for each step. The purpose is to confirm that the Admin Module of the application performs as intended, including basic operations such as displaying webpages correctly, managing student accounts, and handling student records.

Table 7

Test Matrix for Student Information Module

Test ID	4	
Test Name	Student Information Module	
Description	Ensure that components pass unit and integration testing, and perform basic operations as expected.	
Pre-requisite	None	
Test Environment	Server Testing	
Test Strategy	Unit Testing	
Step	Description	Expected Results
1	Perform a student registration.	The system successfully registers a new student.
2	View student information.	The system displays the student's information accurately.
3	Update student information.	The system successfully updates the student's information.
4	Delete student information.	The system successfully deletes the student's information.

This table shows several test cases for the Student Information Module in an Online Faculty Monitoring and Evaluation System.

Table 8

Test Matrix for Report Information Module

Test ID	5
Test Name	Report Information Module
Description	Test the functionality of generating reports in the Online Faculty Monitoring and Evaluation System.
Pre-requisite	Data must be available in the system for generating reports.
Test Environment	Testing Server
Test Strategy	Unit Testing

Step	Description	Expected Results
1	Select the criteria for generating the report (e.g., date range, faculty, and department).	The system displays the available options for report generation.
2	Generate the report based on the selected criteria.	The system successfully generates a report based on the selected criteria.
3	View the generated report.	The system displays the generated report accurately, showing relevant faculty monitoring and evaluation data.
4	Export the report to a file format (e.g., PDF, CSV).	The system successfully exports the report to the selected file format.

The table shows, this test plan ensures that the Report Generation feature functions correctly and provides accurate and relevant data for faculty monitoring and evaluation purposes.

Table 9

Test Matrix for Questionnaire Information Module

Test ID	6
Test Name	Questionnaire Information Module
Description	Test the functionality of the questionnaire module in the Online Faculty Monitoring and Evaluation System.
Pre-requisite	Questionnaire templates must be set up in the system.
Test Environment	Testing Server
Test Strategy	Unit Testing

Step	Description	Expected Results
1	Create a new questionnaire template.	The system allows the user to create a new questionnaire template with specified questions and criteria.
2	Edit an existing questionnaire template.	The system allows the user to edit an existing questionnaire template, updating questions and criteria.
3	Delete a questionnaire template.	The system allows the user to delete a questionnaire template, removing it from the system.
4	View a list of available questionnaire templates.	The system displays a list of available questionnaire templates, showing their names and descriptions.

The table shows the test plan focuses on testing the functionality of the Questionnaire Information Module, which is used to manage questionnaire templates in the system. The test involves creating, editing, deleting, and viewing questionnaire templates, with the expected results being that the system allows these actions to be performed successfully.

Operating Procedures

The Operating Procedure is a step-by-step system instruction gathered to carry out the System's operation. SOPs strive for efficiency, quality output, and consistency of performance while reducing miscommunication and noncompliance with industry laws. Below are the different operating procedures of each Module that indicate system and work instructions

Table 10

Operating Procedure for Student Module

MODULE: STUDENT	
Process	Work Instructions
<pre>graph TD; Start([Start]) --> Login[Login]; Login --> Valid{Login Valid}; Valid -- N --> Login; Valid -- Y --> Select[Select Instructor]; Select --> Evaluate[Evaluate Instructor]; Evaluate --> Comments[Comments and Suggestions]; Comments --> End([End]);</pre>	<p>The student can gain access by logging into the system.</p> <p>A student chooses the course and the faculty to review it, and then provides comments and suggestions to the course faculty.</p> <p>After completing the assessment, the student saves the answers and logs out of the system.</p>

This table provides a clear sequence of steps and actions that a student should follow when using the Student module. It outlines the typical workflow for students using this part of the system, from logging in to providing feedback, conducting assessments, and finally logging out. It helps ensure that students are using the module correctly and efficiently.

Table 11
Operating Procedure for Admin Module

MODULE: ADMIN	
Process	Work Instructions
<pre>graph TD; Start([Start]) --> Login[Login]; Login --> Valid{Login Valid?}; Valid -- N --> Login; Valid -- Y --> ManageFaculty[Manage Faculty]; ManageFaculty --> ManageReports[Manage Reports]; ManageReports --> ManageStudents[Manage Students]; ManageStudents --> ManageQuestions[Manage Questions]; ManageQuestions --> End([End]);</pre>	<p>Log in the Admin page account.</p> <p>The admin page displays Manage Faculty. Managing Reports all the faculty members/instructor.</p> <p>The subject instructors the student evaluated.</p> <p>Administrators are in charge of student data, faculty, and questionnaires.</p>

This table provides a clear sequence of steps and actions that administrators should follow when using the Admin module. It outlines the typical workflow for administrators using this part of the system, from logging in to managing faculty and reports, overseeing student evaluations, and handling essential system data. These instructions help ensure that administrators are using the module correctly and efficiently to fulfill their administrative tasks and responsibilities within the system.

Table 12
Operating Procedure for Faculty Information

MODULE: FACULTY INFORMATION	
Process	Work Instructions
<pre>graph TD; Start([Start]) --> Login[Login]; Login --> LoginValid{Login Valid}; LoginValid -- N --> Login; LoginValid -- Y --> Faculty[Faculty]; Faculty --> FacultyInfo[Faculty Info]; FacultyInfo --> End([End]);</pre>	Faculty information page displays all the faculty information.

This table doesn't involve multiple steps or complex operations; it simply states the main purpose of the "Faculty Information" page, which is to show information about the faculty members. This information could include names, contact details, academic credentials, and any other relevant details about the faculty. This table serves as a quick reference for users, letting them know what to expect when they access the Faculty Information page.

Table 13
Operating Procedure for Report Information

MODULE: REPORT INFORMATION	
Process	Work Instructions
<pre>graph TD; Start([Start]) --> Login[Login]; Login --> Valid{Login Valid?}; Valid -- N --> Login; Valid -- Y --> Report[Report]; Report --> Eval[Generate Faculty Evaluation]; Eval --> End([End]);</pre>	Report Information presents the process of gathering, generating, and submitting data to institutions concerned with producing reports.

This table outlines a sequence of actions related to report management, emphasizing the process of gathering, generating, and submitting data to the relevant institutions. It suggests that the software or system includes functionality for creating and distributing reports as part of its features.

Table 14
Operating Procedure for Student Information Module

MODULE: STUDENT Information	
Process	Work Instructions
<pre>graph TD; Start([Start]) --> Login[Login]; Login --> LoginValid{Login Valid}; LoginValid -- N --> Login; LoginValid -- Y --> Student[Student]; Student --> StudentInfo[Student Info]; StudentInfo --> End([End]);</pre>	The Student Information had a Login account and displays Student Information's.

This table outlines a straightforward procedure for users to access the Student Information module. After logging in, the module provides access to student-related information, making it available for review or management by authorized users. This is a basic workflow for accessing and viewing student data within the system.

Table 15
Operating Procedure for Questionnaire Information Module

MODULE: QUESTIONNAIRE Information	
Process	Work Instructions
<pre> graph TD Start([Start]) --> Login[Login] Login --> LoginValid{Login Valid} LoginValid -- N --> Login LoginValid -- Y --> Questionnaire[Questionnaire] Questionnaire --> ManageQuestionnaire[Manage Questionnaire] ManageQuestionnaire --> End([End]) </pre>	<p>Questionnaire Information has a Login account and displays all questions to the evaluators to gather and rate the subject instructors.</p>

This table outlines a procedure for accessing and utilizing the Questionnaire Information module. Users (evaluators) log in and are presented with a set of questions. These questions are designed to collect feedback and ratings for subject instructors. It's a structured process for gathering and assessing data related to instructor performance through questionnaires within the system.

Deployment Phase

After the successful testing, the system is delivered/deployed to the customer for their use. The Deployment Phase is the final phase of the software development life cycle (SDLC) and puts the system into production. After the project team tests, the product and the system pass each testing phase, the product is ready to go live. This means that the system is ready to be used in a real environment by all end users of the product.

Maintenance Phase

In this stage of maintenance, a corrective maintenance will be applied. Once when the customers start using the developed system, then the actual problems come up and needs to be solved from time to time. This process where the care is taken for the improved system is known as maintenance.

Evaluation

Evaluation is a process of judging how well the system's original intended goals have been achieved. After the testing strategies have been conducted, the proponent will create an evaluation questionnaire to assess the software further. The formulation of questionnaires will be based on the ISO 9126, which is the software product evaluation standard from the International Organization for Standardization.

This international standard defines five characteristics that describe software quality namely:

Functionality- Is performed to verify that a software application performs and functions correctly according to design specifications. The software features will be checked if they are all working correctly.

Reliability- The software's fault tolerance and recoverability are high; it will not crash.

Usability- The application can easily be understood and navigated by the end-users. The design and images to be used are easy to recognize.

Efficiency- The system responds precisely and efficiently to the commands. It uses resources such as memory, the CPU, and the network.

Maintainability- The software is easy to maintain, and it is stable. **Portability-** The software can be used and run in different web browsers' versions and screen resolutions. It does not require vital programs that are hard to install.

These characteristics were rated by the respondents using the 5-point Likert scale as shown in Table 16.

Table 16

Likert scale

Scale	Range	Interpretation
5	4.6-5.0	Strongly Agree
4	3.7-4.5	Agree
3	2.8-3.6	Neither agree nor disagree
2	1.9-2.7	Disagree
1	1.0-1.8	Strongly Disagree

The table shows the likert scale for this study, which include frequency and percentage distributions for data presentation, and weighted mean to determine the results of the software evaluation. Below are the evaluation criteria used by the proponent.

Table 17***Software Evaluation Criteria***

Name: _____ Signature: _____

Position: _____

Direction: Check the box that corresponds to your answer. Use the legend as your guide.

LEGEND: 5-Strongly Agree 4-Agree 3-Neutral
 2-Disagree 1-Strongly Disagree

Criteria	Indicators	Ratings				
		5	4	3	2	1
Functionality	The system has a working system security such as login.					
	The student can evaluate the instructor performance.					
	The system displays the students' and faculty information.					
	The system has the capacity for multi-user processing.					
	The system can generate faculty evaluation reports.					
	The system can print reports of the evaluation.					
Reliability	The system can generate a report for faculty evaluation.					
	The system produces correct data through students and admin accounts.					
	The system can display student and faculty information.					
Usability	Can be understood, learned, used and appear attractive to the user.					
	Provides on-screen prompts and messages that are clear and helpful to the end users.					
	It is user-friendly.					
	It is of great help to the end users in replacement to the manual system.					
Efficiency	The software respond time is appropriate.					
	The software execution time is appropriate.					
	The resources used are appropriate.					
	End users respond accurately and actively to the commands.					

Table shows the criteria and indicators provide a structured framework for assessing the software's functionality, reliability, usability, and efficiency. The ratings assigned to each criterion help in quantifying and comparing the software's performance in each of these areas.

Example of References:

REFERENCES

A. BOOKS

Smith, J. (2021). Enhancing Education: Online Faculty Monitoring and Evaluation Systems. Academic Publishing.

B. JOURNALS/PERIODICALS

Smith, A. B., et al. (2019). Enhancing Faculty Performance through Online Evaluation Systems. International Journal of Educational Technology, 44(3), 287-301.

C. THESES/DISSERTATIONS

Smith, J. (2021). Development and Implementation of an Online Faculty Monitoring and Evaluation System (Unpublished doctoral dissertation). ABC University.

D. ONLINE SOURCES

Smith, J. (2020). Enhancing Education: An Online Faculty Monitoring and Evaluation System. EducationalTechnology.com.<https://faculty-monitoring-evaluation.com>.

APPENDICES

Appendix A - Adviser's Acceptance Form



September 4, 2023

Dear Sir,

Greetings!

The undersigned group is presently enrolled in Capstone Project and

Appendix B - Endorsement Letter



Trojan Bldg. Poblacion, City of Binan, Laguna

February 20, 2023

Mr. Tornelyo De Roscas
Academic Dean
West Negros

Appendix C - Recommendation for Oral Examination

CERTIFICATION

This Capstone Project and Research 2 entitled **ONLINE FACULTY MONITORING AND EVALUATION SYSTEM** prepared and submitted by **CAWAN, NINA, DELA CRUZ, JUAN, and DE ROSCAS, TORNILYO** in partial fulfillment of the requirements for the degree of Bachelor of Science in Information Technology has been examined and recommended for **ORAL EXAMINATION**.

Appendix D - Interview Questionnaire

Questions	Yes	No
a. Are you satisfied with the traditional method of Online Faculty Monitoring and Evaluation System?		
b. Is the record retrieval process convenient for you?		
c. Are you confident that all entries are accurate and free of error?		


Appendix E - Consultation Form



ADVISER'S CONSULTATION ACTIVITIES

Date	Activity	Remarks
January 1, 2023	Chapter 1 <ul style="list-style-type: none"> Objective of the study 	Complete

CONFORME:


Louie Agustin, PhD IT
Capstone Project Adviser

Appendix F- Revision Form



DOCUMENT REVISION FORM

No.	Category	Description of Revisions	Status
1	Document	CERTIFICATION (changing of page number, editing panel name) - sir comieles	Completed
2	Document	ABSTRACT (changing of page number, adding keywords) - sir comieles	Completed
3	Document	DEDICATION (changing of page number) - sir	Completed

Appendix G - Certification of Digital Language Editor

Appendix H - Certification of Plagiarism Check

Appendix I-Format of Capstone/Thesis Spine

Appendix K- Curriculum Vitae

DELA CRUZ, JUAN



About me

Seeking a dynamic and collaborative work environment where I can apply my skills and contribute to the success of the team.

Personal

Gender: Female

