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**DOCUMENTED INFORMATION MANAGEMENT
MODULE FOR PUP QUALITY
MANAGEMENT SYSTEM
PORTAL**

A Capstone Project

Presented to the Faculty of the College of Computer and Information Sciences
Polytechnic University of the Philippines
Sta. Mesa, Manila

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

by

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June 2024

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APPROVAL SHEET

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ACKNOWLEDGMENTS

The successful completion of this research work owes its appreciation to the invaluable contributions and support from various individuals and organizations.

Foremost, the researchers extend their gratitude to Ms. Maria Esperanza Reyes, whose guidance, expertise, and unwavering support significantly contributed to the success of this study. Their insights and mentorship were instrumental in shaping the research methodology and interpreting the findings.

Special thanks are also given to the university officials and designees from PUP who actively participated in the various stages of data collection, analysis, and interpretation. Their dedication and collaborative efforts enriched the research process.

The researchers would also like to acknowledge the Institutional Quality Management System Office (IQMSO) for providing access to essential resources, facilities, and granting the necessary permissions for the research. Their institutional support was instrumental in navigating the complexities of the study.

Lastly, the researchers would like to extend their sincere appreciation to the esteemed panelists, Mr. John Dustin Santos and Ms. Marian Arada, for their expert guidance and valuable feedback during the course of this study.

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CERTIFICATION OF ORIGINALITY

This is to certify that the research work presented in this capstone project, *DOCUMENTED INFORMATION MANAGEMENT MODULE FOR PUP QUALITY MANAGEMENT SYSTEM*, for the degree Bachelor of Science in Information Technology at the Polytechnic University of the Philippines embodies the result of original and scholarly work carried out by the undersigned. This capstone project does not contain words or ideas taken from published sources or written works that have been accepted as basis for the award of the degree from any other higher education institution, except where proper referencing and acknowledgement of work were made.

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ABSTRACT

Title : Documented Information Management Module for PUP Quality Management System Portal

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Degree : Bachelor of Science in Information Technology

Institution : Polytechnic University of the Philippines - Sta. Mesa

Year : 2024

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This study presents the development, implementation, and evaluation of the Documented Information Management System (DIMS) within the Polytechnic University of the Philippines' Quality Management System. Recognizing the challenges posed by traditional document management, the DIMS aimed to enhance ISO-standard document practices, focusing on enrollment, review, approval, and distribution processes. The study used a mixed-methods approach, combining survey questionnaires based on ISO 25010 criteria with usability testing. The results indicate strong user agreement (mean scores ranging from 3.68 to 3.76 on a Likert scale) across functional suitability, performance efficiency, usability, reliability, and security aspects. The respondents affirm that the DIMS effectively addresses inadequacies in managing documented information, aligns with performance specifications, and offers a user-friendly platform. The DIMS demonstrated its capability to systematize processes, reduce delays, and fortify security measures within

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the Quality Management System. Implications of this study suggest the capability of the DIMS to enhance collaboration, compliance, and information security. Recommendations include establishing continuous improvement measures, comprehensive user training programs, implementing document templates and standardization, advanced analytics, and optimization on user experience and interface. The study also highlights the role of Document Management Systems in meeting evolving user needs, technological advancements, and ISO standards. This research contributes to the discourse on document management systems in academic institutions, providing insights into system development, evaluation, and user recommendations, with broader implications for information management in educational settings.

Keywords: Documented Information, ISO 25010, Document Enrollment, Document Approval, Quality Management System

CAPSTONE PROJECT



TABLE OF CONTENTS

	Page
Title Page	i
Approval Sheet	ii
Acknowledgement	iii
Certification of Originality	iv
Abstract	v
Table of Contents	vii
List of Tables	x
List of Figures	xii
1 The Problem and its Setting	
Project Context	1
Technical Background	3
Equipment/Hardware	3
Software	3
Peopleware/Manpower	4
Network Infrastructure/Architecture	5
Security Procedures	6
Policies and Procedures	6
Data and Process	7
Problem Analysis	9
Fishbone Diagram	9
Problem Requirements Matrix	10
Statement of the Problem	10
Purpose and Description	11
Specific Objectives	12
Scope and Limitations	13
Significance of the Study	13
Definition of Terms	15



2 Review of Related Literature/Systems

Related Literature	18
Related Studies and Systems	25
Synthesis of the Related Studies	27

3 Methodology

Requirements Analysis	29
Requirements	29
Requirements – Features Matrix	31
Use Case Diagram	33
Use Case Report	34
Design Specifications	45
Activity Diagram	45
Class Diagram	48
GUI Design	49
Database Schema	54
Data Dictionary	55
Development Methodology	69
Process Model	70
Development Tools	71
Test Methodology/Procedures	71
Unit Testing	71
Integration Testing	72
System Testing	73
Acceptance Testing	73
Performance Testing	74
Security Testing	75
Usability Testing	76
Compatibility Testing	76
System Requirements	77
Hardware Requirements	77
Software Requirements	78
Quality Plan	78



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Evaluation Plan	84
Ethical Considerations	85
Data Analysis (Procedure and Treatment)	86
Statistical Treatment	86
Research Instrument	89
4 Results and Discussion	90
Representation of Sectors and Number of Respondents	91
Functional Suitability Results	93
Performance Efficiency Results	96
Usability Results	99
Reliability Results	103
Security Results	106
5 Summary of Findings, Conclusions and Recommendations	109
Summary of Findings	109
Conclusions	112
Recommendations	113
References	115
Appendices	125
Appendix 1: Data Gathering Instruments	125
Appendix 2: Client Forms and Reports	151
Appendix 3: Evaluation Tool, Test Documents and Test Results	152
Appendix 4: User's Manual	161
Appendix 5: Sample Generated Outputs	202
Appendix 6: Certification of Originality Check/Turnitin Result	203
Appendix 7: Certification of Editing	204
Appendix 8: Implementation Report	205
Appendix 9 Capstone Project Revision Matrices	207
Appendix 10: Ethics Clearance and Terminal Report	213
Appendix 11: Biographical Statements	215

CAPSTONE PROJECT



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

LIST OF TABLES

Number	Title	Page
1	Hardware Specifications	3
2	Software Specifications	3
3	Peopleware/Manpower	4
4	Problem – Requirements Matrix	10
5	Functional Requirements	31
6	Non-Functional Requirements	32
7	Use Case Report of Login	34
8	Use Case Report of Enroll Document	35
9.	Use Case Report of Access the Documented Information List	36
10	Use Case Report of View Documents Received	37
11	Use Case Report of View Document Tracking	38
12	Use Case Report of View Document History	39
13	Use Case Report of View Sector Head Pending Documents	40
14	Use Case Report of View QMS Pending Documents	41
15	Use Case Report of View University Head Pending Documents	42
16	Use Case Report of Register User	43
17	Use Case Report of Manage Roles	44
18	Database Table of Archives	55
19	Database Table of AspNetRoles	56
20	Database Table of AspNetUserRoles	57
21	Database Table of AspNetUsers	58
22	Database Table of AuditLogs	60
23	Database Table of DocumentRevisions	61
24	Database Table of Documents	62
25	Database Table of Notifications	65

CAPSTONE PROJECT



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

26	Database Table of Requested Documents	66
27	Database Table of Requests	67
28	Database Table of Tokens	68
29	Hardware Requirements	77
30	Software Requirements	78
31	ISO 9126 Criteria Result: Description on the Functionality	79
32	ISO 9126 Criteria Result: Description on the Reliability	80
33	ISO 9126 Criteria Result: Description on the Efficiency	81
34	ISO 9126 Criteria Result: Description on the Usability	82
35	ISO 9126 Criteria Result: Description on the Security	83
36	Likert Scale	88
37	Representation of Sectors and Respondents	91
38	Functional Suitability Results	93
39	Performance Efficiency Results	96
40	Usability Results	99
41	Reliability Results	103
42	Security Results	106
43	Test Case 1 - Login	152
44	Test Case 2 - Enroll Document	153
45	Test Case 3 - Documented Information List	154
46	Test Case 4 - Document Tracking Page	155
47	Test Case 5 - Archived Documents	156
48	Test Case 6 - Sector Head Pending Documents	157
49	Test Case 7 - QMS Document Controller	159
50	Test Case 8 - Quality Management Representative	160

CAPSTONE PROJECT



LIST OF FIGURES

Number	Title	Page
1	Network Infrastructure of PUP	5
2	Input-Process-Output Diagram for DIMS	7
3	Document Control Cycle	8
4	Fishbone Diagram	9
5	Use Case Diagram	33
6	Activity Diagram of Document Management and Approval	45
6.1	Activity Diagram of Monitoring Documents and Performance	46
6.2	Activity Diagram of Registration	47
7	Class Diagram	48
8	Interface of Enrollment of Documents	49
9	Interface of Documented Information	49
10	Interface of Documents Received	50
11	Interface of Document Tracking	50
12	Interface of Archived Documents	51
13	Interface of Sector Pending Documents	51
14	Interface of QMS Document Controller Pending Documents	52
15	Interface of Document Request	52
16	Interface of University Head/QMR Pending Request	53
17	Entity Relationship Diagram	54
18	Process Model	70
19	Sample Online Appointment and Evaluation for System Presentation	125
20	System Video Demonstration	126
21	MS Forms Questionnaire	127
22	MS Forms Questionnaire	128
23	MS Forms Questionnaire	129

CAPSTONE PROJECT



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

24	MS Forms Questionnaire	130
25	MS Forms Questionnaire	131
26	MS Forms Questionnaire	132
27	MS Forms Questionnaire	133
28	MS Forms Questionnaire	134
29	System Demonstration and Evaluation	135
30	System Demonstration and Evaluation	136
31	System Demonstration and Evaluation	137
32	System Demonstration and Evaluation	138
33	System Demonstration and Evaluation	139
34	System Demonstration and Evaluation	140
35	System Demonstration and Evaluation	141
36	System Demonstration and Evaluation	142
37	System Demonstration and Evaluation	143
38	System Demonstration and Evaluation	144
39	System Demonstration and Evaluation	145
40	System Demonstration and Evaluation	146
41	System Demonstration and Evaluation	147
42	System Demonstration and Evaluation	148
43	System Demonstration and Evaluation	149
44	System Demonstration and Evaluation	150
45	Document Change Request Form	151
46	Generated Report (PDF)	202
47	Generated Report (XLSX)	202
48	Turnitin Similarity Report	203
49	Certificate of Language Editing	204
50	Sample Accomplishment Report	205

CAPSTONE PROJECT



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

51	Continuation of Sample Accomplishment Report	206
52	Page 1 of Proposal Defense Revision Matrix	207
53	Page 2 of Proposal Defense Revision Matrix	208
54	Page 3 of Proposal Defense Revision Matrix	208
55	Page 1 of Tool Defense Revision Matrix	209
56	Page 2 of Tool Defense Revision Matrix	210
57	Page 1 of Final Defense Revision Matrix	211
58	Page 2 of Final Defense Revision Matrix	212
59	Approved Ethical Clearance	213
60	Terminal Report	214

CAPSTONE PROJECT



Chapter 1

THE PROJECT CONTEXT

This chapter presents a general overview of the study, providing essential context regarding the identified problem, the purpose, and the objectives of the research.

1.1. Project Context

Project Definition

The "Documented Information Management Module for PUP Quality Management System Portal" is a study that was conducted to effectively manage the documented information required by the ISO 9001:2015 and ISO 10013:2021 standards determined by the Polytechnic University of the Philippines (PUP) for its Quality Management System (QMS). This module focuses on the enrollment, revision, and managing documented information that are essential to the university's quality assurance processes. By providing an intuitive user interface, utilizing version control mechanisms and role-based access controls, the module aimed to streamline document handling, improve collaboration, ensure compliance with quality standards, and contribute to PUP's ongoing pursuit of excellence in its academic and administrative operations.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Project Overview

This capstone project aimed to improve the management of documented information within PUP's Quality Management System. It involved the development and implementation of a comprehensive module that facilitates the enrollment, revision control, access, retention, and secure deletion of documented information. The project focuses on ensuring the accuracy and security of information, establishing an effective review process for document changes, withdrawing obsolete documents, and providing protection against unauthorized access. By implementing this module, the researchers aimed to enhance document management processes, enhance compliance with ISO 9001 standards, and improve the accessibility and security of information within the PUP's QMS.

Project Assumption

The successful implementation of this capstone project assumes that there is strong support and commitment from PUP's management and stakeholders. This includes the allocation of necessary resources, such as funding and personnel, and conducting effective training programs to ensure user adoption.

Additionally, it is assumed that accurate and comprehensive information regarding PUP's existing documented information within the QMS was readily available to the project team. Clear communication channels and collaboration



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

between the project team and relevant departments were also essential to obtain and validate the required information for the module's development and implementation.

1.2. Technical Background

1.2.1 Equipment/Hardware

Table 1

Hardware Specifications

Workstation	
Category	Specifications
Processor	Intel Core i5-1135G7
Storage & Memory	1 TB SATA HDD 256 GB NVMe SSD 16 GB DDR4 SDRAM

1.2.2. Software

Table 2

Software Specifications

Software	
Category	Specifications
Operating System	Windows 10 Professional
Productivity Tools and Applications	- Microsoft Teams - Microsoft One Drive
Web Browser	- Google Chrome - Microsoft Edge



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

1.2.3. Peopleware/Manpower

Table 3

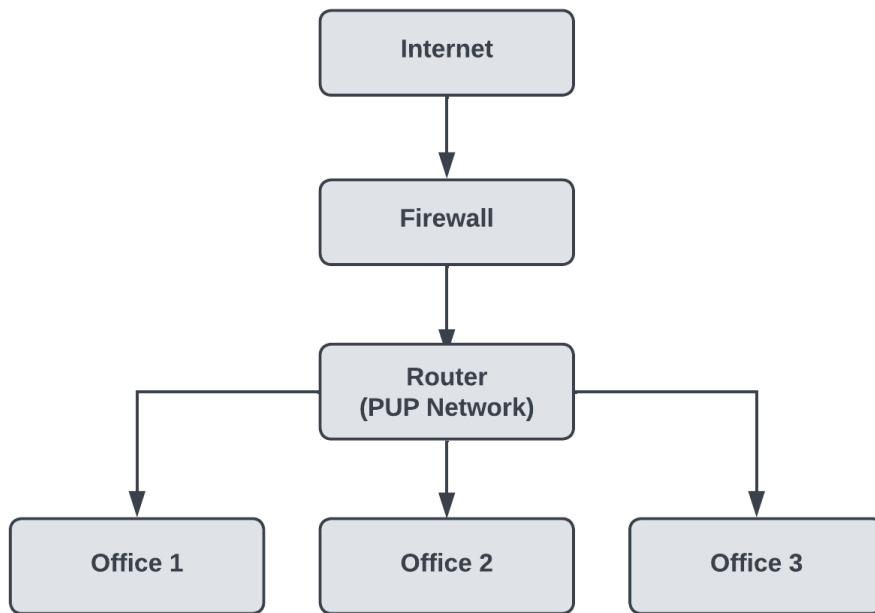
Peopleware/Manpower

Position	Responsibility
Quality Management Representative	Key responsibilities include reporting QMS performance to top management, educating stakeholders about QMS policies and objectives, addressing customer needs, and managing external communications. The QMR also leads the management review process.
Executive Vice President	Being next in line to the Head of the Agency and as member of the Executive Committee/Top Management, the Executive Vice President reviews the Quality Manual prepared by the QMR.
Sector Head	The Sector Head reviews the documented information initiated by their respective unit heads for approval of the QMR.
Institutional Quality Management System Office	Led by a Director, the IQMSO oversees the University's Quality Management System (QMS). Their key responsibilities include maintaining ISO: 9001 certifications, developing and implementing QMS programs, organizing management reviews, etc.
Documentation and Control Committee	Manages document and record control within the PUP QMS. This involves creating control procedures, maintaining master documents, ensuring easy access, efficient records management, secure file disposal, preventing unauthorized use, ensuring traceability, and averting unintentional alterations.

POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

1.2.4. Network Infrastructure

Figure 1. Network Infrastructure of PUP



1.2.5. Storage, Backup and Recovery Procedure

The PUP IQMSO currently maintains information availability and integrity with a somewhat traditional storage, backup, and recovery procedure. This includes cloud storage but lacks the efficiency of automated backups and off-site redundancy for digital documents. Periodic printing of hard copies is stored securely on-site but can be time-consuming. In the event of data loss or system failure, the current recovery procedure involves retrieving digital documents from



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

backups and using printed copies for recreation if necessary, a process that can be further enhanced for efficiency.

1.2.6. Security Procedures

Within the current PUP IQMS office, security procedures rely on the utilization of PUP webmail, where each individual is allocated a single webmail account. This setup facilitates straightforward user-specific access management, with each person possessing a dedicated webmail account for communication and data exchange. To meet the specific needs of the process owner, whose documented information/manual is intended exclusively for their use, a one-to-one correspondence is maintained (e.g., one document for one process owner) with transmission and storage occurring via webmail. While this procedure assures a certain level of access control, there is room for enhancing data confidentiality and integrity comprehensively.

1.2.7. Policies and Procedures

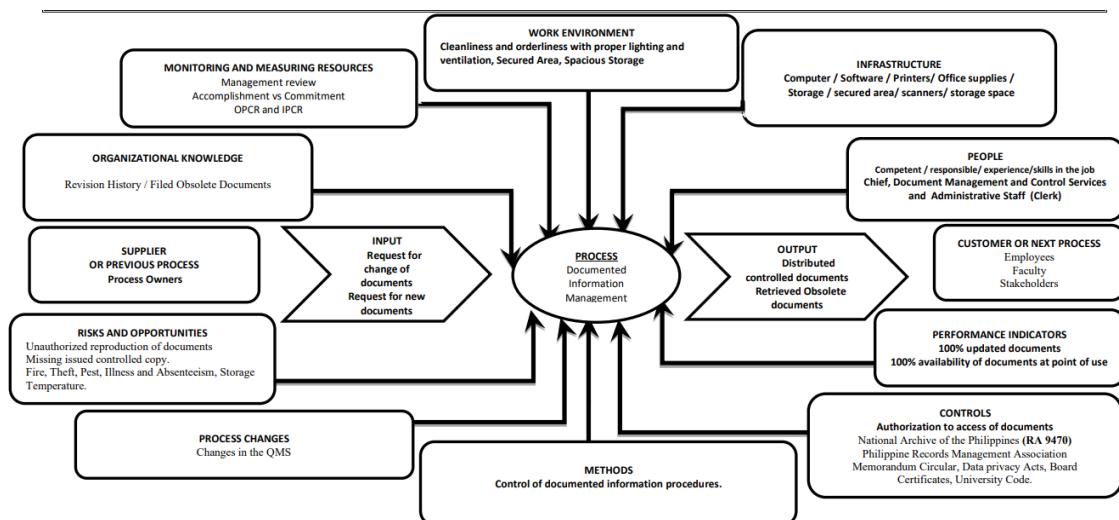
The existing policies and procedures within the PUP IQMS revolve around a Document Control Cycle. This cycle spans several phases, starting with document creation, followed by reviews and approvals, and then progressing to distribution, implementation, and ongoing monitoring. When needed, documents undergo thorough revisions, and outdated ones are archived or appropriately discarded. Strict access controls and continuous personnel training guarantee

POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

rigorous adherence to these protocols. Regular audits are also carried out to evaluate the efficiency of these processes, thereby contributing to the methodical and secure administration of vital documents related to information quality management and security.

1.2.8. Data and Process

Figure 2. Input-Process-Output Diagram for DIMS



The data and process currently implemented within the PUP IQMSO focuses on managing requests for changes or new documents as inputs. Within the process, Documented Information Management encompasses handling, storage, access control, retrieval, modification, distribution, and monitoring. Outputs involve the distribution of controlled documents and the retrieval of obsolete ones. This diagram illustrates how the system efficiently manages

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document-related requests, ensuring security, accessibility, and compliance in the process.

Figure 3. Document Control Cycle



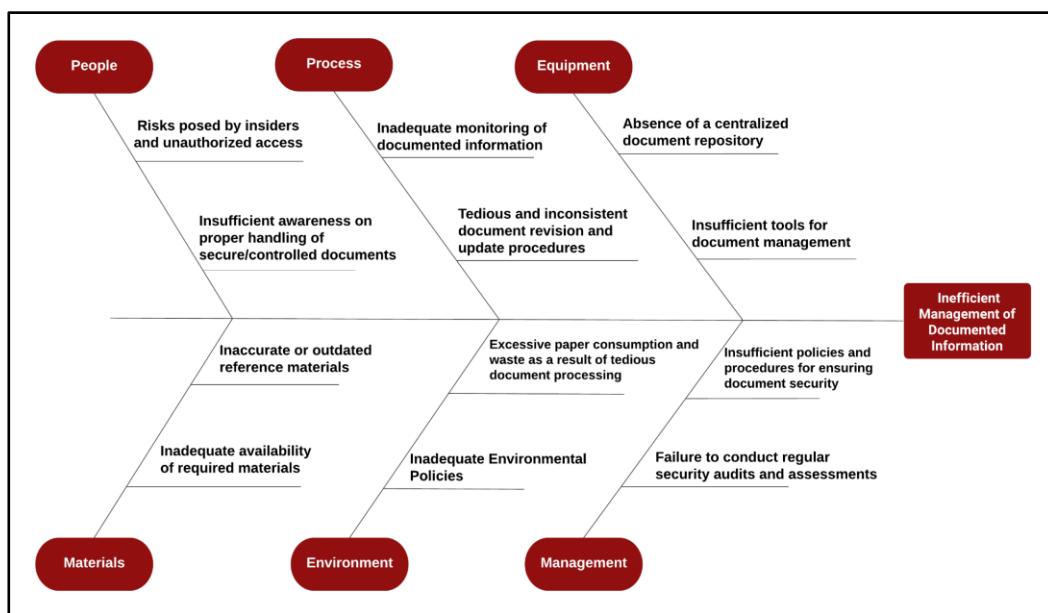
The Document Control Cycle diagram illustrates the comprehensive and iterative process by which documents are systematically managed, organized, reviewed, approved, distributed, and updated within PUP's Quality Management System. This cycle embodies a structured approach to ensure the accuracy, consistency, and accessibility of critical information, thereby fostering efficient collaboration, regulatory compliance, and overall operational excellence.

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1.3. Problem Analysis

1.3.1. Fishbone Diagram

Figure 4. Fishbone Diagram



The fishbone diagram for the study aimed to address the main problem of inefficient management of documented information, which poses risks, inefficiencies, and even potential environmental issues. The diagram categorizes the causes into six areas: people, process, equipment, materials, environment, and management. By identifying these causes, the researchers can pinpoint the root of the problem and work towards finding an effective solution. Through the utilization of this diagram, the study lays the foundation for a more streamlined



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and effective documented information management module within the PUP Quality Management System Portal

1.3.2. Problem – Requirements Matrix

Table 4

Problem – Requirements Matrix

PROBLEM	REQUIREMENTS
Inconsistent management of documented information within PUP's QMS	The system should provide a standardized process for identifying and describing documents according to ISO 9001 standards and PUP's requirements.
Lack of efficient review and approval processes for changes to documented information	The system should incorporate a streamlined review and approval workflow, ensuring that all changes to documented information are properly reviewed, authorized, and documented.
Delays in document review and approval processes.	The system should enable efficient and timely review and approval of document changes, with clear workflows and notifications.
Risk of unauthorized access, alterations, or deletions of stored information	The system should implement strong security measures, including user authentication, data encryption, firewalls, intrusion detection systems, and access controls.

1.3.3 Statement of the Problem

The identified problem in the context of the PUP's Quality Management System (QMS) revolves around the current inadequacies in managing



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documented information. The existing approach lacks a systematic and efficient structure, leading to inconsistencies, delays, and a potential risk of non-compliance with ISO 9001 standards. This deficiency directly impacts the effectiveness and reliability of PUP's QMS, affecting information accessibility and overall compliance efforts. The consequences of inadequate management of documented information manifest in errors, inefficiencies, and hindered decision-making processes, posing a threat to the quality of institutional processes within PUP.

To address these challenges, the "Documented Information Management Module for PUP Institutional Quality Management System Portal" has been developed and implemented. This project aimed to provide a comprehensive and user-friendly platform, facilitating improved document creation, review, approval, and archiving process. By implementing this module, the researchers aimed to achieve accurate and up-to-date documented information, enhance information accessibility, ensure compliance with ISO 9001 standards, and improve efficiency in managing the QMS documentation, thereby mitigating the identified issues and fostering a more effective and reliable Quality Management System.

1.4. Purpose And Description

The purpose of the "Documented Information Management Module for PUP Institutional Quality Management System Portal" was to address the existing challenges in managing documented information within the Polytechnic University of the Philippines



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

(PUP) Quality Management System (QMS). Furthermore, the study was conducted in order to develop a comprehensive and user-friendly Documented Information Management Module tailored for the PUP Institutional Quality Management System Portal. The module's functionalities encompass efficient transition to digital records, improved communication and information sharing, regulatory compliance, preservation of organizational experiences, and facilitation of knowledge sharing, contributing to an overall enhancement of the quality and efficiency of PUP's institutional processes.

1.5. Specific Objectives

The "Documented Information Management Module for the PUP Institutional Quality Management System (QMS) Portal" was designed to achieve the following key objectives:

1. **Document Enrollment:** Enhance the processes for submitting documents, ensuring consistency, and reducing errors.
2. **Implement Revision Control:** Enable users to track changes and maintain revision histories for documented information, ensuring compliance with regulations.
3. **Centralized Document Repository:** Develop a secure central repository for efficient storage, retrieval, and archiving of documents to support decision-making.
4. **Manage Document Deletion/Archiving:** Incorporate secure deletion protocols and user-controlled retention periods for obsolete documents.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

5. **Enhance Security Measures:** Implement access controls, encryption, and authentication protocols to protect sensitive information.
6. **Optimize Review and Approval:** Automate workflows and notifications to expedite document review and approval processes.
7. **Ensure ISO 9001 Compliance:** Align with ISO 9001:2015 and ISO 10013:2021 standards for documented information management.
8. **Maintain Accuracy of Documented Information:** Establish a process to review and update reference materials, including version control.

1.6. Scope and Limitations

This study primarily focuses on the analysis, design, implementation, and assessment of the Documented Information Management System. Moreover, the system revolves around document control and management, which includes the process of enrollment, approval, distribution, revision, archiving, monitoring, and reporting of documents. This study does not include the features of the other modules of the PUP IQMS Portal, namely Internal Quality Audit (IQA) and Risk Management and is only focused on the specific features and requirements of the document management module.

1.7. Significance of the Study

The significance of the Documented Information Management System lies in its response to the need for an enhanced document management system. The current



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

challenges which come from manual processes, decentralized storage, and the absence of standardized procedures and revision control mechanisms have resulted in inefficiencies, limited accessibility, and non-compliance with quality management standards. This study presents a comprehensive solution for these identified shortcomings.

By implementing the system, the researchers aimed to streamline document enrollment, enhance revision control, improve access and retention, and ensure secure document deletion. Through features such as a centralized repository, user-friendly interface, revision management tools, and secure deletion protocols, the module addresses the existing limitations. This initiative holds the promise of significantly enhancing PUP's efficiency, compliance, and overall effectiveness in meeting quality management standards, thereby facilitating seamless information dissemination across the institution.

Specifically, this project can be beneficial in terms of the following:

- A digitized document management can efficiently be used to store, track, and process documents in a database. Through the use of technology, the stored documents become digital, and less workload will be ensured.
- Improved accessibility. It provides much more efficient document organization and makes it easier for authorized personnel to access, search, and retrieve documents.



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- Enhanced security. It provides security features such as access controls, file versions, and audit trailing to ensure that the documents are secure, updated, and complies with the required standards.
- Timesaving. Working within a single system makes processes more efficient and eliminates the time needed to gather data.

1.8. Definition of Terms

In this part of the research paper, the following words can help the readers and future researchers about the jargon or not familiar words to better understand the research. Definition of terms describe the words below:

Archiving. This term refers to the functionality of reserving the deleted documents in a database.

Disposal. This is the action of deleting the documents from the system.

Distribution. The term which refers to the action of sharing the documents to the process owners.

Document. This refers to a piece of electronic file to be submitted to the upper users of the system.

Document Controller. This refers to a person who maintains and organizes different files for the organization. Their role is to check, distribute, archive, and monitor all the files of the process owners.



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Documented Information Management System. This is a system composed of electronic compiled documented information including manuals with improved security.

ISO 9001:2015. Also known as Quality Management System, is the standard qualification set by the ISO which helps the organizations to improve customer satisfaction, reduce risks by having a consistency of quality products.

Monitoring. This term refers to the act of observing and checking the progress or quality of documents to a specific period of time.

Office. This refers to PUP's administrative and academic functions related to the operation of the institution are carried out.

Process Owners. These are the stakeholders in charge responsible for initiating a process and implementing a productive and effective procedure within an organization.

Quality Management Representative. This refers to the consultant in an organization, whether to approve or reject the type of action of the process owners.

Submission. This is the action of enrolling a document.

Reports. This refers to the observation of documents for decision making made by investigation.



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Retention. This refers to the process of retaining or preserving documents or records for a specified period. If obsolete, then delete.

Revision. This term refers to the process of editing a document to update or change.

Sectors. This refers to an area or branch in the PUP organization.

Sector Head. This stakeholder is the person in charge by reviewing the forwarded documents and DCRF by the Process Owner.



Chapter 2

REVIEW OF LITERATURE AND STUDIES/SYSTEMS

This chapter presents and discusses the related literature and studies the researchers thoroughly investigated. Several studies of authors from local and abroad were studied, evaluated, and asserted for the formation of a solid background for this study.

2.1 Related Literature

Quality Management System

Quality Management Systems (QMS) play a significant role in various domains, offering a framework of standards and best practices that ensure processes and products align with specific criteria and requirements [Firdaus et al. 2022]. Firdaus et al. emphasizes the comprehensive nature of QMS, exemplified by ISO 9001:2015, which sets standardized benchmarks via the International Organization for Standardization. In the field of education, the application of QMS has yielded remarkable results. Ibarrientos [2022] showcases how Camarines Sur Polytechnic Colleges (CSPC) has leveraged QMS to adopt a customer-centric approach, engage personnel effectively, employ a process-oriented methodology, and make evidence-based decisions, resulting in elevated community perception, improved competitiveness, enhanced service quality, and heightened staff awareness. Similarly, Díaz and Martínez-Mediano [2018] underscores the positive impact of QMS on primary and secondary schools, enhancing



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documentation, management, external image, resource management, and user satisfaction.

Despite these benefits, challenges such as increased bureaucratic workloads and top-down management cultures emerged. Beyond education, Pacana and Ulewicz [2020] explored the QMS implementation in Small and Medium-sized Enterprises (SMEs) in developing regions, identifying critical success factors including a commitment to quality, effective internal auditing, resource allocation, and communication channels.

However, they also highlight challenges, such as limited employee involvement and difficulties in cooperation among middle managers regarding quality issues. Lastly, Iskarim [2018] explores the application of QMS, specifically SMM ISO 9001:2015, in Arabic Language Education, emphasizing principles like customer focus, leadership, engagement of people, process approach, continuous improvement, evidence-based decision-making, and management relationships as pivotal for producing competitive graduates on national and international levels.

This extensive body of research demonstrates the multifaceted impacts and practical applications of quality management systems across various sectors. It underscores their importance in enhancing processes, outcomes, and competitiveness.

Factors Affecting the Success of Implementing the QMS

As stated by Xuan and Trung [2020] in their study on Vietnam manufacturing and technology enterprises, several factors impact the effectiveness of Quality



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Management Systems (QMS) implemented according to ISO 9001 standards. They found that management commitment, staff involvement, cooperation of customers and suppliers, consultants, and a well-structured quality management document system are key factors that positively influence the success of a QMS.

Meanwhile, Mohammad Mesaad Al-Asiri [2018] conducted a study on ISO 9001:2000 implementation in Saudi business organizations. His research revealed critical success factors such as management commitment, effective internal auditing, and employee motivation. Conversely, challenges like a lack of employee involvement and training programs were noted. Al-Asiri's findings highlight the importance of top management initiative and a strong quality improvement culture in successful QMS implementation.

Furthermore, Jaffet [2018] explored factors affecting the implementation of Quality Management Systems in National Tuberculosis Reference Laboratories across Sub Saharan Africa. Jaffet identified critical success factors including knowledge and awareness, the positive impact of audits, and networking among international laboratories. Challenges included poor sample transport systems, training gaps, and limited management support. The study underscores the significance of top management commitment and nurturing a quality culture for effective QMS implementation.

Additionally, Mehrabioun [2021] investigated success and failure factors in implementing QMS in small and medium-sized enterprises (SMEs). His study revealed



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critical success factors such as management commitment, employee motivation, and resource allocation. Challenges included a lack of employee involvement and training programs. Mehrabioun's research highlights that top management initiative, fostering a quality culture, and data-driven decision-making are essential for QMS success.

Finally, Rodríguez-Mantilla [2018] studied the impact of implementing Quality Management Systems in schools, particularly focusing on EFQM and ISO:9001 standards. His findings indicated that factors predicting impact include years of service, school ownership, size, and the specific QMS implemented. Moreover, he found that EFQM implementation was associated with a higher impact. This study provides insights into the influence of various factors on the success of QMS implementation in the education sector. These studies collectively shed light on a range of factors affecting the success of QMS implementation, emphasizing the significance of top management commitment, employee involvement, and the cultivation of a quality-oriented organizational culture in achieving successful outcomes.

Documented Information

Documented information, as defined by Keen [2022] in accordance with ISO 9001:2015 standards, forms the cornerstone of quality management systems (QMS). It encompasses a wide array of documents and records, including quality manuals, policies, work instructions, and reports, which are essential for the efficient functioning of an organization. Beyond its operational role, documented information also serves as a historical record, fostering transparency, traceability, and accountability across various processes, as demonstrated by Biswas [2023] in their article on quality audits.



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Effective communication within an organization is greatly facilitated by well-documented processes, as underscored by Seyedhosseini and Hadavand [2018]. This enhanced communication and collaboration among employees ultimately contribute to improved overall performance. Furthermore, documented information is indispensable for informed decision-making and effective problem-solving, as Sousa and Voss [2021] emphasized. Data analysis and performance reports derived from documented information play a pivotal role in identifying issues, implementing corrective actions, and continually enhancing processes. In summary, documented information plays a multifaceted and vital role in the realm of quality management systems, encompassing control, historical record-keeping, communication, and decision support.

Importance of Document Control in a Quality Management System

Document control, as described by Malak [2023], involves a comprehensive set of meticulously designed procedures that oversee various aspects of document management. These procedures encompass tasks such as document development, evaluation, approval, release, distribution, access, storage, security, and eventual disposal. At its core, document control serves a dual purpose: ensuring the accessibility of the most current information and effectively managing revisions to prevent the use of outdated versions. Beyond its administrative functions, it plays a crucial role in providing tangible evidence of compliance with regulatory requirements, thereby validating the effectiveness of the Quality Management System (QMS). Furthermore, Ferrier [2021] highlights the necessity for a robust document management system to



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prioritize security measures, mitigating the risk of unauthorized access and safeguarding sensitive information.

Additionally, the importance of document control and record-keeping in laboratory management, as investigated by Kaur et al. [2021], cannot be overstated. Document control is an integral component of good laboratory practices, essential for adhering to accreditation and regulatory standards and ensuring continuous operations, even in unforeseen circumstances. An effective document control system also serves to prevent the inadvertent leakage of confidential information. Documents can be managed in two primary formats: paper-based or electronically. The creation, maintenance, and proper archiving of documents and records are fundamental for an effective document control, with archiving systems ensuring documents are stored securely and can be readily retrieved when needed.

Seland [2021] looked into the specifics of document control, emphasizing its critical role in manufacturing. Document control plays a pivotal role in defining manufacturing processes and delineating the roles and responsibilities of individuals involved. It ensures that organizations maintain control over structured documents throughout the entire lifecycle, from design and development to production completion. While document management shares common features with document control, such as storing, locating, updating, tracking, and sharing documents, it does so on a broader scale.



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Lastly, in the context of ISO 9001 document control requirements, Lauren [2023] asserts that document control is essential for managing all aspects of a controlled document's lifecycle. This encompasses tasks such as document creation, modification, review, distribution, and ensuring easy accessibility. These practices guarantee that an organization consistently has access to up-to-date, accurate, and reliable information. Even if an organization is not initially considering ISO 9001 certification, implementing strategies to meet its standards can prove highly beneficial.

Document Management Security

In the context of application security, Idris et al. [2022] discussed the escalating usage of web applications and the resultant security issues. They propose an educational platform, emphasizing the OWASP API security project, to address these concerns comprehensively. This platform employs methodologies like Capture-The-Flag (CTF) learning and vulnerability assessment. Regarding web application security scanning, Hameed et al. [2022] identified the significance of web application vulnerability scanners. Their research evaluates scanner performance by testing intentionally vulnerable applications and vulnerabilities derived from OWASP.

With regards to access management, Abubakar and Danlami [2018] tackled the challenges of digital identity and access control. They implement IAMSys, utilizing Lightweight Directory Access Protocol (LDAP) and MySQL, to offer robust identity and access management solutions, especially within cloud web services. When talking about the importance of identity and access management (IAM) in information security,



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Mohammed [2017] highlights its role in preventing data breaches and enhancing security. He suggests evaluating an organization's maturity in IAM principles to bolster cybersecurity.

When it comes to encryption, Arora et al. [2021] addresses the computational challenges associated with the RSA algorithm's significance in data encryption. Their research aims to develop an improved, more time-efficient version of RSA. Neacșu and Simion [2022] also emphasized the need to enhance cryptographic methods for securing communication networks. They focus on symmetric block algorithms known for rapid encryption. In the context of two-factor authentication (2FA) and multi-factor authentication (MFA), Armknecht et al. [2019] examined the usability of various 2FA methods, highlighting the importance of proper implementation. Colnago et al. [2018] investigated the real-world adoption of 2FA and its impact on user behavior and attitudes.

Regarding one-time passwords (OTP) in electronic transactions, Hassan et al. [2020] proposed an algorithm combining Time-based One-time Passwords (TOTPs) with biometric fingerprint recognition to enhance security. Rane [2020] introduces a Symbolic-OTP Based Security System for digital locking systems, offering autonomy and cost-effectiveness.

2.1. Related Studies and Systems

Ahmad et al. [2017], stated that paper-based Document Management Systems (DMS) are prevalent in small construction companies in Jordan. These systems, while widely used, can lead to operational delays and information loss. Meanwhile, Arifin [2022]



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developed a DMS for a junior high school in Indonesia. This DMS streamlined document management processes, including incoming and outgoing mail, with a focus on usability and security, as provided in the results of their survey evaluation. This is backed up by Artamonov et al. [2018], who developed an Electronic Document Management System (EDMS) for a scientific organization. They found that their model accelerated document flow but still required manual intervention for digitizing certain documents.

Furthermore, Almacen and Cabaluna [2021] emphasized the potential benefits of implementing an EDMS in the Philippine healthcare system, such as efficient patient record-keeping and improved communication. However, they also highlighted challenges, including data security and the need for proper training. In a different context, Dizon et al. [2017] developed a DMS for the University of Santo Tomas Faculty of Medicine. The system aimed to reduce paper reliance, streamline document handling, and enhance efficiency, although regular IT maintenance was necessary. Moreover, M. Kassab et al. [2019] examined the role of policies and procedures in the success of an EDMS in the Palestinian Pension Agency. They found that these policies and procedures were crucial, but perspectives differed based on variables like qualification and years of service.

In another study, Pagayonan [2022] addressed document control issues in a university by developing an E-Document Management System. This system effectively handled incoming and outgoing communication, recorded, and retrieved personal files, and improved daily tasks' organization. In general, the studies presented collectively highlight the importance of Document Management Systems in various settings,



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

shedding light on the benefits of electronic systems and the challenges they may encounter.

2.2. Synthesis of the Related Studies

Based on the related studies, it can be concluded that Document Management Systems (DMS) are crucial for effective administration and project management in the construction industry. Small and medium-sized construction companies should consider implementing electronic DMS to overcome challenges associated with paper-based systems and improve operational efficiency. The studies also highlight the benefits of implementing DMS in educational institutions, such as middle schools and medical faculties, for better document organization and retrieval. However, there are limitations to these systems, including the need for further enhancements to handle different types of documents.

Additionally, Electronic Document Management Systems (EDMS) have proven effective in addressing challenges related to managing scientific materials and data within scientific organizations, resulting in faster document flow and improved productivity. The implementation of EDMS in the healthcare sector holds potential benefits for improving patient record-keeping and communication, but challenges such as data security, costs, and training need to be addressed.

The success of EDMS implementation relies on the establishment of policies and procedures, clear plans, increased awareness, and organizational commitment. Higher education institutions can greatly benefit from the development of electronic Document



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Management Systems, as they improve document control, record keeping, and information retrieval, leading to enhanced efficiency and user satisfaction.

In general, the studies provided above emphasize the importance of adopting electronic DMS/EDMS to overcome challenges, improve efficiency, and support decision-making processes in various industries and organizational contexts.



Chapter 3

METHODOLOGY

This chapter presents various methodologies that were used in the data gathering process and analysis which are relevant to the research.

3.1. Requirements Analysis

3.1.1. Requirements

Functional Requirements

1. The system was required to possess an interface that is user-friendly, supporting various document management operations such as generating, revising, approving, and withdrawing documents.
2. The system needed to have the capability to categorize and classify documents, making it simpler to organize and retrieve them efficiently.
3. Version control had to be implemented to guarantee that the latest authorized versions of documents are accessible at all times.
4. Enabling document creation and review was crucial, allowing users to participate in the editing and generation processes.
5. Search functionalities were to be incorporated, enabling swift locating and retrieval of documents based on metadata, keywords, or specific criteria.
6. Access control mechanisms were to be established to ensure that document access and modifications are restricted to authorized individuals based on their roles and permissions.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

7. Audit trails and activity logs were to be generated by the system to monitor document actions, enhancing transparency and accountability in document management procedures.

Non-Functional Requirements

1. Performance: The system was required to exhibit swift response times and efficiently manage a substantial volume of documents, aiming to deliver an optimal user experience.
2. Security: The implementation within the system must encompass strong security protocols, designed to safeguard the confidentiality, integrity, and accessibility of documents. These measures encompass access controls, encryption, and secure data storage.
3. Reliability: Ensuring exceptional availability and dependability, the system was expected to curtail downtime and guarantee uninterrupted document access.
4. Usability: The system's interface had to offer an instinctive and user-friendly experience, demanding minimal user training for proficient navigation and document management operations.
5. Compliance: The system needed to conform to ISO 9001 standards as well as pertinent regulations that oversee document management and security.



3.1.2. Requirements – Features Matrix

Table 5

Functional Requirements

REQUIREMENTS	FEATURES
Document enrollment and revision	Ability to enroll new documents and easily revise and update existing documents
Document approval	Workflow for document approval, allowing designated users to review and authorize document changes
Document archival	Capability to withdraw and remove obsolete or outdated documents from the system
Document retention	Ability to set and enforce document retention policies, ensuring compliance with regulatory requirements
Version control	Manage different versions of documents, ensuring access to the latest authorized version
Access control	Role-based access control to manage user permissions and restrict access to sensitive documents
Audit trails and activity logs	Logging and tracking of document actions to maintain an audit trail and ensure transparency



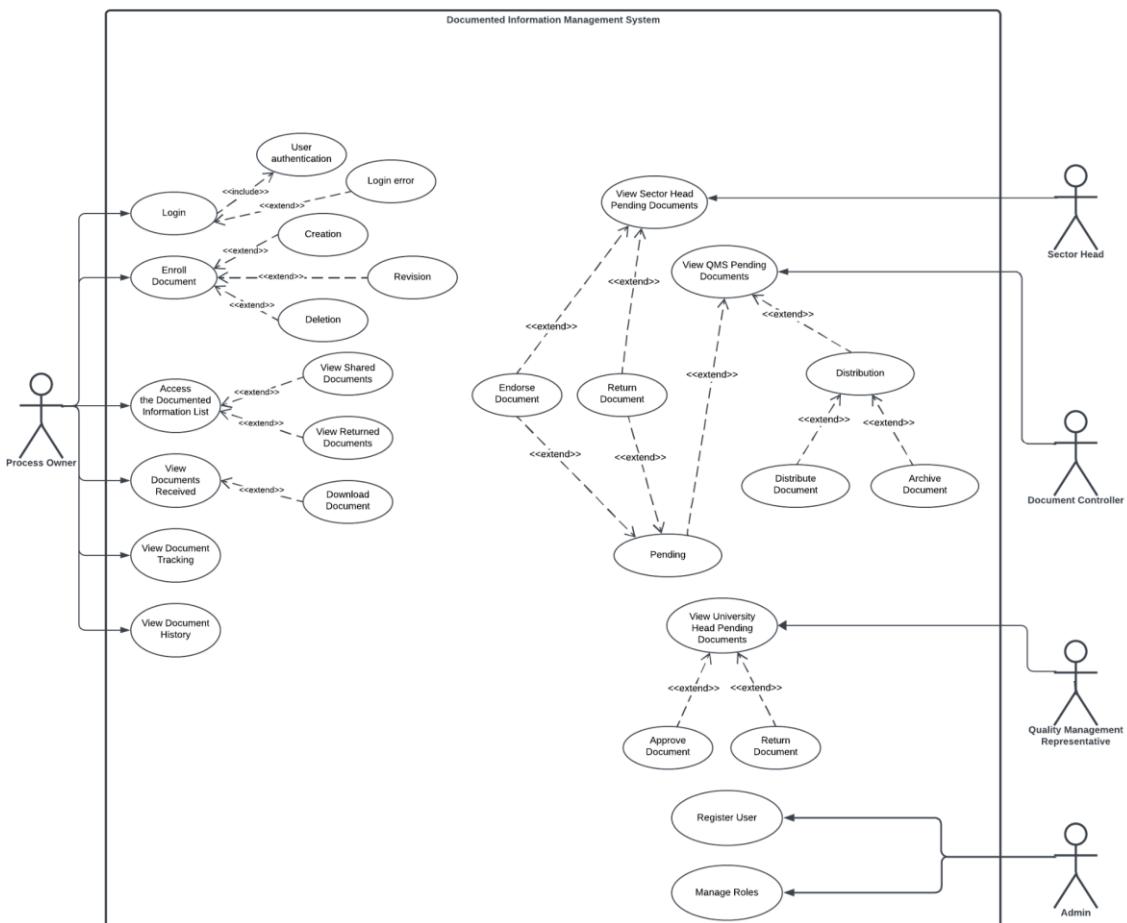
Table 6

Non-Functional Requirements

REQUIREMENTS	FEATURES
Performance	Efforts to ensure fast response times, efficient handling of documents, and optimal system performance
Security	Implementation of security measures such as access controls, encryption, and secure data storage
Reliability	High availability and reliability, minimizing system downtime and ensuring uninterrupted access
Usability	User-centric design requiring minimal training
Compliance	Adherence to ISO 9001 standards and relevant regulations governing document management and security

3.1.3. Use Case Diagram

Figure 5. Use Case Diagram



The use case diagram for this project depicts the interactions between system users and the system itself. It represents the various use cases or functionalities of the module. Furthermore, this diagram provides an overview of the core functionalities and interactions within the Documented Information



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Management Module, offering a visual representation of the different roles and activities that users and administrators can perform in managing and accessing documents within the PUP Quality Management System Portal.

3.1.4. Use Case Report

Table 7

Use Case Report of Login

USE CASE ID:	UC01	
USE CASE NAME:	Login	
SCENARIO:	To gain access to the system, a user submits their credentials.	
TRIGGERING EVENT:	Initiated when the user selects the 'Login' option.	
BRIEF DESCRIPTION:	This use case is activated when a user inputs their designated username and password within the login interface. Successful validation of the provided credentials results in the system permitting the user to enter, thereby revealing the principal interface of the Documented Information Management Module. Alternatively, any invalid credentials prompt the display of an error message, impeding the progression of the login procedure.	
ACTORS:	Process Owner, Admin	
INCLUDE USE CASE:	User authentication	
EXTEND USE CASE:	Login error	
PRE-CONDITIONS:	The user must have a valid existing account	
POST-CONDITIONS:	Once logged in, the user can proceed to perform actions and utilize the functionalities available within the system. If the login credentials are invalid or the authentication process fails, an error message is displayed, and the user is not granted access to the system.	
FLOW OF EVENTS:	ACTOR	SYSTEM
	1. The user accesses the Login Page. 2. The user enters valid credentials including email and password. 3. If the credentials are authenticated successfully, the user will gain access to the system.	1. The system presents the login interface. 2. The system validates the entered credentials. 3. If the credentials are valid, the system will present the main interface of the module.
ALTERNATIVE FLOW:	1. The user initiates the 'Login' use case by accessing the login interface. 2. The user enters their login credentials. 3. The system verifies the entered credentials by checking against the stored user database. 4. If the entered credentials are invalid: a.) The system displays an error message indicating that the login attempt has failed. b.) The user is not granted access to the system and remains on the login interface.	
EXCEPTION CONDITIONS:	1. Invalid credentials 2. Network or System Errors	



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 8

Use Case Report of *Enroll Document*

USE CASE ID:	UC002	
USE CASE NAME:	Enroll Document	
SCENARIO:	Process owner fills out the Document Change Request Form to request changes to a document.	
TRIGGERING EVENT:	Process owner identifies the need for changes in a document.	
BRIEF DESCRIPTION:	This use case involves the Process Owner filling out the Document Change Request Form to initiate a request for document changes.	
ACTORS:	Process owner	
INCLUDE USE CASE:	Creation, Revision, Deletion	
EXTEND USE CASE:	N/A	
PRE-CONDITIONS:	Process owner has been given access to the DMS module.	
POST-CONDITIONS:	The Document Change Request Form is submitted to the Sector Head for review.	
FLOW OF EVENTS:	ACTOR	SYSTEM
	1. Process owner accesses the Document Change Request Form. 2. The process owner fills out the required information and submits the form.	1. The system validates the submitted form and forwards it to the Sector Head for review.
ALTERNATIVE FLOW:	If the entered information in the DCRF is incomplete, the form will not be submitted.	
EXCEPTION CONDITIONS:	1. System errors 2. Technical difficulties	



Table 9

Use Case Report of Access the Documented Information List

USE CASE ID:	UC003	
USE CASE NAME:	Access the Documented Information List	
SCENARIO:	Process owner views the list of submitted documented information.	
TRIGGERING EVENT:	Process owner wants to access the documented information list.	
BRIEF DESCRIPTION:	This use case involves the process owner accessing the Documented Information List to view the documents they submitted in the system.	
ACTORS:	Process owner	
INCLUDE USE CASE:	N/A	
EXTEND USE CASE:	View document, Download document	
PRE-CONDITIONS:	Process owner has valid login credentials and authorized access to the Documented Information List.	
POST-CONDITIONS:	The process owner can view the list of submitted documented information and can either view the details or download documents.	
FLOW OF EVENTS:	ACTOR	SYSTEM
	1. Process owner logs into the system. 2. Process owner navigates to the Documented Information List.	1. The system presents the Documented Information List with the relevant documents.
ALTERNATIVE FLOW:	If the process owner encounters technical issues during document access they can attempt to access the document again or report the issue to the system administrator.	
EXCEPTION CONDITIONS:	The documented information list is unavailable due to system errors.	



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 10

Use Case Report of *View Documents Received*

USE CASE ID:	UC004	
USE CASE NAME:	View Documents Received	
SCENARIO:	The process owner accesses the Documented Information Management Module to view the list of their requested documents that have been sent to them.	
TRIGGERING EVENT:	The process owner logs in to the system and navigates to the "Documents Received" section.	
BRIEF DESCRIPTION:	This use case involves the Process Owner accessing and viewing or downloading the documents that have been sent to them by the document controller.	
ACTORS:	Process owner	
INCLUDE USE CASE:	N/A	
EXTEND USE CASE:	Download Document	
PRE-CONDITIONS:	The process owner has valid login credentials and authorized access to view the received documents.	
POST-CONDITIONS:	The process owner will be able to view and download the documents they have received.	
FLOW OF EVENTS:	ACTOR	SYSTEM
	1. Process owner logs into the system. 2. Process owner navigates to the Documents Received section. 4. The Process Owner selects a specific document to view/download.	3. The system presents a list of documents that have been sent to the Process Owner 5. The system opens the PDF document viewer.
ALTERNATIVE FLOW:	The system displays a message indicating that there are no received documents currently available.	
EXCEPTION CONDITIONS:	The document selected by the Process Owner cannot be viewed due to an incompatible file format.	



Table 11

Use Case Report of *View Document Tracking*

USE CASE ID:	UC005	
USE CASE NAME:	View Document Tracking	
SCENARIO:	Process owner tracks the status and progress of documents within the Documented Information Management Module.	
TRIGGERING EVENT:	Process owner wants to monitor the status of specific documents in the system.	
BRIEF DESCRIPTION:	This use case involves the process owner tracking the status and progress of documents within the Documented Information Management Module.	
ACTORS:	Process owner	
INCLUDE USE CASE:	N/A	
EXTEND USE CASE:	N/A	
PRE-CONDITIONS:	The process owner has valid login credentials and authorized access to track documents.	
POST-CONDITIONS:	The process owner can view the status and progress of tracked documents.	
FLOW OF EVENTS:	ACTOR	SYSTEM
	1. Process owner logs into the system. 2. Process owner navigates to the Track Documents section. 3. Process owner selects specific documents to track.	1. The system displays the current status and approval progress of the submitted documents.
ALTERNATIVE FLOW:	None	
EXCEPTION CONDITIONS:	None	



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 12

Use Case Report of *View Document History*

USE CASE ID:	UC006	
USE CASE NAME:	View Document History	
SCENARIO:	Process owner wants to view the file history of a specific document within the Documented Information Management Module.	
TRIGGERING EVENT:	Process owner accesses the Documented Information Management Module and selects the "View File History" option for a particular document	
BRIEF DESCRIPTION:	This use case involves the process owner viewing the history of a specific document within the module. This will display a record of revisions and updates made to the document.	
ACTORS:	Process owner	
INCLUDE USE CASE:	N/A	
EXTEND USE CASE:	N/A	
PRE-CONDITIONS:	Process owner has valid login credentials and authorized access to the Documented Information Management Module.	
POST-CONDITIONS:	Process owner can view the file history of the selected document.	
FLOW OF EVENTS:	ACTOR	SYSTEM
	1. Process owner logs into the system. 2. Process owner navigates to the Documented Information Management Module. 3. Process owner chooses the "View Document History" section.	1. The system presents the file history of the selected document, including details of all modifications and revisions made.
ALTERNATIVE FLOW:	None	
EXCEPTION CONDITIONS:	The document does not exist in the system.	



Table 13

Use Case Report of View Sector Head Pending Documents

USE CASE ID:	UC008	
USE CASE NAME:	View Sector Head Pending Documents	
SCENARIO:	The Sector Head needs to review and manage pending documents that require their approval.	
TRIGGERING EVENT:	Sector Head logs into the Document Management Module.	
BRIEF DESCRIPTION:	This use case involves Sector Head accessing the module to review documents pending their approval. They can choose to endorse or return a document after evaluation.	
ACTORS:	Sector Head	
INCLUDE USE CASE:	N/A	
EXTEND USE CASE:	Endorse Document, Return Document	
PRE-CONDITIONS:	Sector Head has valid login credentials and authorized access to the Documented Information Management Module.	
POST-CONDITIONS:	Pending documents are either endorsed or returned by the Sector Head.	
FLOW OF EVENTS:	ACTOR	SYSTEM
	1. Sector Head logs into the system. 2. Sector Head navigates to the "Sector Head Pending Documents" section 3. Sector Head selects a pending document for evaluation. 4. Sector Head chooses to endorse the document.	4. The system displays the document details and options to endorse or return the document. 5. The system updates the document status as endorsed and notifies the relevant parties.
ALTERNATIVE FLOW:	Sector Head chooses to return the document and the system updates the document status as returned and notifies the author with comments	
EXCEPTION CONDITIONS:	The system encounters technical issues while displaying the document list or details.	



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 14

Use Case Report of View QMS Pending Documents

USE CASE ID:	UC009	
USE CASE NAME:	View QMS Pending Documents	
SCENARIO:	The Document Controller needs to manage pending documents that require their action, including endorsement, distribution, or archiving.	
TRIGGERING EVENT:	The Document Controller logs into the Document Management Module.	
BRIEF DESCRIPTION:	This use case involves the Document Controller accessing the module to review documents pending their action. They can either endorse and return or distribute and archive.	
ACTORS:	Document Controller	
INCLUDE USE CASE:	N/A	
EXTEND USE CASE:	Pending, Distribution	
PRE-CONDITIONS:	Document controller has valid login credentials and authorized access to the Documented Information Management Module.	
POST-CONDITIONS:	Pending documents are approved by the Document Controller as required (endorsed, distributed, archived, or returned).	
FLOW OF EVENTS:	ACTOR	SYSTEM
	1. Document controller logs into the system. 2. Document controller navigates to the "QMS Pending Documents" section. 3. Document Controller selects a pending document for evaluation. 4. The Document Controller chooses to endorse the document for QMR approval.	5. The system updates the document status as endorsed and notifies the relevant parties.
ALTERNATIVE FLOW:	If there are no pending documents for the Document Controller, the system displays a message indicating no pending documents.	
EXCEPTION CONDITIONS:	The system encounters technical issues while displaying the document list or details.	



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 15

Use Case Report of *View University Head Pending Documents*

USE CASE ID:	UC010	
USE CASE NAME:	View University Head Pending Documents	
SCENARIO:	Quality Management Representative (QMR) needs to view and approve documents that require University Head's action within the Document Management Module.	
TRIGGERING EVENT:	QMR logs into the Document Management Module.	
BRIEF DESCRIPTION:	This use case involves QMR accessing the module to review and approve documents pending University Head's final approval. QMR can either approve the document or return it for further actions.	
ACTORS:	Quality Management Representative	
INCLUDE USE CASE:	N/A	
EXTEND USE CASE:	Approve Document, Return Document	
PRE-CONDITIONS:	QMR is authenticated and logged into the system.	
POST-CONDITIONS:	Pending documents are reviewed by the QMR, either approved or returned for further action.	
FLOW OF EVENTS:	ACTOR	SYSTEM
	1. QMR logs into the system. 2. QMR navigates to the "University Head Pending Documents" 4. QMR chooses to approve the document.	3. The system displays the document details and options for QMR's actions. 5. The system updates the document status as approved and notifies the process owner.
ALTERNATIVE FLOW:	QMR chooses to return the document and the system extends the Return Document use case to process the document return.	
EXCEPTION CONDITIONS:	The system encounters technical issues while displaying the document list or details.	



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 16

Use Case Report of Register User

USE CASE ID:	UC011	
USE CASE NAME:	Register User	
SCENARIO:	Admin wants to register a new user within the Documented Information Management Module to grant them access to the system.	
TRIGGERING EVENT:	Admin accesses the Identity System and selects the "User Registration" option.	
BRIEF DESCRIPTION:	This use case involves the admin registering a new user within the Documented Information Management Module, providing necessary details and permissions to grant access to the system.	
ACTORS:	Admin	
INCLUDE USE CASE:	N/A	
EXTEND USE CASE:	N/A	
PRE-CONDITIONS:	Admin has valid login credentials and authorized access to the Identity System.	
POST-CONDITIONS:	Admin successfully registers a new user, and the user receives login credentials to access the system.	
FLOW OF EVENTS:	ACTOR	SYSTEM
	1. Admin logs into the system. 2. Admin navigates to the Identity System. 3. Admin selects the "User Registration" option. 4. Admin fills out the required fields and sets the user's permissions.	1. The system prompts Admin to enter the new user's details, such as username, email, and role. 2. The system validates the entered information and confirms successful registration.
ALTERNATIVE FLOW:	If the new user's details are incomplete or not in the required format, the system displays an error message prompting Admin to correct the information before proceeding.	
EXCEPTION CONDITIONS:	The user registration process fails due to system error or technical issues	



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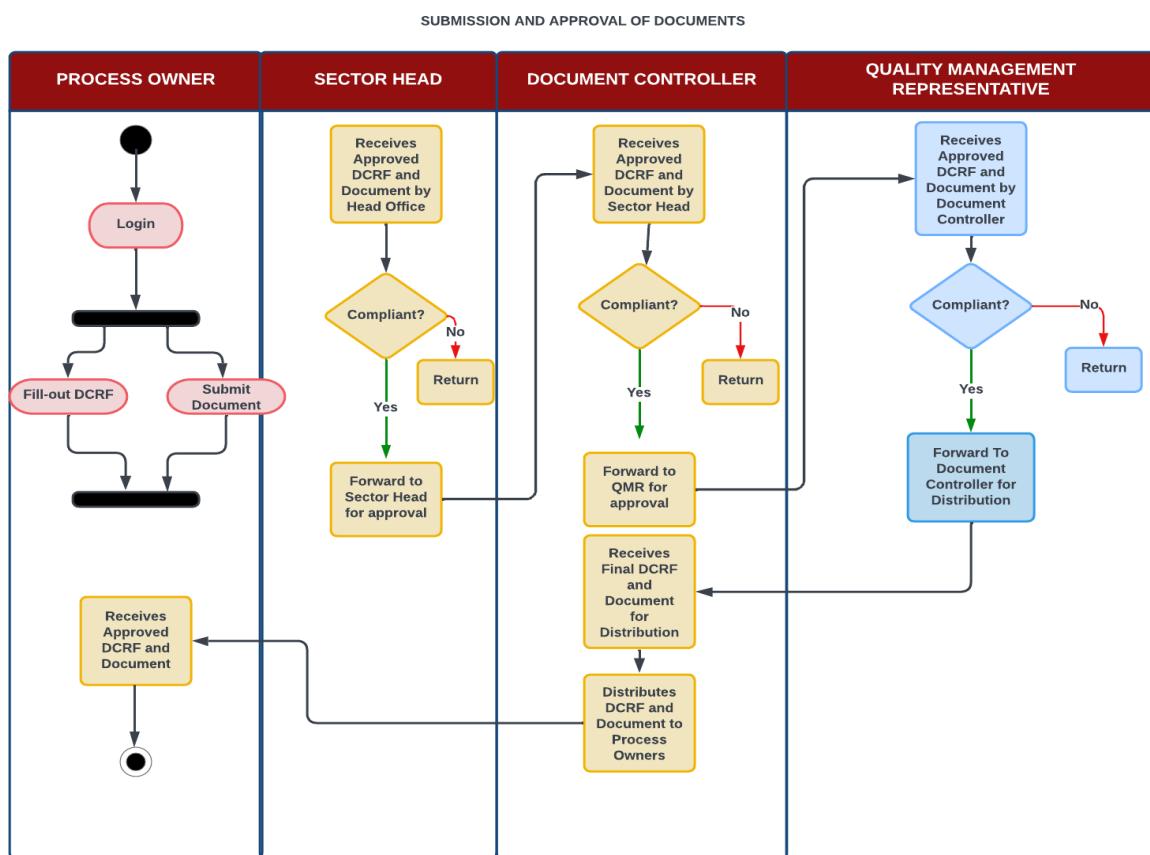
Table 17
Use Case Report of Manage Roles

USE CASE ID:	UC012	
USE CASE NAME:	Manage Roles	
SCENARIO:	Admin wants to manage user roles within the QMS Portal.	
TRIGGERING EVENT:	Admin accesses the Identity System and selects the "Manage Roles" option.	
BRIEF DESCRIPTION:	This use case involves the Admin managing user roles within the QMS portal.	
ACTORS:	Admin	
INCLUDE USE CASE:	N/A	
EXTEND USE CASE:	N/A	
PRE-CONDITIONS:	Admin has valid login credentials and authorized access to the Identity System.	
POST-CONDITIONS:	User accounts are effectively managed as per Admin's actions.	
FLOW OF EVENTS:	ACTOR	SYSTEM
	1. Admin logs into the system. 2. Admin selects the "Manage Roles" option. 4. Admin can choose the appropriate roles for each user.	3. The system displays a list of existing user accounts. 5. The system validates the actions performed by Admin and updates the user roles accordingly.
ALTERNATIVE FLOW:	If Admin attempts to add a new user with incomplete or invalid information, the system displays an error message and prompts Admin to correct the details before proceeding.	
EXCEPTION CONDITIONS:	The user management process fails due to system error or technical issues	

3.2. Design Specifications

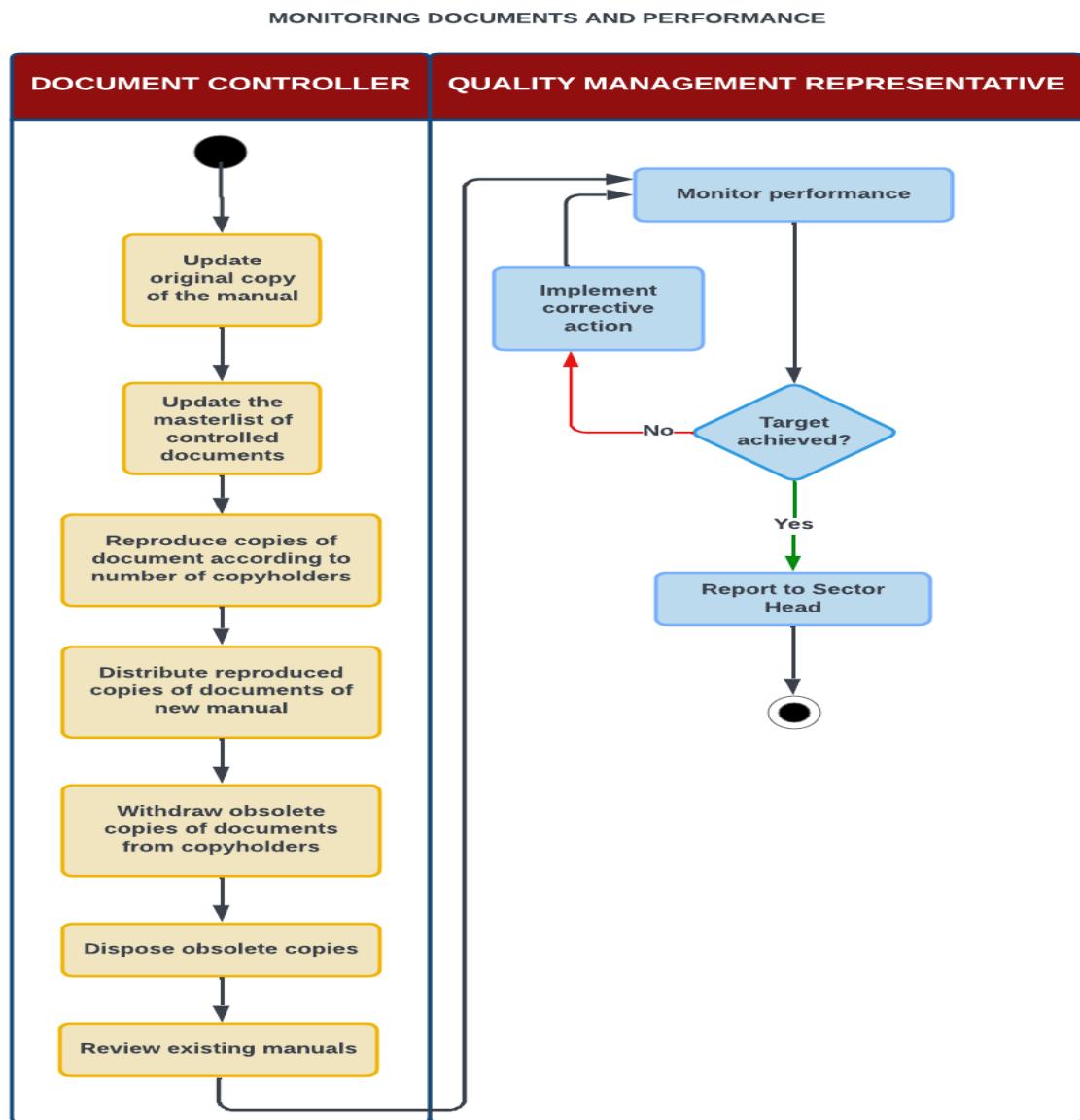
3.2.1. Activity Diagram

Figure 6. Activity Diagram of Document Management Submitting and Approval



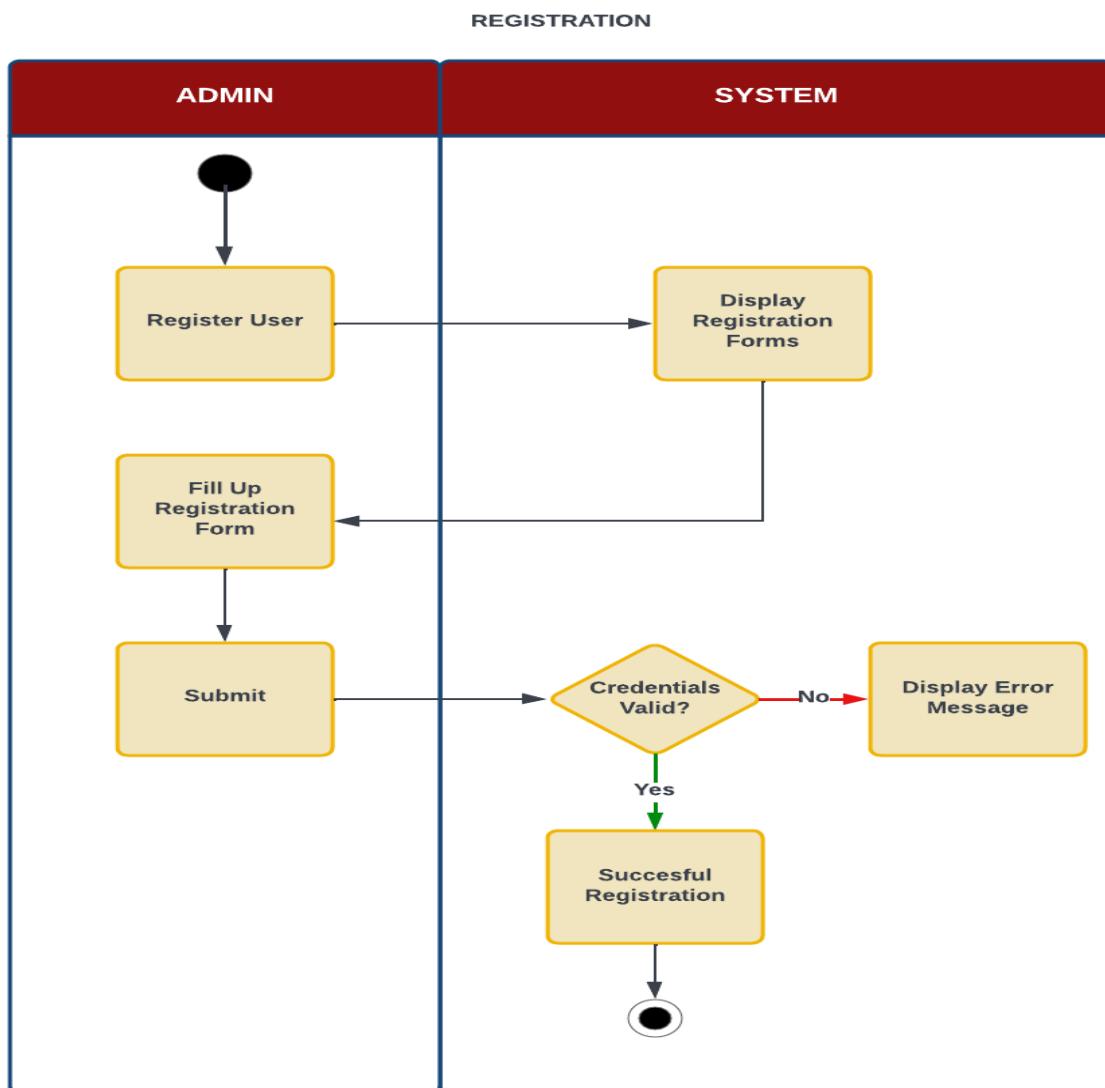
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Figure 6.1. Activity Diagram of Monitoring Documents and Performance



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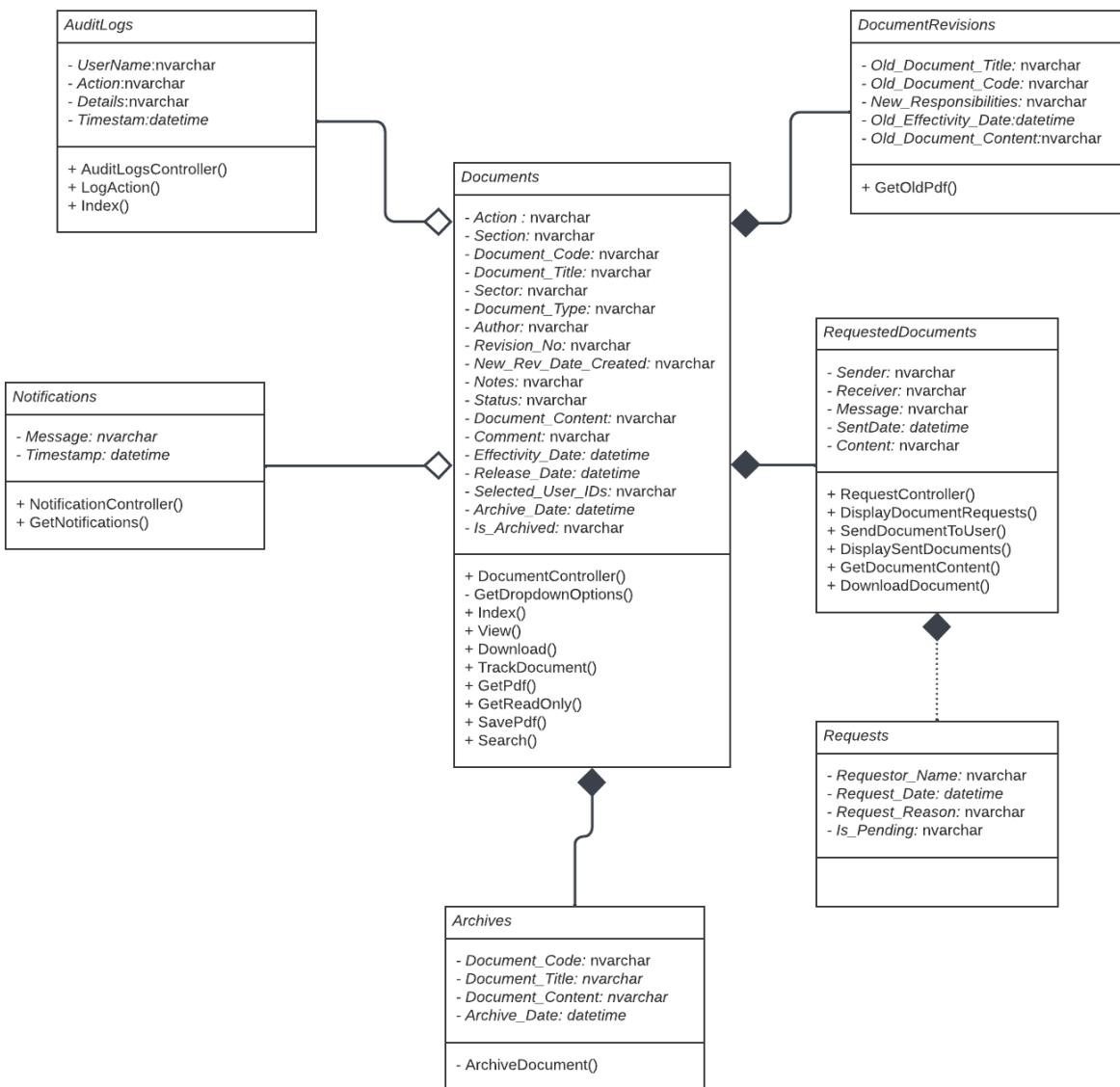
Figure 6.2. Activity Diagram of Registration



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3.2.2. Class Diagram

Figure 7. Class Diagram





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3.2.3. GUI Design

Figure 8. Interface of Enroll Documents page

QMS PORTAL
Documented Information Management System

Welcome, process owner!

Search docs, tags, etc.

Logged-in User: process owner

Action: Creation Revision Deletion

Document Title: Section: Document Type:

Rationale:

File: No file chosen

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Figure 9. Interface of Documented Information List

QMS PORTAL
Documented Information Management System

Welcome, process owner!

Search docs, tags, etc.

Shared Returned

Show 10 entries

Id	Revision	Document Title	Document Code	Author	Action
No data available in table					

Showing 0 to 0 of 0 entries

Previous Next

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Figure 10. Interface of Returned Documents page

The screenshot shows the QMS PORTAL interface with the title "Returned" selected in the navigation bar. A table displays a single document entry:

ID	Document Title	Author	Notes	Status
296	Memorandum of Agreement.pdf	process owner	Memorandum of Agreement file	Returned. Please submit new document

On the left sidebar, under the "Document" section, the "Tracking" option is highlighted. The footer includes copyright information and links to Home, Terms, Privacy, Policy, and Contact.

Figure 11. Interface of Document Tracking page

The screenshot shows the QMS PORTAL interface with the title "Document Tracking" selected in the navigation bar. A table lists six documents with their status and timestamp, each with a "View Approval History" button:

ID	Document Title	Status	Timestamp	Approval Details
304	Attendance Sheet.pdf	Pending: University Approval	1/10/2024 9:13:57 AM	<button>View Approval History</button>
308	MODULE-3_CRYPTOGRAPHY (1).pdf	Ready for Distribution	1/12/2024 6:01:59 AM	<button>View Approval History</button>
296	Memorandum of Agreement.pdf	Returned	1/7/2024 1:59:21 PM	<button>View Approval History</button>
297	Off-Campus Document Certification Form.pdf	Pending: Sector Approval	1/7/2024 1:59:54 PM	<button>View Approval History</button>
298	Opportunities for Improvement.pdf	Pending: Sector Approval	1/7/2024 2:01:01 PM	<button>View Approval History</button>
299	Terms of Reference.pdf	Pending: Sector Approval	1/7/2024 2:01:59 PM	<button>View Approval History</button>

On the left sidebar, under the "Document" section, the "Tracking" option is highlighted. The footer includes copyright information and links to Home, Terms, Privacy, Policy, and Contact.

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Figure 12. Interface of Archived Documents History

ID	Revision	Document Code	Document Title	Owner	Archive Date
309	0	PUP-Fo-4-XXXX-Operations-YY	Certificate-2nd-IQA-Audit-2023-A. Coronado.pdf	process owner	1/14/2024 6:44:08 AM

Figure 13. Interface of Sector Head Controller page

Document Title	Author	Date Created	Action	Status
Off-Campus Document Certification Form.pdf	process owner	Jan 07, 2024	creation	Pending: Sector Approval
Opportunities for Improvement.pdf	process owner	Jan 07, 2024	creation	Pending: Sector Approval
Terms of Reference.pdf	process owner	Jan 07, 2024	creation	Pending: Sector Approval

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Figure 14. Interface of QMS Document Controller Page

The screenshot shows the QMS Document Controller interface. On the left, a sidebar menu includes sections like Overview, Document Approval (with QMS Pending Documents selected), and Admin Tools. The main content area displays a table with one entry: "MODULE-3_-CRYPTOGRAPHY (1).pdf" by "process owner" with status "Ready for Distribution".

Document Title	Author	Notes	Status
MODULE-3_-CRYPTOGRAPHY (1).pdf	process owner	To swctor head	Ready for Distribution

Figure 15. Interface of Reports page

The screenshot shows the Reports page. The sidebar menu includes Document Approval (Reports selected) and Admin Tools. The main content area features a filter section and a table listing three documents. The table columns include DCRF_ID, Author, Action, Section, Document Code, Document Title, Sector, Document Type, Revision No, and New Rev Date Created.

DCRF_ID	Author	Action	Section	Document Code	Document Title	Sector	Document Type	Revision No	New Rev Date Created
300	bel2 chris	creation	Operations	PUP-Fo-1-XXXX-Operations-YY	REV2.pdf	PRESIDENT	Forms Manual	0	01-09-2024
302	chris tec	creation	Leadership and Planning	Qu-PUP-Leadership and Planning-YY	9789240022379-eng.pdf	PRESIDENT	Quality Manual	0	01-09-2024
309	process owner	deletion	Operations	PUP-Fo-4-XXXX-Operations-YY	Certificate-2nd-IQA-Audit-2023-A-Coronado.pdf	Office of the Executive Vice President	Forms Manual	0	01-14-2024



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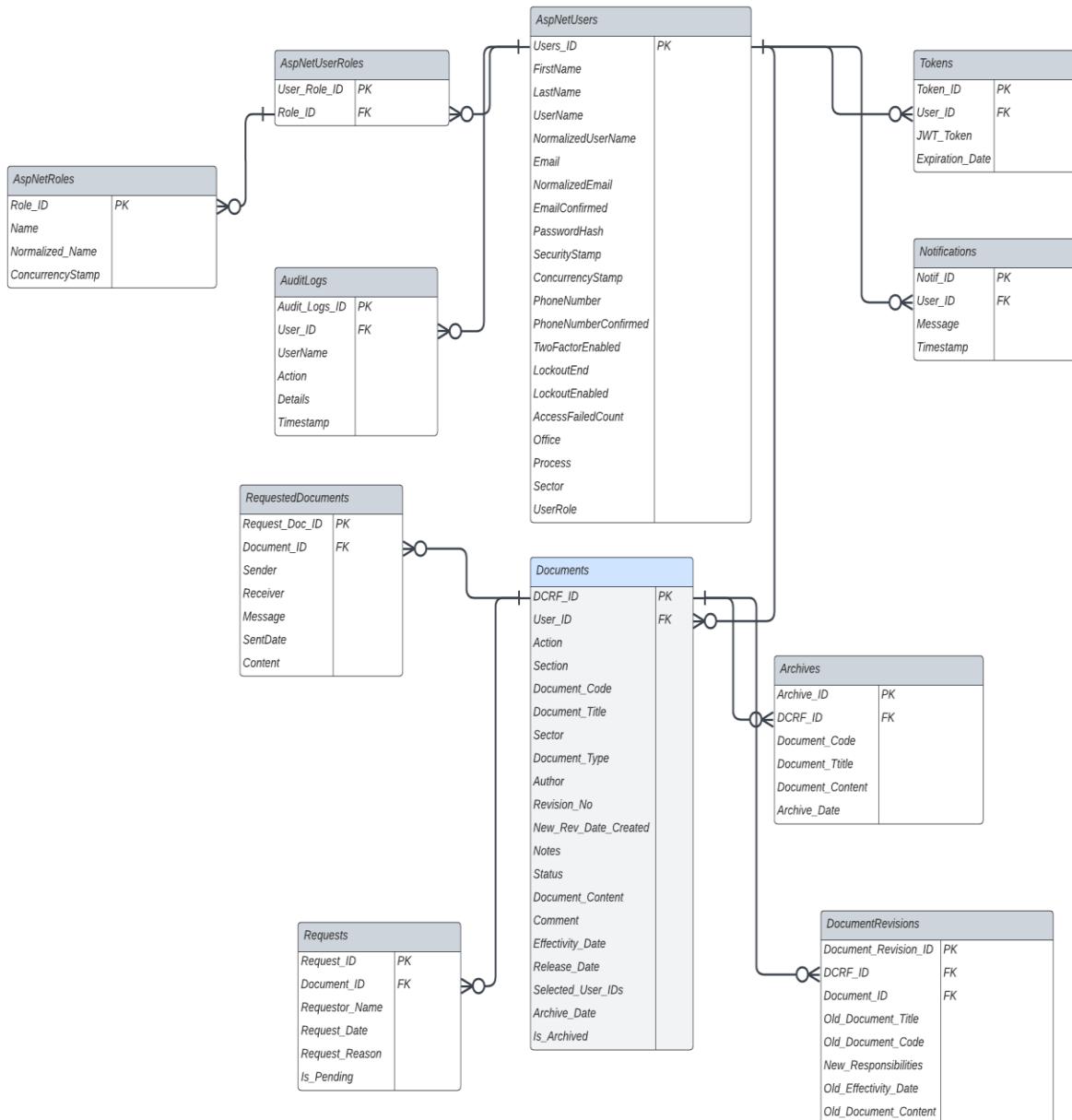
Figure 16. Interface of Quality Management Representative page

A screenshot of the QMS PORTAL interface. The top navigation bar is dark blue with the university logo on the left and "Welcome, Quality Management Representative!" on the right. Below the navigation bar is a search bar and a notification icon. The main content area has a white background. On the left, there's a sidebar titled "Sections" with links for Overview, Homepage, Dashboard, Document Approval (with a sub-link for Reports), and a red button for "QMR Pending Documents". The main content area is titled "Quality Management Representative" and shows a table of pending documents. The table has columns for "Document Title", "Author", "Date Created", "Action", and "Status". One entry is listed: "Attendance Sheet.pdf" by "process owner" on "Jan 10, 2024" with an "creation" action and a status of "Pending: Final Approval". At the bottom of the page is a dark footer bar with links for Home, Terms, Privacy, Policy, and Contact.

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3.2.4. Database Schema

Figure 17. Entity Relationship Diagram





3.2.5. Data Dictionary

Table 18

Database Table of Archives

Table Name: Archives								
Table Description: This table serves as part of the archive/deletion module of the system.								
Related Table: Documents								
Key	Field Name	Data Type	Length	Optional	Default Value	Field Validation	Description	Sample Data
PK	Archive_ID	Int Auto Increment		N	None	Not Null, Unique	Unique key of archive	1
FK	DCRF_ID	int		N	None	Not Null	foreign key of document	2
	Document_Code	nvarchar	max	N	None	None	Code of the documents	PUP-032-2023
	Document_Title	nvarchar	max	N	None	None	Name of Document	ManualJob
	Document_Content	varbinary	max	N	None	None	Encrypted Document	34234324
	Archive_Date	datetime2		Y	None	None	Date when archived	7/19/23



Table 19

Database Table of AspNetRoles

Table Name: AspNetRoles**Table Description:** This table serves as the roles given to the users..**Related Table:** None

Key	Field Name	Data Type	Length	Optional	Default Value	Field Validation	Description	Sample Data
PK	Role_ID	Int Auto Increment		N	None	Not Null, Unique	primary key of roles	1
	Name	nvarchar	max	N	None	None	name of the roles	Emilio
	Normalized_Name	nvarchar	max	N	None	None		EMILIO
	ConcurrencyStamp	nvarchar	max	N	None	None	Date Created	



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Table 20

Database Table of AspNetUserRoles

Table Name: AspNetUserRoles**Table Description:** This table serves as describing the roles of a user.**Related Table:** AspNetRoles

Key	Field Name	Data Type	Length	Optional	Default Value	Field Validation	Description	Sample Data
PK	User_Role_ID	nvarchar	450	N	None	Not, Unique	Primary key of user role	3
FK	Role_ID	nvarchar	450	N	None	None	foreign key of role	2



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Table 21

Database Table of AspNetUsers

Table Name: AspNetUsers**Table Description:** This table serves as the registration of users.**Related Table:** AspNetUserRoles

Key	Field Name	Data Type	Length	Optional	Default Value	Field Validation	Description	Sample Data
PK	Users_ID	nvarchar	450	N	None	Not Null, Unique	primary key of users	3
	FirstName	nvarchar	max	N	None	None	first name of the user	Kira
	LastName	nvarchar	max	N	None	None	last name of the user	Sy
	UserName	nvarchar	256	N	None	None	username of the user	KiraSy
	NormalizedUserName	nvarchar	256	N	None	None		KIRAS Y
	Email	nvarchar	256	N	None	None	email of the user	kirasy@gmail.com
	NormalizedEmail	nvarchar	256	N	None	None		KIRAS Y@GMAIL.COM



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Continuation of Table 21

	<i>EmailConfirmed</i>	bit		N	None	None		1
	<i>PasswordHash</i>	nvarchar ar	max	N	None	None		AQAA A
	<i>SecurityStamp</i>	nvarchar ar	max	N	None	None		DIEND
	<i>ConcurrencyStamp</i>	nvarchar ar	max	N	None	None		05945 3
	<i>PhoneNumber</i>	nvarchar ar	max	N	None	None	mobile numbe r of the user	09432 3
	<i>PhoneNumberConfigured</i>	bit		N	None	None		1
	<i>TwoFactorEnabled</i>	bit		N	None	None None		2
	<i>LockoutEnd</i>	dateti meoffs et	7	N	None	None		7/19/2 3
	<i>LockoutEnabled</i>	bit		N	None	None		1
	<i>LockoutEnabled</i>	int		N	None	None		0
	<i>Office</i>	nvarchar ar	max	N	None	None	office of the user	President
	<i>Process</i>	nvarchar ar	max	N	None	None		Proces s
	<i>Sector</i>	nvarchar ar	max	N	None	None	sector of the user	OVP
	<i>UserRole</i>	nvarchar ar	max	N	None	None	role of the user	Role1

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Table 22

Database Table of AuditLogs

Table Name: AuditLogs								
Table Description:		This table serves as logs when the user logs in.						
Related Table: AspNetUsers								
Key	Field Name	Data Type	Length	Optional	Default Value	Field Validation	Description	Sample Data
PK	Audit_Logs_ID	int autoincrement		N	None	Not Null, Unique	Primary key of auditlogs	3
FK	User_ID	nvarchar	max	N	None	Not Null	foreign key of users table	2
	UserName	nvarchar	max	N	None	None	username of the user	KiraSy
	Action	nvarchar	max	N	None	None	Request type of documents	Login
	Details	nvarchar	max	N	None	None		User Logged In
	Timestamp	datetime	7	N	None	None	date created	07/23/23 14:42:31



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Table 23

Database Table of DocumentRevisions

Table Name: DocumentRevisions								
Table Description:		This table serves as revisions when the user wants to change their documents.						
Related Table:		Documents						
Key	Field Name	Data Type	Length	Optional	Default Value	Field Validation	Description	Sample Data
PK	Document_Revision_ID	int autoincrement		N	None	Not Null, Unique	Primary key of document revision	3
FK	DCRF_ID	int		N	None	Not Null	foreign key of document	2
	Old_Document_Title	nvarchar	max	N	None	None	Old title of the document	Process Job
	Old_Document_Code	nvarchar	max	N	None	None	Old code of the document	Pup-201-2023
	New_Responsibilities	nvarchar	max	N	None	None		
	Old_Effectivity_Date	datetime	7	N	None	None	Past date of the document	07/19/2023
	Old_Document_Content	varbinary	max	N	None	None	old encrypted content	323232



Table 24

Database Table of Documents

Table Name: Documents**Table Description:** This table is for enrolling, revising and deleting the documents into the system.
Related Table: AspNetUsers

Key	Field Name	Data Type	Length	Optional	Default Value	Field Validation	Description	Sample Data
PK	DCRF_ID	int autoincrement		N	None	Not Null, Unique	primary key of documents	1
FK	User_ID	nvarchar	max	N	None	Not Null	foreign key of users	3
	Action	nvarchar	max	N	None	None	Requested action of users	Creation
	Section	nvarchar	max	N	None	None	Section of document	Operations
	Document_Code	nvarchar	max	N	None	None	Code of the document	PUP-232-2023
	Document_Title	nvarchar	max	N	None	None	Name of the document	Operation Opera



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Continuation of Table 24

	Sector	nvarchar	max	N	None	None	Sector of the document	OVP
	<i>Document_Type</i>	nvarchar	max	N	None	None	Type of the document	Operation Manual
	<i>Author</i>	nvarchar	max	N	None	None	Name of the user	KiraSy@gmail.com
	<i>Revision_No</i>	int		Y	0	None	Number of the document if revised	0
	<i>New_Rev_Date_Created</i>	datetime2	7	Y	None	None	Revision Date Created	07/19/2023
	<i>Notes</i>	nvarchar	max	Y	None	None	Notes of the user	Approve
	<i>Status</i>	int		N	0	None	Status of the document	3
	<i>Document_Content</i>	varbinary	max	N	None	None	encrypted document content	342423



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Continuation of Table 24

	Comment	nvarchar	max	Y	None	None	Comment of the approver	Approve
	<i>Effectivity Date</i>	datetime	7	N	None	None		07/19/2023
	<i>Release Date</i>	datetime	7	N	None	None	Date released	07/19/2023
	<i>Selected_User_IDs</i>	nvarchar	max	N	None	None	ID of the user	3
	<i>Archive Date</i>	datetime	7	Y	None	None	Date if archived	07/19/2023
	<i>Is_Archive d</i>	bit		Y	None	None	status if archived or not	1



Table 25

Database Table of Notifications

Table Name:		Notifications						
Table Description:		This table serves as notifying the user if there are new entries.						
Related Table:		AspNetUsers						
Key	Field Name	Data Type	Length	Optional	Default Value	Field Validation	Description	Sample Data
PK	<i>Notif_ID</i>	int autoincrement		N	None	Not Null, Unique	Primary key of notifications	3
FK	<i>User_ID</i>	nvarchar	max	N	None	Not Null	Foreign key of users	2
	<i>Message</i>	nvarchar	max	N	None	None	Message notification	Approve
	<i>Timestmp</i>	datetime2	7	N	None	None	Date Created	07/19/2023



Table 26

Database Table of RequestedDocuments

Table Name:		RequestedDocuments						
Table Description:		This table serves as requesting documents to the approver.						
Related Table:		Documents						
Key	Field Name	Data Type	Length	Optional	Default Value	Field Validation	Description	Sample Data
PK	Request_Doc_ID	int autoincrement		N	None	Not Null, Unique	Primary key of request documents	32
FK	Document_ID	int		N	None	Not Null	foreign key of Document ID	4
	Sender	nvarchar	max	N	None	None	Name of the sender	Kira
	Receiver	nvarchar	max	N	None	None	Name of the receiver	Emilio
	Message	nvarchar	max	N	None	None	Message of the user	Approve
	SentDate	datetime2	7	N	None	None	Date sent	07/19/2023
	[Content]	varbinary	max	N	None	None	encrypted document content	323231



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 27

Database Table of Requests

Table Name:		Requests						
Table Description:		This table shows who requests the documents.						
Related Table:		Documents						
Key	Field Name	Data Type	Length	Optional	Default Value	Field Validation	Description	Sample Data
PK	Request_ID	int autoincrement		N	None	Not Null, Unique	Primary key of requests	3
FK	DocumentId	int		N	None	Not Null	Foreign key of document	2
	RequestorName	nvarchar	max	N	None	None	Name of the requestor	Kira Sy
	RequestDate	datetime2	7	N	None	None	Date request	07/19/2023
	RequestReason	nvarchar	max	N	None	None	Reason for revision	Revision
	IsPending	bit	bit	N	0	None	status of document	2



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Table 28

Database Table of Tokens

Table Name:		Tokens						
Table Description:		This table serves as authentication of logging in of users.						
Related Table:		AspNetUsers						
Key	Field Name	Data Type	Length	Optional	Default Value	Field Validation	Description	Sample Data
PK	Token_ID	int		N		Not Null, Unique	primary key of tokens	3
FK	User_ID	nvarchar	max	N		Not Null	foreign key of	4
	JwtToken	nvarchar	max	N		None		323
	ExpirationDate	datetime2	7	N	None	None	expiration session of the user	07/19/2023



3.3. Development Methodology

3.3.1. Process Model

The development process for the Documented Information Management Module adhered to the Agile software development approach. Agile methodology centered around incremental and iterative development, fostering continuous collaboration between the development team and stakeholders to gather regular feedback. This strategy ensured adaptability, flexibility, and ongoing enhancement throughout the development journey. The module's creation, testing, and enhancement were shaped by user feedback and validation. The development procedure concentrated on coding, testing, and iterative improvements to guarantee the module's functionality, user-friendliness, and compatibility with PUP's QMS Portal.

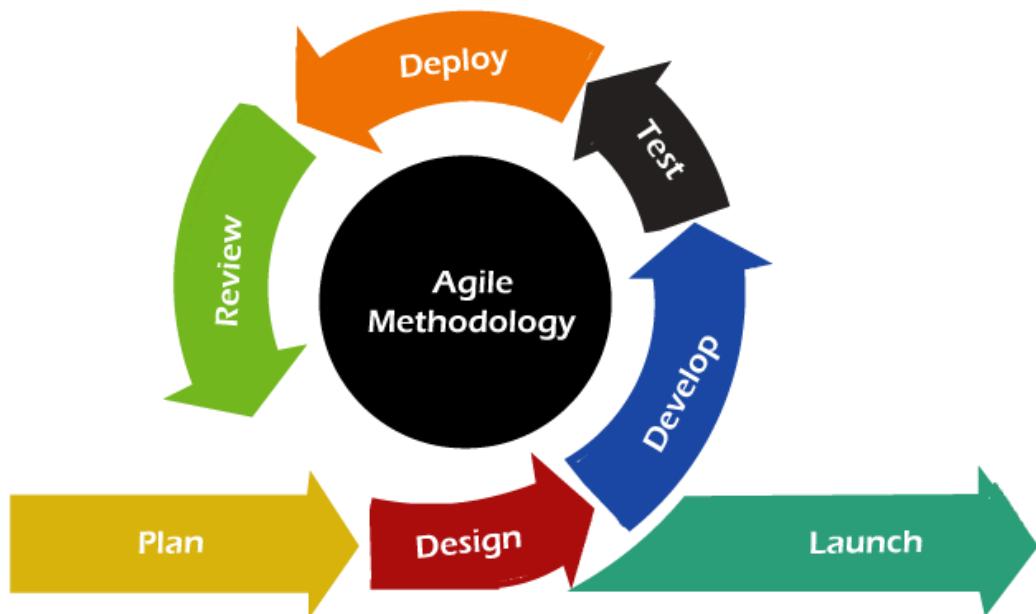
To gather data, the researchers used survey questionnaires and analyzed existing literature. Surveys provided quantitative insights into current document management practices and challenges, while interviews offered qualitative perspectives on stakeholders' experiences and expectations. Statistical methods for quantitative data were applied to interpret the collected information. Through these analyses, significant trends, patterns, and connections pertaining to document management practices were identified.

The study concluded with an evaluation and validation phase, during which the implemented module underwent user acceptance testing. Stakeholders, including a selected number of university officials and designees, supplied input on its performance, user-friendliness, and efficiency in addressing the identified document management gaps.

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Continuous refinements were enacted based on user feedback until the module successfully fulfilled the intended objectives and requirements.

Figure 18. Process Model



The process model diagram represents the Agile Development method, which is a dynamic and iterative approach to software development, focusing on flexibility, collaboration, and rapid delivery. It illustrates a cyclical process encompassing key stages, including requirements gathering, design, development, testing, and deployment. This iterative model fosters adaptive planning and encourages close engagement between cross-functional teams, stakeholders, and end-users, enabling the creation of high-quality software that effectively addresses evolving needs and priorities.



3.3.2. Development Tools

Programming Language: C#

Other Languages: HTML, CSS, and JavaScript

Database: Microsoft SQL Server (MSSQL)

Integrated Development Environment: Visual Studio 2022

Framework: ASP.NET Core

3.4. Test Methodology/Procedures

3.4.1. Unit Testing

In the Documented Information Management System, unit tests consisted of test modules handling essential functions like user registration, login, user information management (including roles), document processing, requests, and other related tasks. Each of these units was tested in isolation to verify accurate input processing, expected output generation, and proper error handling.

To ensure efficient unit testing, the researchers utilized test frameworks and libraries equipped with tools for defining test cases, executing tests, and validating expected outcomes. By leveraging these frameworks, the proponents could automate the testing process, enabling frequent test runs and rapid issue identification. This streamlined approach enhanced the overall software quality.



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and aided in maintaining an effective and reliable Documented Information System.

3.4.2. Integration Testing

The integration testing for the Documented Information Management Module included testing interactions between units, such as the database, the login and registration of users, document processing, and other related components. These tests verified that these units communicated effectively, exchanged data correctly, and worked together to produce the expected results.

Integration testing involved developing test cases to test the interfaces and interactions between modules. This included testing data flow, error handling, exception scenarios, and boundary cases. Continuous integration systems were employed to automate integration testing, providing faster feedback to developers and reducing the likelihood of integration issues. By verifying the interactions between integrated modules, the researchers ensured the module's overall stability and compatibility.



3.4.3. System Testing

System testing was a vital step in evaluating the Documented Information Management Module as a complete system. This phase involved end-to-end testing, examining the entire module's behavior and functionality against the specified requirements. The system was tested under realistic scenarios to mimic real-world usage. Test cases included various usage scenarios, data flows, and error-handling situations. Automated testing tools were utilized to increase test coverage and efficiency. System performance, data integrity, and compliance with functional and non-functional requirements were thoroughly evaluated. Any identified issues were tracked and resolved, ensuring that the system met the user's expectations and was ready for deployment.

3.4.4. Acceptance Testing

The acceptance testing phase had several purposes. This provided users, admins, and stakeholders with an opportunity to ensure that the system met their needs and expectations. It also allowed the development team to identify and fix any gaps or issues before deploying the system. Acceptance testing helped ensure that the system was usable, reliable, and met desired business goals.

During this phase, stakeholders, including process owners, sector heads, document controllers, and quality management representatives actively participated in the testing process. Feedback collection methods such as user surveys and interviews were employed to gather valuable insights from



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stakeholders. Any feedback received was analyzed and incorporated into the module to enhance its usability and user satisfaction. This iterative feedback loop helped ensure that the developed module met the stakeholders' expectations and served its intended purpose effectively.

3.4.5. Performance Testing

The Documented Information Management System relies on its ability to deliver a smooth and efficient user experience, accommodate growing data loads, and consistently meet the performance expectations of the users and stakeholders. Performance testing played a pivotal role in achieving these objectives, empowering the researchers to build a dependable and high-performing documented information system that enhances knowledge sharing and retrieval across the organization.

Stress tests were performed to evaluate the system's stability and behavior under high user loads, while load tests examined its performance under expected operational loads. Additionally, performance profiling was utilized to pinpoint performance hotspots and optimize the module's codebase. By addressing performance issues ahead of time, the researchers guaranteed a high level of responsiveness and scalability, ensuring that the module could handle the expected usage volume within the designated time frame.



3.4.6. Security Testing

Ensuring security is of utmost significance, particularly when dealing with sensitive data within the Documented Information Management Module. To counter potential threats, security testing was undertaken. This phase encompassed security assessments, penetration testing, and code reviews. The system's security status was assessed through security testing frameworks and vulnerability scanning tools. Simulated attacks during penetration testing uncovered and addressed vulnerabilities in the system's defenses. Early identification of potential security flaws was carried out through static code analysis during development. By establishing a strong security framework, the team effectively protected sensitive information, upholding the confidence of users and stakeholders.

The primary objectives of security testing were threefold: Firstly, to unveil potential system vulnerabilities. Secondly, to verify the effectiveness of security controls in place. Lastly, to ensure alignment with established security norms and industry best practices. These objectives guided the enhancement of the security posture of the documented information management module, enhancing its resilience against emerging security risks and proactively addressing potential threats.



3.4.7. Usability Testing

The usability assessment of the Documented Information System involved the observation of the users as they engaged with the platform and the subsequent evaluation of their interactions. Beyond its role in enhancing user experience, usability testing served a pivotal function in validating the system's alignment with user anticipations and organizational requisites.

By encompassing crucial user experience within the Documented Information System, the researchers guaranteed that the platform capably aided users in their daily tasks. By prioritizing usability, the researchers fostered a user-centric environment that elevated the system's overall usability and user contentment. The unwavering commitment to usability testing underscored the resolve to provide users with an indispensable tool that streamlined the management of documented information and empowered them to effortlessly harness the system's capabilities.

3.4.8. Compatibility Testing

Compatibility Testing involved evaluating the system's performance across a range of web browsers, operating systems, mobile devices, and other relevant software and hardware configurations. The researchers aimed to enhance the system's reach and accessibility by supporting multiple platforms and configurations, catering to a diverse user base. Prioritizing consistency in user



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experience across different environments was a key focus, as it directly contributed to improved user satisfaction.

During compatibility testing, the researchers ensured the system functioned seamlessly and correctly across various configurations commonly used by the intended users. Thorough testing identified and addressed compatibility issues, providing a smooth experience. Compatibility was prioritized to meet diverse user needs and deliver a reliable platform for managing documented information.

3.5. SYSTEM REQUIREMENTS

3.5.1. Hardware Requirements

Table 29

Hardware Requirements

COMPONENT	MINIMUM	RECOMMENDED
Processor	Dual-core 1.6 GHz	Quad-core 2.0 GHz or higher
RAM	4 GB	8 GB or higher
Storage	256 GB HDD	500 GB HDD or higher
Network	10 Mbps	25 Mbps or higher
Display	1366x768 resolution	1920x1080 resolution or higher
Browser	Latest version of major browsers (e.g., Chrome, Firefox, Edge)	



3.5.2. Software Requirements

Table 30

Software Requirements

COMPONENT	MINIMUM	RECOMMENDED
Operating System	Windows 10	Windows 11
Database Server	Microsoft SQL Server 2019	Microsoft SQL Server 2022 or latest version
ASP .NET Framework	ASP .NET Core 6	ASP .NET Core 7
SSL Certificate	Required	Required

3.6. Quality Plan

The documented information management system adheres to ISO 25010 standards, specifically focusing on usability, functionality, reliability, efficiency, and security aspects. This plan aimed to achieve a well-structured, user-friendly, secure, and efficient system that supports the organization's needs while ensuring compliance with ISO 25010 requirements.



Table 31

ISO 25010 Criteria Result: Description on the Functionality

Evaluation in terms of the ff:	Description	
Functionality		
	Completeness	To comprehensively manage and store all relevant documented information within an organization. To ensure that no critical document or data is omitted or overlooked. to capture and archive all types of documents.
	Correctness	It signifies the accuracy and integrity of the documented information stored within the system. All documents it manages are free from errors, inconsistencies, or unauthorized alterations.
	Appropriateness	The system should be tailored to suit the organization's document management processes, objectives, and compliance mandates. It enhances the organization's document management capabilities without unnecessary complexities or limitations.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 32

ISO 25010 Criteria Result: Description on the Reliability

Evaluation in terms of the ff:	Description	
Reliability		
	Fault Tolerance	Implement redundancy and backup mechanisms to mitigate the impact of document system failures.
	Recoverability	Define a recovery plan to restore documents in case of unexpected data loss or system outages.
	Maturity	Continuously improve the documented information management system to increase its maturity and reliability.



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Table 33

ISO 25010 Criteria Result: Description on the Efficiency

Evaluation in terms of the ff:	Description	
Efficiency		
	Resource Utilization	Implement measures to reduce resource consumption, such as optimizing file sizes and storage usage.
	Time Behavior	Establish performance benchmarks to monitor and improve the system's response time for accessing and retrieving documents.



Table 34

ISO 25010 Criteria Result: Description on the Usability

Evaluation in terms of the ff:	Description	
Usability		
	Attractiveness	Ensure that document layouts are visually appealing, using appropriate fonts, colors, and graphics to enhance readability.
	Operability	Provide clear instructions on how to navigate and use the documented information system efficiently.
	Learnability	Develop user guides and training materials that help users quickly understand and learn how to use the system effectively.
	Understandability	Use clear and concise language in all documents to facilitate easy comprehension.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 35

ISO 25010 Criteria Result: Description on the Security

Evaluation in terms of the ff:	Description	
Security		
	Confidentiality	Ensuring that sensitive information documents are stored remains protected from unauthorized access users. Access controls, encryption, and user authentication are implemented to prevent unauthorized users or entities from viewing or obtaining sensitive documents.
	Integrity	Documents must remain accurate and unaltered throughout their retention lifecycle. To ensure integrity, the organization implements data validation checks, version control, and digital signatures to monitor and prevent any unauthorized modifications to documents.
	Non-repudiation	Achieved using digital signatures, audit trails, and timestamps to provide a verifiable record of document-related activities.
	Accountability	Access logs, user authentication such as OTP, and role-based access controls help attribute document-related actions to responsible users, enhancing transparency and accountability.
	Authenticity	Organizations employ document digital signatures and hashing to verify the origin and integrity of documents dealing with legal and historical records.



3.7. Evaluation Plan

The purpose of this evaluation was to assess the effectiveness, efficiency, and user-friendliness of the Documented Information Management Module in enhancing PUP's Quality Management System (QMS) while adhering to ISO 9001 standards and PUP's specific needs:

- a. **User Acceptance Testing (UAT):** The respondents, consisting of PUP's University Officials and Designees with specific roles such as Process Owners, Document Controllers, Sector Heads, and Quality Management Representatives, participated in user acceptance testing sessions. This assessed the module's usability and functionality through predefined test scenarios.
- b. **Document Analysis:** An examination of stored documented information verified ISO 9001 compliance and the accuracy of reference materials.
- c. **User Feedback Surveys:** Surveys were conducted to gather user input on their experiences, challenges, and suggestions for enhancing the module.
- d. **Performance Metrics:** Key performance indicators, including document retrieval speed, review and approval cycle duration, and



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

document storage usage, were quantified to measure efficiency enhancements.

- e. **Security Assessment:** Security audits assessed the module's implementation of security measures, encompassing access controls, encryption, and safeguarding of sensitive data.
- f. **Stakeholder Discussions:** Interviews with key stakeholders were conducted to evaluate the module's role in fulfilling QMS objectives.

3.7.1 Ethical Considerations

In this project, several ethical considerations were taken into consideration in order to guarantee the study's integrity, privacy, and impartiality. The handling and utilization of data were strictly aligned with ethical norms and regulations, ensuring that participants provide informed consent. Rigorous measures were put in place to uphold confidentiality and safeguard sensitive data. Any potential conflicts of interest were forthrightly disclosed and appropriately managed. Additionally, the project was committed to treating all stakeholders equitably, fostering an atmosphere of inclusiveness and respect. The research process was guided by ethical principles, thus upholding the reliability and credibility of the project's results.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

3.8. Data Analysis (Procedure and Treatment)

The data analysis process for the Documented Information Management Module primarily involved applying statistical treatments to the collected data. Specifically, descriptive statistics, including the use of weighted mean, was utilized to derive meaningful insights. The focus on descriptive statistics, particularly the weighted mean, provided valuable information to guide decision-making, enhance system functionalities, and contributed to the overall effectiveness of the module in managing documented information.

3.9. Statistical Treatment

In this study, the primary statistical treatment involves the use of the arithmetic mean as a measure of central tendency. This calculates the average of all responses in the dataset, providing a straightforward analysis. Since it considers varying significance, the weighted mean serves to communicate research findings effectively and support informed decision-making based on the overall average of the obtained information.



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The researchers used the following formula to calculate the weighted and overall mean respectively:

$$W = \frac{\sum_{i=1}^n w_i X_i}{\sum_{i=1}^n w_i}$$

Where:

W = Weighted Mean

n = number of terms to be averaged

w_i = weights applied to x values

X_i = data values to be averaged

$$X = \frac{\Sigma^x}{n}$$

Where:

X = Overall Mean

Σ^x = sum of all the weighted mean scores

n = total number of questions



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

The Likert scale system was utilized to measure the responses for the given variables. Table 36 presents the interval and verbal interpretation for each scale.

Table 36

Likert Scale

Scale	Interval	Verbal Interpretation
4	3.25 - 4.00	Strongly Agree
3	2.50 - 3.24	Agree
2	1.75 - 2.49	Disagree
1	1.00 - 1.74	Strongly Disagree

$$\alpha = \frac{N-1}{N}$$

where:

α = interval size

N = number of response options

The Likert scale system was determined by dividing the entire range (4.00 - 1.00) into four intervals, with each interval representing a response category. The formula $N-1/N$, where N is the total number of response options, was applied to achieve a consistent interval size of 0.75. Starting with 1.00 for "Strongly Disagree," subsequent categories were established by adding 0.75 to the lower bound of the previous category until reaching "Strongly Agree" at 4.00. This method ensures



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uniformity, precision, and an easily interpretable Likert scale, allowing respondents to express their level of agreement or disagreement across the four distinct categories, each representing a specific range of the overall scale.

3.10. Research Instrument

Generally, the researchers made use of a structured survey questionnaire designed to collect data for the study. The questionnaire was based on ISO 25010 - Systems and Software Quality Requirements and Evaluation and consisted of questions in Likert scale format. Respondents, including users and key stakeholders, rated their agreement with statements on a scale from 1 to 4. The questionnaire addressed various aspects, including functional suitability, performance efficiency, usability, reliability, and security. Data from the questionnaire, along with document reviews, was analyzed quantitatively to assess current practices and compliance, guiding the research conclusions.



Chapter 4

RESULTS AND DISCUSSION

This chapter discusses the results of the testing, quality assessment, and evaluation plan for the Documented Information Management System. The study employed a user-focused approach, with evaluations based on ISO 25010 - Systems and Software Quality Requirements and Evaluation, including functional suitability, performance efficiency, usability, reliability, and security. The respondents of the study include PUP's university officials and designees with specific roles such as Process Owners, Document Controllers, Sector Heads, and Quality Management Representatives. The results of these evaluations, gathered through survey forms, provide a comprehensive understanding of the module's performance and its alignment with ISO standards.

**POLYTECHNIC UNIVERSITY OF THE PHILIPPINES**

Table 37

Representation of Sectors and Number of Respondents

SECTOR	No. of Respondents
Office of the President (OP)	3
Office of the Executive Vice President (OEVP)	2
Office of the Vice President for Administration (OVPA)	3
Office of the Vice President for Academic Affairs (OVPA)	6
Office of the Vice President for Planning and Finance (OVPPF)	4
Office of the Vice President for Student Affairs and Services (OVPSAS)	7
Office of the Vice President for Research, Extension and Development (OVPRED)	19
Office of the Vice President for Campuses (OVPC)	1
TOTAL RESPONDENTS:	45

Table 37 provides a representation of the various sectors within the organizational structure and the corresponding number of respondents participating in the survey. The sectors include key offices such as the Office of the President (OP), the Office of the Executive Vice President (OEVP), the Office of the Vice President for Administration (OVPA), the Office of the Vice President for Academic Affairs (OVPA), the Office of the Vice President for Planning and Finance (OVPPF), the Office of the Vice President for



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Student Affairs and Services (OVPSAS), the Office of the Vice President for Research, Extension and Development (OVPRED), and the Office of the Vice President for Campuses (OVPC).

Remarkably, the highest number of respondents is associated with the Office of the Vice President for Research, Extension and Development (OVPRED), with a considerable count of 19 respondents. The overall respondents count across all sectors totals 45 respondents. This distribution demonstrates a diverse and comprehensive representation of various organizational sections, ensuring a broad range of perspectives and insights from different functional areas within the institution.

**POLYTECHNIC UNIVERSITY OF THE PHILIPPINES**

The Evaluation of the Respondents on Documented Information Management Module for PUP Quality Management System Portal:

Table 38

Functional Suitability Results

Description	Scale: Frequency	WEIGHTED MEAN	VERBAL INTERPRETATION
A. Function Suitability			
1. All the tasks and user goals specified by the system are covered.	4: 34 3: 11 2: 0 1: 0	3.76	Strongly Agree
2. The DIMS offers the appropriate results with the required level of accuracy.	4: 33 3: 12 2: 0 1: 0	3.73	Strongly Agree
3. The DIMS makes it easier to complete specific tasks and goals.	4: 35 3: 10 2: 0 1: 0	3.78	Strongly Agree
Overall Mean		3.76	Strongly Agree



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Evaluating the results presented in the Functional Suitability table, specifically Row A.1, indicates a strong agreement among participants. Out of the total respondents, thirty-four (34) respondents provided the highest rating of 4 ('Strongly Agree'), while eleven (11) respondents opted for a rating of 3 ('Agree'). It becomes evident that the majority of users strongly agree that the system covers all specified tasks and user goals, attaining a mean score of 3.76. This implies a high level of completeness in addressing their needs.

Additionally, when evaluating the results table, specifically Row A.2, it shows that there is a strong consensus among users in affirming that the system provides the appropriate results with the required level of accuracy. Out of the total respondents, thirty-three (33) respondents gave the highest rating of 4 ('Strongly Agree'), while twelve (12) respondents provided a rating of 3 ('Agree'). This strong agreement is evidenced by a mean score of 3.73, indicating a reliable performance in delivering precise outcomes.

Furthermore, there is also a strong agreement among respondents that the system contributes to the ease of completing specific tasks and goals, as indicated by a mean score of 3.78 (see Table 38 Row A.3). Out of the total respondents, thirty-five (35) respondents provided the highest rating of 4 ('Strongly Agree'), while ten (10) respondents chose a rating of 3 ('Agree'). Combining these individual mean scores, the overall weighted mean for functional suitability is 3.76. This highlights the system's effectiveness in addressing user needs in terms of the system functionalities.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Analyzing these results in the context of the specific objectives, it can be interpreted that the Documented Information Management System (DIMS) successfully fulfilled the objective of providing functionalities that meet the stated and implied needs of users, specifically by implementing an enhanced document enrollment process, ensuring consistency, and reducing errors. Additionally, the system aligns with the objective of implementing a comprehensive revision control, allowing users to track changes and maintain revision histories. Lastly, the resulting weighted mean score emphasizes the capability of the DIMS to optimize review and approval processes, contributing to the overall efficiency of PUP's Quality Management System. These findings provide valuable insights into how the system aligns with its intended objectives, reinforcing its role in improving document management within the institution.



Table 39

Performance Efficiency Results

Description	Scale: Frequency	WEIGHTED MEAN	VERBAL INTERPRETATION
B. Performance Efficiency			
1. When performing its functions, the DIMS complies with specifications in terms of response time, processing speed, and task completion efficiency.	4: 35 3: 10 2: 0 1: 0	3.78	Strongly Agree
2. The DIMS complies with requirements in terms of the types of resources such as laptops or mobile phones used to carry out its functions.	4: 34 3: 10 2: 1 1: 0	3.73	Strongly Agree
Overall Mean		3.76	Strongly Agree



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Evaluating the results presented on the Performance Efficiency table, specifically Row B.1, revealed a consensus among respondents, with a mean score of 3.78, indicating that the DIMS aligns with specifications in these aspects. User satisfaction was shown, as evidenced by survey responses where thirty-five (35) respondents opted for the highest rating of 4 ('Strongly Agree'), while six (10) respondents answered 3 ('Agree').

Moreover, when evaluating the system's compliance to requirements concerning the types of resources utilized, such as laptops or mobile phones presented on the results table, the survey findings maintained a consistently positive trend. The mean score for this section is 3.73, with thirty-four (34) respondents strongly asserting that the system satisfies the specified requirements, while ten (10) respondents choose rating 3 ('Agree'). However, one (1) respondent expressed a disagreement with the rating of 2 ('Disagree'), providing valuable feedback that they had not tested the DIMS on a different type of resource. Despite this one low rating, it still can be interpreted that the users perceive the DIMS as adaptable to diverse resources, ensuring versatility and accessibility in executing its functions. Overall, the weighted mean of 3.76 for Performance Efficiency highlights user satisfaction with the system's performance across various factors.

Analyzing these results, it can be interpreted that the DIMS successfully fulfilled the objective of enhancing processes for submitting documents, ensuring consistency, and reducing errors. The positive feedback regarding response time, processing speed, and task completion efficiency aligns with the system's goal to optimize review and approval processes. Additionally, the users' perception of the DIMS as adaptable to various devices contributes to the system's objective of ensuring compatibility with different resources. In



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summary, the Performance Efficiency results highlight the system's effectiveness in meeting key objectives, providing efficient performance, and showcasing adaptability to diverse devices.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 40

Usability Results

Description	Scale: Frequency	WEIGHTED MEAN	VERBAL INTERPRETATION
C. Usability			
1. The DIMS is suitable for the user's needs.	4: 36 3: 9 2: 0 1: 0	3.80	Strongly Agree
2. The DIMS can be used by specific users to accomplish specific goals, including learning to use the application.	4: 37 3: 8 2: 0 1: 0	3.82	Strongly Agree
3. The DIMS has features that make it simple to use and manage.	4: 35 3: 10 2: 0 1: 0	3.78	Strongly Agree
4. The DIMS prompt users of errors and validates inputs.	4: 34 3: 9 2: 2 1: 0	3.71	Strongly Agree
5. The user interface of the DIMS enables enjoyable and fulfilling user interaction.	4: 33 3: 12 2: 0 1: 0	3.73	Strongly Agree
6. The DIMS can be used by many different kinds of people, no matter what skills or traits they have.	4: 33 3: 12 2: 0 1: 0	3.73	Strongly Agree
Overall Mean		3.76	Strongly Agree



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

In the Usability section, participants strongly provided positive feedback regarding their various experiences with the DIMS. The system's suitability for user needs collected a strong approval result presented in the Usability table, in Row C.1, with thirty-six (36) respondents rating it as 'Strongly Agree' and an additional nine (9) respondents indicating 'Agree'. This consensus is reflected in the strong mean score of 3.80, highlighting users' satisfaction with the system's alignment with their needs.

In addition, respondents recognized the system's versatility when evaluating the results covered in the results table in Row C.2, with thirty-seven (37) respondents 'Strongly Agree' that it can be effectively utilized by specific users to achieve specific goals, while the remaining eight (8) respondents rate it 3 'Agree'. With a mean score of 3.82, this indicates a strong agreement on the system's usability for diverse user specific types and goals.

Respondents also showed strong approval of the system's simplicity and manageability, as evidenced by thirty-five (35) participants giving it a 'Strongly Agree' rating and an additional ten (10) respondents choosing 'Agree.' The mean score of 3.78 indicates a strong agreement, highlights positive insights of the system's user-friendly and manageable features (see Table 40 Row C.3).

Furthermore, the DIMS excels in error handling and input validation with a strong agreement from participants where thirty-four (34) respondents rate it 4 'Strongly Agree' that the system effectively prompts users of errors and validates inputs, while the nine (9) respondents rate it 3 'Agree'. The remaining two (2) respondents, however, provided a rating of 2 'Disagree'. The two respondents who disagree provided feedback that they did not have



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the opportunity to fully explore or test all validation and error inputs. This feedback emphasizes the importance of considering individual user experiences and the potential impact on their understanding. Even with this minor disagreement, the majority consensus with a mean score of 3.71 indicates a generally strong agreement of user confidence in the reliability of the system's error handling mechanisms.

The user interface was generally recognized based on the evaluation of results presented in the results table, specifically in Row C.5, with thirty-three (33) participants strongly agreeing that it enables engagement and fulfilling user interaction, while twelve (12) respondents agreed. The mean score of 3.73 reflects positive experiences with the system's interface design.

Lastly, respondents strongly agreed that the DIMS is universally applicable, irrespective of users' skills or traits (see Usability Results table, row C.6), with thirty-three (33) respondents provided a rating of 4 'Strongly Agree' and twelve (12) respondents provided a rating of 3 'Agree'. This indicates strong agreement with the mean score of 3.73, that the DIMS is suitable for any kind of user.

The overall weighted mean for Usability section, calculated at 3.76, verifies a strong consensus ('Strongly Agree') among users, supporting the high usability of the DIMS and the positive user experiences encountered while interacting with the system.

Analyzing these results in the context of specific objectives, it can be interpreted that the DIMS successfully fulfilled the objective of developing a comprehensive and user-friendly Documented Information Management Module tailored for the PUP Institutional Quality



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Management System Portal. The high mean score for the system's suitability for user needs aligns with the objective to optimize enrollment and approval processes, as users find the application effective for their specific goals. The positive feedback on the simplicity of features and error promptness contributes to the system's overall usability, addressing the goal of creating an efficient and user-friendly platform.



Table 41
Reliability Results

Description	Scale: Frequency	WEIGHTED MEAN	VERBAL INTERPRETATION
D. Reliability			
1. When used normally, the DIMS satisfies the requirements for reliability.	4: 35 3: 10 2: 0 1: 0	3.78	Strongly Agree
2. When used, the DIMS is operational and available.	4: 33 3: 12 2: 0 1: 0	3.73	Strongly Agree
3. Despite hardware or software issues, the DIMS functions as intended.	4: 32 3: 13 2: 0 1: 0	3.71	Strongly Agree
4. The DIMS can restore and recover the original state of the data in case of problem occurrence.	4: 31 3: 14 2: 0 1: 0	3.69	Strongly Agree
Overall Mean		3.73	Strongly Agree



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In the A section of the survey, the participants strongly agree that the DIMS satisfies the requirements for reliability under normal usage conditions, with thirty-five (35) respondents provided the highest rating of 4 ('Strong Agree'), while the remaining ten (10) respondents provided a rating of 3 ('Agree'). This results with a mean score of 3.78 indicating a strong agreement among users in the system's reliability when used in standard operating conditions (see Table 41 Row D.1).

Furthermore, participants strongly agree with the consistent operational performance and availability of the DIMS. Thirty-three (33) respondents provided their strong agreement, choosing the highest rating of 4 ('Strongly Agree') and twelve (12) respondents provided a rating of 3 ('Agree'), resulting in a mean score of 3.73 (see Table 41 Row D.2). This collective assertion indicates the users' confidence in the system's reliability and uninterrupted functionality during use.

In terms of functionality despite hardware or software issues, the DIMS also received positive feedback when interpreting the results presented in Table 41, in row D.3, where thirty-two (32) respondents provided a highest rating of 4 ('Strongly Agree') and the remaining thirteen (13) respondents provided a rating of 3 ('Agree'). This resulted in a mean score of 3.71. Therefore, it can be interpreted that the users have confidence in the system's resilience, even in the midst of technical challenges.

The DIMS is also recognized as capable of restoring the desired state and recovering the original state of data in case of problem occurrence as results evaluated in the results table, specifically in Row D.4. Thirty-one (31) respondents provided the highest rating of 4



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('Strongly Agree'), while fourteen (14) respondents provided a rating of 3 ('Agree') that resulted with a mean score of 3.69 indicating a strong agreement among users. This reflects users' confidence in the system's ability to recover from potential setbacks.

Overall, the weighted mean for reliability is calculated at 3.73, reflecting a strong consensus ('Strongly Agree') among users regarding the strong performance of the DIMS, consistent availability, and effective data recovery capabilities. These results affirm the users' positive evaluations of the system's reliability across various factors of it.

Analyzing the reliability feedback in more detail, the strong agreement from the respondents on meeting reliability requirements under normal usage conditions signifies the success of the Documented Information Management System in providing consistent performance, aligning closely with the objectives of enhancing document submission processes and developing a secure central repository. This suggests that the DIMS effectively contributes to the goal of ensuring consistent and error-reducing document submission by meeting these reliability requirements.



Table 42

Security Results

Description	Scale: Frequency	WEIGHTED MEAN	VERBAL INTERPRETATION
E. Security			
1. The DIMS makes sure that only people with access rights can access the data.	4: 34 3: 9 2: 2 1: 0	3.71	Strongly Agree
2. The DIMS guards against unauthorized access to or alteration of data.	4: 31 3: 12 2: 2 1: 0	3.64	Strongly Agree
Overall Mean		3.68	Strongly Agree



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Evaluating the results presented in the Security table, Row E.1 assesses the system's capability to restrict access to authorized personnel, a majority of respondents of thirty-four (34) strongly agree, giving a rating of 4, while the nine (9) respondents agree, providing a rating of 3. However, two (2) respondents differ in their views, indicating disagreement with a rating of 2. Providing feedback that their disagreement results from the acceptance that they did not have the opportunity to fully explore the functionality of the overall security features. Despite this minor disagreement, the overall mean score for this section remains strong at 3.71, indicating that the vast majority strongly agrees that the DIMS effectively ensures that only individuals with access rights can access the data.

With regards to the section presented in the results table, in Row E.2, focusing on the system's ability to guard against unauthorized access or alteration of data or computer programs, thirty-one (31) of the respondents strongly agreed and nine (9) of the respondents agreed while two (2) respondents disagreed providing a rating of 2. Importantly, their disagreement resulted in the fact that they also did not have the opportunity to thoroughly evaluate the functionality of the overall security features. The mean score for this section remains robust at 3.64, demonstrating overall strong agreement. Although two of the respondents disagree on both questions, the majority's strong agreement emphasizes the overall positive view regarding the system's security measures.

The results, reflecting a verbal interpretation of "Strongly Agree" among respondents with an overall weighted mean of 3.68, demonstrating satisfaction with the security measures implemented by the DIMS. Significantly, this comprehensive evaluation of user feedback not only highlights the collective satisfaction with the security protocols of the DIMS but also



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addresses specific areas of disagreement, providing valuable insights into the reasons behind differing understandings. The acknowledgment of limited testing opportunities contributes to a minimal different understanding of user views within the broader context of security evaluations.

Connecting these results to the specific objectives, it can be interpreted that the DIMS effectively fulfilled the objective of enhancing security measures by implementing access controls, as evidenced by the positive responses regarding access restriction. Additionally, the strong agreement on guarding against unauthorized access or data alteration aligns with the system's goal to ensure the security of sensitive information. Overall, the Security results affirm the effectiveness of the DIMS in meeting key objectives related to security measures, reinforcing user confidence in the system's ability to protect against unauthorized access and alterations.



Chapter 5

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

In this chapter, the researchers consolidate the key findings from the conducted system testing and evaluation. They analyze how well the system performed and discuss the implications of the results. Moreover, the chapter provides recommendations for enhancing the system.

5.1. Summary of Findings

- In terms of Functional Suitability, the DIMS yielded a mean score of 3.76 with a verbal interpretation of "Strongly Agree." This outcome indicates that the Documented Information Management System (DIMS) successfully addresses all tasks and user goals, achieving a high level of completeness. Specifically, the DIMS has significantly enhanced the document enrollment process, ensuring consistency and minimizing errors, thereby fulfilling the objective to streamline the submission of documents within PUP's Quality Management System.
- When it comes to Performance Efficiency, the DIMS achieved a mean score of 3.76, also interpreted as "Strongly Agree." This result emphasizes that the DIMS met its objectives by aligning with specified response time, processing speed, and task completion efficiency. The respondents expressed satisfaction with features such as automated workflows and user notifications, which helps to fulfill the objective of optimizing review and approval processes.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Their feedback indicated that these functionalities were not only found useful but also played a crucial role in reducing delays and improving overall efficiency.

- The Usability section demonstrates a mean score of 3.76, indicating a "Strongly Agree" interpretation. While the majority of users strongly agree with a mean score of 3.76, it is noteworthy that two (2) respondents expressed disagreement on one of the questions. Users, in general, find the DIMS suitable for their needs, adaptable to specific users and goals, easy to use, and offering pleasant user interaction. Despite this positive trend, the disagreeing feedback from the two respondents emphasizes that not all users perceive the system in the same manner. Addressing the concerns raised by these two respondents could further enhance the overall usability of the DIMS and ensure a more positive user experience.
- With a mean score of 3.73, the Reliability assessment yields a "Strongly Agree" interpretation. Users highly recognize the DIMS for its consistent performance, operational availability, and its resilience to issues. These functionalities contributed to the study's objective of maintaining the accuracy of Documented Information by establishing systematic processes for reviewing and updating reference materials, including version control.
- When it comes to Security, the DIMS got a mean score of 3.68, interpreted as "Strongly Agree." While the majority of the respondents strongly agreed, it is



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

noteworthy that this aspect received a comparatively lower score compared to other aspects of the survey and two (2) respondents answered with a rating of 2 (disagree) for the security part of the survey. Upon asking for the reasoning of their rating, the respondents mentioned that they were not shown the security features, particularly the Identity System for access control during the system demonstration. The researchers acknowledge this limitation in the data gathering process, where specific aspects of the system, particularly related to security measures, were not thoroughly demonstrated to said participants.

To sum up, the Documented Information Management System successfully fulfilled the specified objectives, enhancing document enrollment, implementing revision control, establishing a centralized document repository, managing document deletion/archiving, enhancing security measures, optimizing review and approval processes, ensuring ISO 9001 compliance, and maintaining accuracy in documented information. The positive user feedback and survey results confirm the system's effectiveness in achieving these objectives, contributing to an improved and efficient Quality Management System within PUP.



5.2. Conclusions

1. The researchers conclude that DIMS successfully addresses all tasks and user goals, particularly through enhancing document enrollment to streamline submission processes, ensuring consistency, and minimizing errors.
2. Based on respondents' feedback, it can be concluded that DIMS effectively meets objectives related to response time, processing speed, and task completion efficiency. Features such as automated workflows and notifications optimize review and approval processes, reducing delays and improving overall efficiency.
3. User responses generally lead to the conclusion that DIMS is suitable, adaptable, easy to use, and provides satisfactory interaction. However, it is essential to acknowledge that two respondents expressed disagreement in the Usability section, indicating that there may be aspects that need further attention to ensure a generally positive user experience.
4. The DIMS demonstrates consistent performance, operational availability, and resilience, meeting the objective of maintaining accuracy in documented information. The researchers conclude that the DIMS has the ability to address challenges related to inconsistencies, delays, and risks of non-compliance within PUP's Quality Management System.



5. While DIMS effectively ensures access restrictions and guards against unauthorized access or data alteration, there is room for improvement. The researchers conclude that continuous enhancement of security measures is a good step to further strengthen this aspect.

5.3. Recommendations

Based on the results and findings, the proponents would like to recommend the following to further improve the performance of the Documented Information Management System:

- **Advanced Analytics and Reporting.** Incorporate advanced analytics and reporting features within the DIMS. This functionality would provide insights into document usage, user activity, and system performance.
- **Improved Error Prompts and Input Validation.** Based on the survey findings, it is recommended to prioritize improvements in error prompts and input validation within the system. Enhancements in these areas will contribute significantly to user experience, reducing the likelihood of errors and providing clear guidance when users encounter issues.
- **Enhanced Security Measures.** In light of the feedback received regarding the security features of the system the researchers recommend a proactive approach to enhance the system's security measures. Specifically, the implementation of advanced security features such as multi-factor



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

authentication, stronger password requirements, and continuous monitoring should be prioritized. These improvements aim to fortify access controls, protect against unauthorized access or data alteration, and address any perceived gaps in the security aspect.

- **Continuous Improvement Measures.** Establish a structured process for continuous enhancement and updates to ensure that the Documented Information Management module remains aligned with evolving user needs, technological advancements, and ISO standards.



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Appendices



Appendix 1

Data Gathering Instruments

Figure 19. Sample Online Appointment and Evaluation for System Presentation

Fw: [PUP QMS Portal - DIMS] Invitation to Participate in Our Survey

Zenaida S. Bonaobra
To Jericho B. Empleo

(i) You replied to this message on 12/01/2024 4:50 pm.
If there are problems with how this message is displayed, click here to view it in a web browser.

Good afternoon kindly filled up po iyon pinadala ko sa webmail mo n online request evaluation base doon sa system presentation na ginawa nio for our office records request. Thank you.

Best,

Asst. Prof. Zenaida S. Bonaobra, LPT
Chief, Extension Evaluation and Monitoring Center
Extension Management Office

From: Jericho B. Empleo <jerichobempleo@iskolangbayan.pup.edu.ph>
Sent: Friday, 12 January 2024 3:49 pm
To: Zenaida S. Bonaobra <zsbonaobra@pup.edu.ph>; Camilo P. Abogado <cpabogado@pup.edu.ph>
Subject: [PUP QMS Portal - DIMS] Invitation to Participate in Our Survey



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A screenshot of the "Appointment System" interface. On the left, there's a sidebar with a "Request Appointment" button, "Folders" dropdown, "Your Appointments" link, and "Appointment History" link. The main area shows "Appointment Details" for an appointment code 2024-0100079, which is for the EMO - Extension Management Office, to visit person Zenaida Bonaobra at 05:00 PM on January 12, 2024, for a presentation and evaluation of Capstone project system. The status is "Approved". A message says "Your appointment request has been approved." A "Back" button is at the bottom.

Figure 20. System Video Demonstration

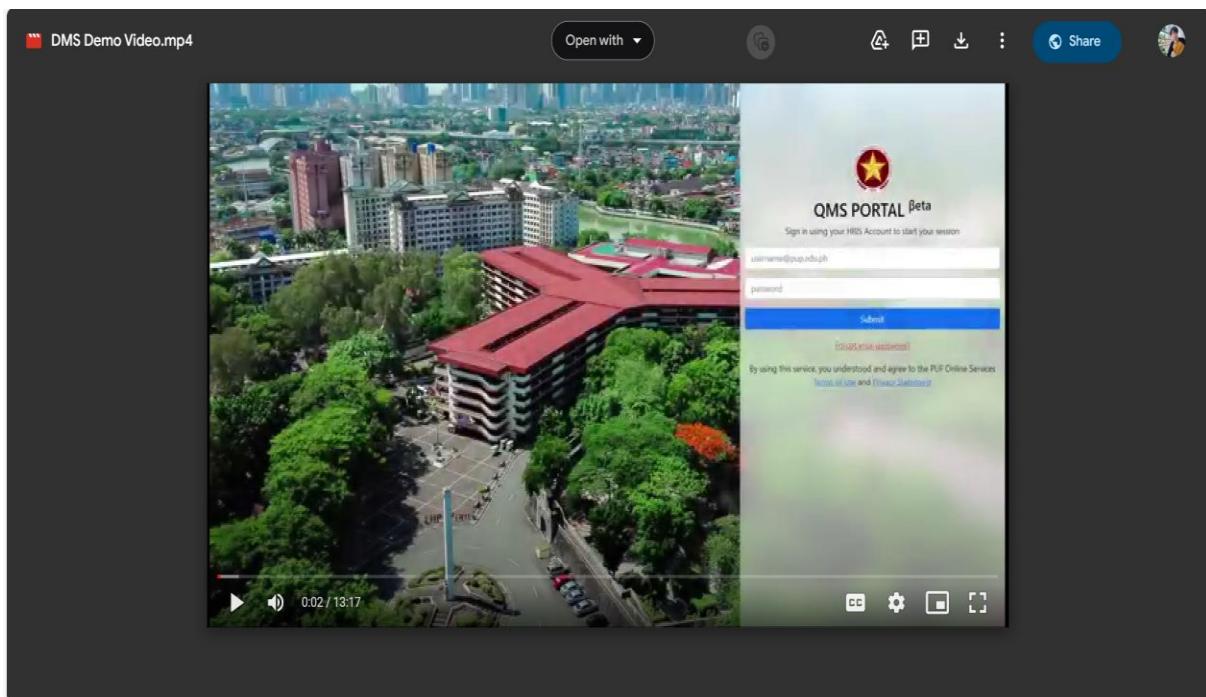




Figure 21. MS Forms Questionnaire

**Documented Information Management
Module for PUP Quality Management System
Portal
(DIMS)**

Survey Questionnaire (based on ISO 25010 - Systems and Software Quality Requirements and Evaluation)

Dear Participant,

Good day! We, the proponents from Bachelor of Science in Information Technology (BSIT) specifically from year and section 4-5, are currently conducting the implementation of our system "Documented Information Management System for PUP Quality Management System Portal" as a requirement for our Capstone Project II subject.

Your participation as one of our research respondents is crucial in helping us achieve our project goals. We sincerely appreciate your time and effort dedicated to participating in our study.

The schedule for online user training per Sector will be communicated soon.

Yours truly,
DIMS Team
BSIT 4-5

Hi, Jericho. When you submit this form, the owner will see your name and email address.

* Required

1. Data Privacy Act of 2012

By Republic Act 10173 (Data Privacy Act of 2012) and its Implementing rules and Regulations, in answering this form and disclosing your personal information, you consent the researcher to access, collect and process any personal information for the exclusive purpose of gathering data in conducting a research study. By completing this form, you hereby signify your consent and authorize this group to collect and process the data indicated herein.

I understand that my personal information is protected by the Data Privacy Act of 2012 and that I am required to provide truthful information.

Yes, I understand and give my consent and I am willing to be one of the participants.

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Figure 22. MS Forms Questionnaire

Documented Information Management Module for PUP Quality Management System Portal (DIMS)

Video Presentation and Testing of the System

The link below shows the video demonstration and testing of the system.

Video Demonstration
Link: https://drive.google.com/file/d/1dTB05cKL30dYNEEjGM2F5xvodLUqX/view?usp=drive_link

Documented Information Management System Website
Link: grmsdocument.azurewebsites.net

For accessing the system, please use the example credentials provided.

Process Owner
Email: processownerpup@gmail.com
Password: Qwe12!

Sector Head
Email: sectorheadpup@gmail.com
Password: Qwe12!

Document Controller
Email: documentcontrollerpup@gmail.com
Password: Qwe12!

Quality Management Representative
Email: qualitymanagementpup@gmail.com
Password: Qwe12!

Back Next

Microsoft 365

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Figure 23. MS Forms Questionnaire

Documented Information Management Module for PUP Quality Management System Portal (DIMS)

* Required

PERSONAL INFORMATION

2. Name (Optional):

Enter your answer

3. Type of Respondent:

Process Owner

Document Controller

Sector Head

Quality Management Representative

4. Age *

18-24

25-34

35-44

45-54

55-64

65 and above

[Back](#) [Next](#)

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Figure 24. MS Forms Questionnaire

Documented Information Management Module for PUP Quality Management System Portal (DIMS)

* Required

EVALUATION

Please put a check on the criteria that correspond to your choice.

4 – Strongly Agree
3 – Agree
2 – Disagree
1 – Strongly Disagree

5. A. Functional Stability

*

	4	3	2	1
1. All the tasks and user goals specified by the DIMS are covered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The DIMS offers the appropriate results with the required level of accuracy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The DIMS makes it easier to complete specific tasks and goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Figure 25. MS Forms Questionnaire

6. B. Performance Efficiency *

□

	4	3	2	1
1. When performing its functions, the DIMS complies with specifications in terms of response time, processing speed, and task completion efficiency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The DIMS complies with requirements in terms of the types of resources such as laptops or mobile phones used to carry out its functions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Figure 26. MS Forms Questionnaire

7. C. Usability *

4 3 2 1

1. The DIMS is suitable for the user's needs.

2. The DIMS can be used by specific users to accomplish specific goals, including learning to use the application.

3. The DIMS has features that make it simple to use and manage.

4. The DIMS prompt users of errors and validates inputs.

5. The user interface of the DIMS enables enjoyable and fulfilling user interaction.

6. The DIMS can be used by many different kinds of people, no matter what skills or traits they have.



Figure 27. MS Forms Questionnaire

8. D. Reliability *

	4	3	2	1
1. When used normally, the DIMS satisfies the requirements for reliability.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. When used, the DIMS is operational and available.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Despite hardware or software issues, the DIMS functions as intended.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The DIMS can restore and recover the original state of the data incase of problem occurrence.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Figure 28. MS Forms Questionnaire

9. E. Security *

	4	3	2	1
1. The DIMS makes sure that only people with access rights can access the data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The DIMS guards against unauthorized access to or alteration of data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Figure 29. System Demonstration and Evaluation



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Figure 30. System Demonstration and Evaluation



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Figure 31. System Demonstration and Evaluation



Figure 32. System Demonstration and Evaluation



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Figure 33. System Demonstration and Evaluation



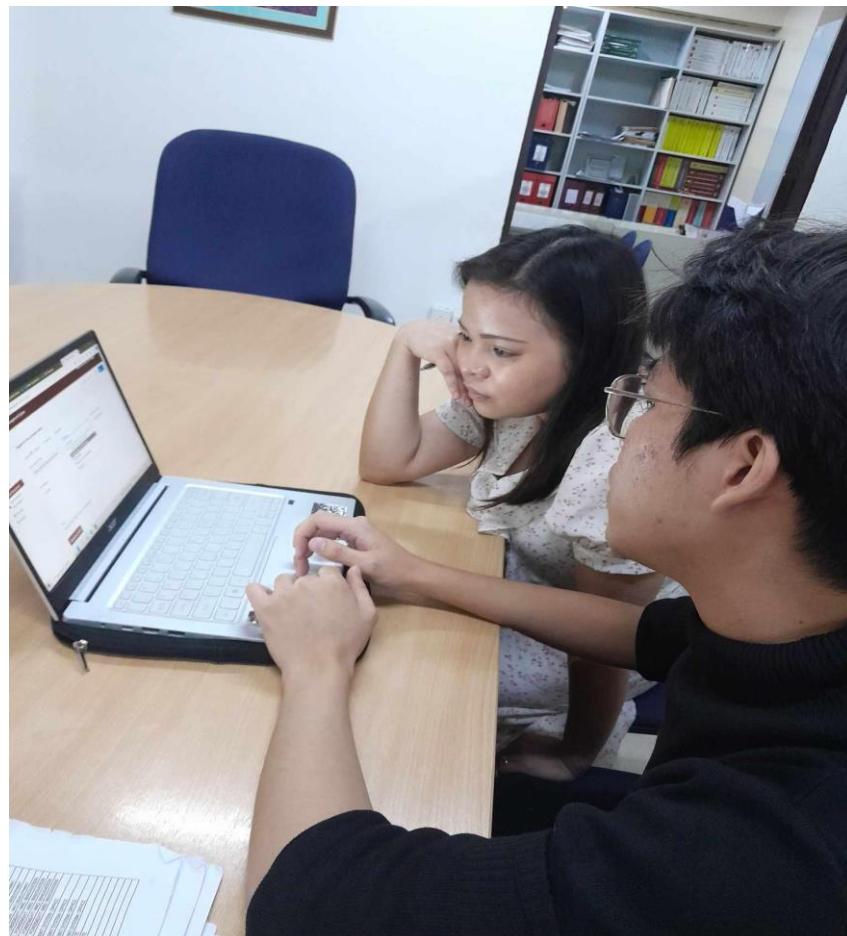
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Figure 34. System Demonstration and Evaluation



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Figure 35. System Demonstration and Evaluation



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Figure 36. System Demonstration and Evaluation



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Figure 37. System Demonstration and Evaluation



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Figure 38. System Demonstration and Evaluation



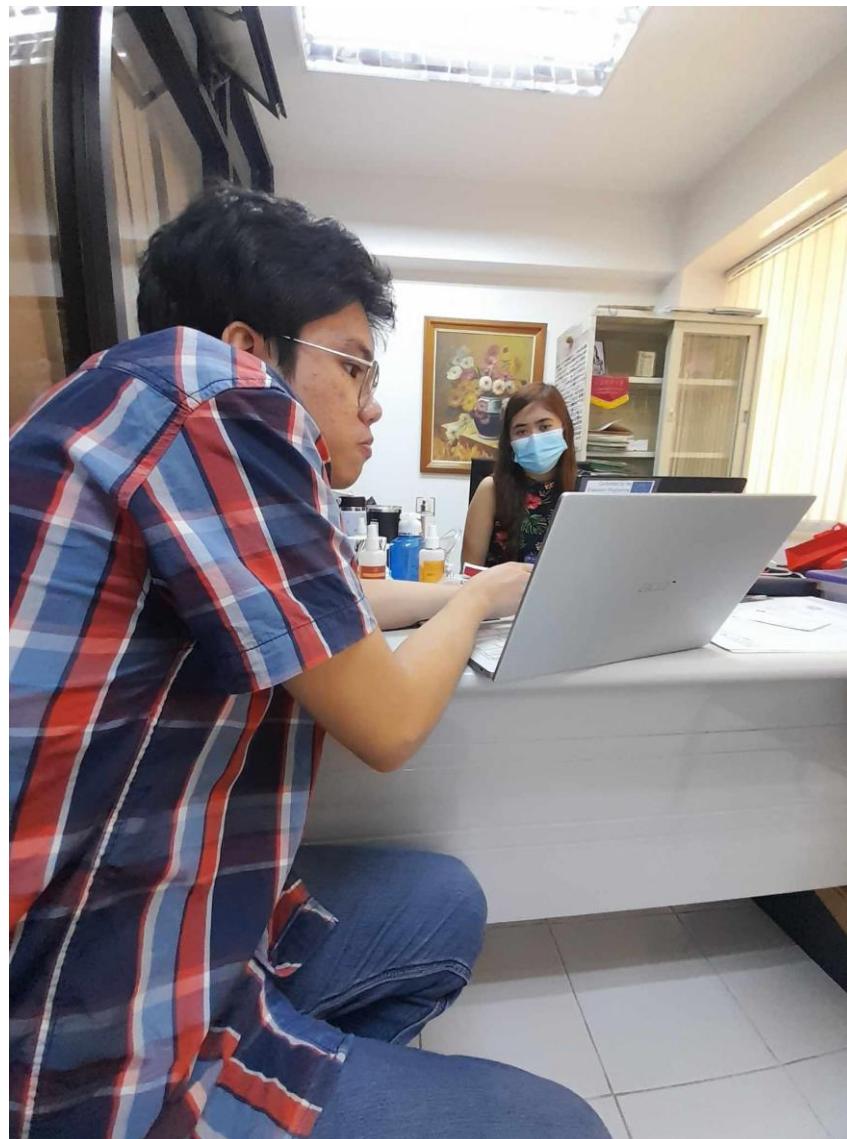
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Figure 39. System Demonstration and Evaluation



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Figure 40. System Demonstration and Evaluation



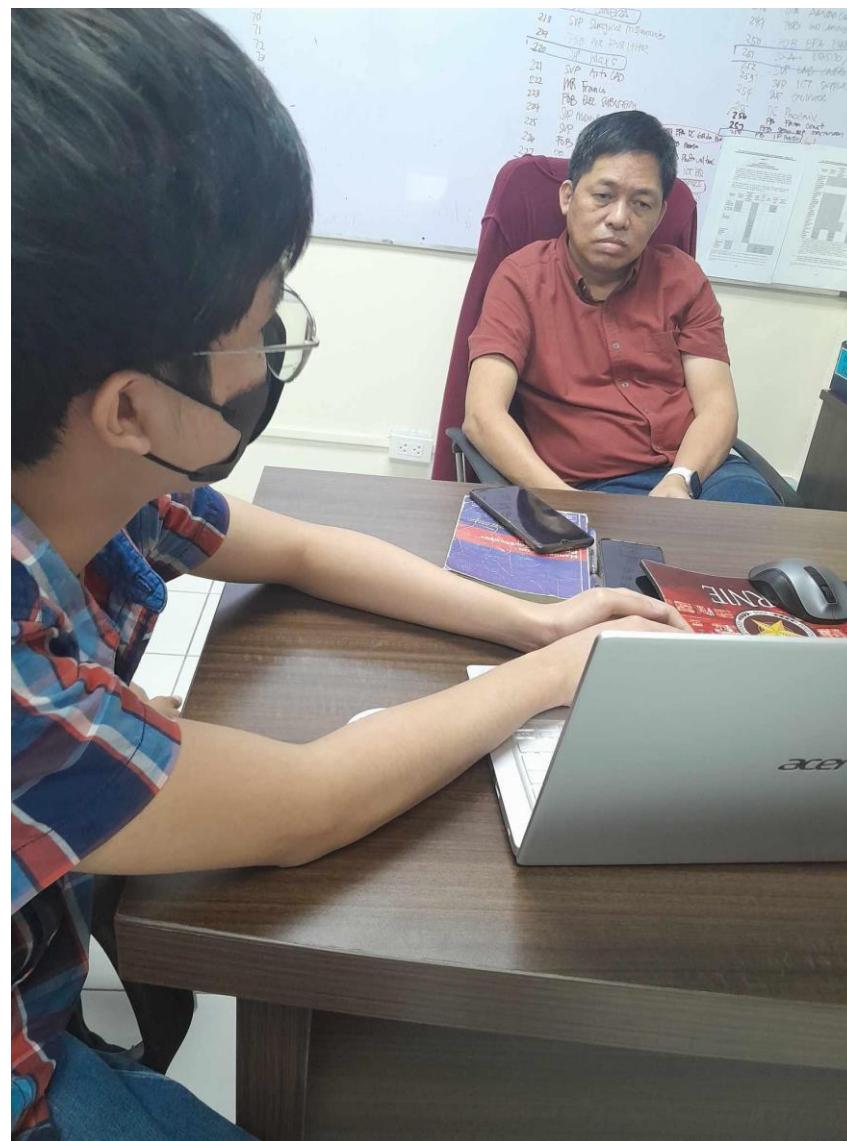
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Figure 41. System Demonstration and Evaluation



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Figure 42. System Demonstration and Evaluation



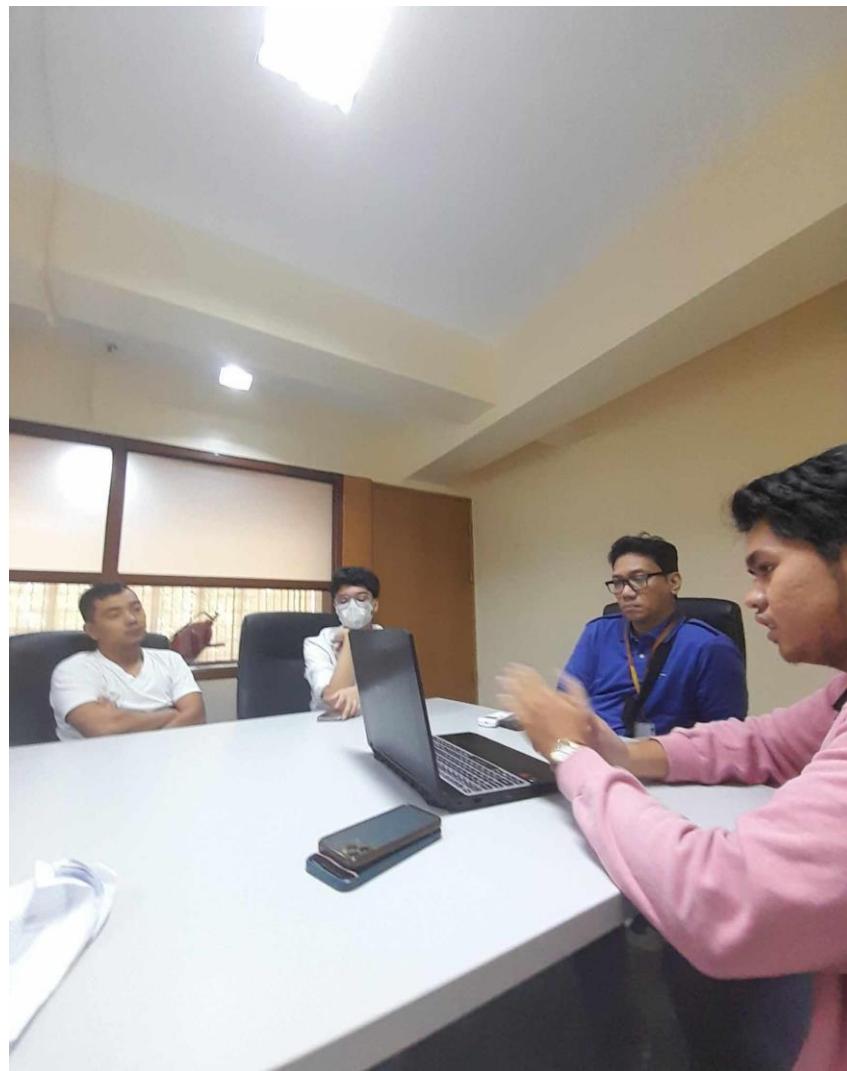
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Figure 43. System Demonstration and Evaluation



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Figure 44. System Demonstration and Evaluation





Appendix 2

Client Forms and Reports

Figure 45. Document Change Request Form

ANNEX C				
	DOCUMENT CHANGE REQUEST FORM PUP-DCRF-4-QMSO-001 Revision 0 Effective August 10, 2022			
SECTION		DOCUMENT CODE		
SUBJECT/ DOCUMENT TITLE				
PURPOSE OF CHANGE		<input type="checkbox"/> CREATION	<input type="checkbox"/> REVISION	<input type="checkbox"/> DELETION
		<input type="checkbox"/> OTHER		
1) ARE THERE DOCUMENTS AFFECTED BY THIS CHANGE?		2) NEW RESPONSIBILITIES CREATED BY THIS CHANGE?	REVISION INITIATED BY	
<input type="checkbox"/> NO	<input type="checkbox"/> YES	<input type="checkbox"/> NONE	Old Revision / Effectivity Date	
TITLE / CODE / REV <small>Attach Separate Document Revision</small>		<input type="checkbox"/> YES / SPECIFY:	New Revision Code	
			New Effectivity Date	
REVIEW OF CONCERNED FUNCTIONS				
FUNCTION	COMMENT		SIGNATURE	
ACTIONS TAKEN:	<input type="radio"/> For Final Draft	<input type="radio"/> For Printing	<input type="radio"/> For Deletion	<input type="radio"/> _____
Acted upon by:		Date		

**Appendix 3****Evaluation Tool, Test Documents and Test Results**

Table 43

Test Case 1 - Login

Test Case ID: TC-01					
Test Priority (Low/Medium/High): High					
Test Scenario: Login Module					
Test Description: Testing the Login function with valid data.					
Test Case Pre-Requisite: User has valid Email Address and Password.					
Test Purpose: To test if the user could login using valid account credentials					
Test Case Type: Positive Testing					
Post Requisite: User should be logged in.					
No.	Test Steps/ Scripts	Test Data	Expected Result	Actual Result	Status (Passed/ Failed)
1.	Go to the website URL	https://qmsidentity.azurewebsites.net/Identity/Account/Login	User should be directed to login page	User is directed to login page	Passed
2.	Provide valid email address and password	processownerpup@gmail.com Qwe12!	System should accept input	System accepted the email and password	Passed
3.	Click the submit button	N/A	User should be able to login	User is logged in	Passed



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Table 44

Test Case 2 - Enroll Document

Test Case ID: TC-02					
Test Priority (Low/Medium/High): High					
Test Scenario: Enroll Document Module					
Test Description: Involves the Process Owner filling out the Document Change Request Form to initiate a request for document changes.					
Test Case Pre-Requisite: Process owner has been given access to the DIMS module.					
Test Purpose: To test if the user can access the Enroll Document page and submit a document.					
Test Case Type: Positive Testing					
Post Requisite: The Document Change Request Form is submitted to the Sector Head for review and approval.					
No.	Test Steps/ Scripts	Test Data	Expected Result	Actual Result	Status (Passed/ Failed)
1.	Click Enroll Document from the sidebar menu	N/A	User should be directed to Enroll Document page	User is directed to Enroll Document page	Passed
2.	Fill out the required information and submit the form.	- Action: Creation - Section: Leadership and Planning - Document type: Quality Manual - Rationale: Enrollment for new document - File: Quality Manual.pdf	System should accept input	System accepted the input	Passed
3.	Click the Generate DCRF button	N/A	System should generate the DCRF	The system successfully generated the PDF	Passed
4.	Click View DCRF button	N/A	The PDF viewer should appear	The PDF viewer displays the generated DCRF	Passed
5.	Click the Submit button	N/A	The system validates the submitted form and forwards it to the Sector Head for approval	The document has been sent to the Sector Head for approval	Passed



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 45

Test Case 3 - Documented Information List

Test Case ID: TC-03					
Test Priority (Low/Medium/High): Medium					
Test Scenario: Access the Documented Information List					
Test Description: The process owner accesses the Documented Information List to view the approved documents.					
Test Case Pre-Requisite: Process owner has been given access to the DIMS module.					
Test Purpose: To test if the user can access the Documented Information list.					
Test Case Type: Positive Testing					
Post Requisite: The process owner can view the list of submitted documented information and can either view the details or download documents.					
No.	Test Steps/ Scripts	Test Data	Expected Result	Actual Result	Status (Passed/ Failed)
1.	Click Documented Information from the sidebar menu	N/A	User should be directed to Documented Information page	User is directed to Documented Information page	Passed
2.	Click on a specific document title	N/A	The Document Details page should be displayed	User is redirected to the Document Details page	Passed
3.	Click the Download button	N/A	The document should be able to download the document	The system successfully downloaded the document	Passed



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 46

Test Case 4 - Document Tracking Page

Test Case ID: TC-04					
Test Priority (Low/Medium/High): Medium					
Test Scenario: Access the Documented Information List					
Test Description: The process owner should see the status and progress of documents within the Documented Information Management Module.					
Test Case Pre-Requisite: Process owner has been given access to the DIMS module.					
Test Purpose: To test if the user can access the Tracking page of the DIMS.					
Test Case Type: Positive Testing					
Post Requisite: The process owner can view the status and progress of tracked documents.					
No.	Test Steps/ Scripts	Test Data	Expected Result	Actual Result	Status (Passed/ Failed)
1.	Click Tracking from the sidebar menu	N/A	User should be directed to Documented Tracking page	User is directed to Documented Tracking page	Passed
2.	Click the View Approval History button	N/A	The Approval History modal should appear	The system displays the Approval History modal	Passed



Table 47

Test Case 5 - Archived Documents

Test Case ID: TC-05					
Test Priority (Low/Medium/High): Medium					
Test Scenario: Access the Archived Documents page					
Test Description: The process owner can view the list of documents that have been archived within the DIMS.					
Test Case Pre-Requisite: Process owner has been given access to the DIMS module.					
Test Purpose: To test if the user can access the Archived Documents page of the DIMS.					
Test Case Type: Positive Testing					
Post Requisite: The process owner can view the list of archived documents.					
No.	Test Steps/ Scripts	Test Data	Expected Result	Actual Result	Status (Passed/ Failed)
1.	Click History from the sidebar menu	N/A	User should be directed to Archived Documents page	User is directed to Archived Documents page, and is able to view the list of archived documents.	Passed



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 48

Test Case 6 - Sector Head Pending Documents

Test Case ID: TC-06					
Test Priority (Low/Medium/High): High					
Test Scenario: The Sector Head needs to review and approve pending documents that require their approval.					
Test Description: Sector Head accesses the Sector Head Controller page to either endorse or return a document after evaluation.					
Test Case Pre-Requisite: The sector head has been given access to the DIMS module.					
Test Purpose: To test if the sector head can access the Sector Head Controller page of the DIMS.					
Test Case Type: Positive Testing					
Post Requisite: The sector head can view the list of documents that require approval of the sector head.					
No.	Test Steps/ Scripts	Test Data	Expected Result	Actual Result	Status (Passed/ Failed)
1.	Click Sector Pending Documents from the sidebar menu	N/A	User should be directed to Sector Head Controller page	User is directed to Sector Head Controller page.	Passed
2.	Click the title of a document	N/A	The user should be redirected to the Document Details page	The user has been redirected to the Document Details page	Passed



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Continuation of Table 48

3.	Add a comment	"The document has been approved by Sector Head"	The system should accept the comment input	The system returns a message "comment added successfull y"	Passed
4.	Click Process Document	N/A	The DCRF viewer modal should appear	The DCRF viewer is displayed	Passed
5.	Click Generate	N/A	The system should display the generated DCRF	The DCRF has been generated	Passed
6.	Click Save	N/A	The Send Document modal should appear	The Send Document page has been displayed	Passed
7.	Choose the account of the Document Controller, then click Endorse	N/A	The document should be sent to the QMS Document Controller	The document controller has received the document	Passed



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 49

Test Case 7 - QMS Document Controller

Test Case ID: TC-07					
Test Priority (Low/Medium/High): High					
Test Scenario: The Document Controller needs to review and approve pending documents that require their approval.					
Test Description: The document controller accesses the QMS Document Controller page to either endorse or return a document.					
Test Case Pre-Requisite: The document controller has been given access to the DIMS module.					
Test Purpose: To test if the QMS document controller can access the Document Controller page of the DIMS.					
Test Case Type: Positive Testing					
Post Requisite: The QMS Document Controller can view the list of documents that require approval of the document controller.					
No.	Test Steps/ Scripts	Test Data	Expected Result	Actual Result	Status (Passed/ Failed)
1.	Click QMS Pending Documents from the sidebar menu	N/A	User should be directed to Document Controller page	User is directed to Document Controller page.	Passed
2.	Click the title of a document	N/A	The user should be redirected to the Document Details page	The user has been redirected to the Document Details page	Passed
3.	Add a comment	"Document has been approved by Document Controller"	The system should accept the comment input	The system returns a message "comment added successfully"	Passed
4.	Click Process Document	N/A	The DCRF viewer modal should appear	The DCRF viewer is displayed	Passed
5.	Click Generate	N/A	The system should display the generated DCRF	The DCRF has been generated	Passed
6.	Click Save	N/A	The Send Document modal should appear	The Send Document page has been displayed	Passed
7.	Choose the account of the QMR, then click Endorse	N/A	The document should be sent to the Quality Management Representative	The QMR has received the document	Passed



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Table 50

Test Case 8 - Quality Management Representative

Test Case ID: TC-08					
Test Priority (Low/Medium/High): High					
Test Scenario: The Quality Management Representative needs to review and approve pending documents that require their approval.					
Test Description: The QMR accesses the Quality Management Representative page to either endorse or return a document.					
Test Case Pre-Requisite: The QMR has been given access to the DIMS module.					
Test Purpose: To test if the QMR can access the QMR page of the DIMS.					
Test Case Type: Positive Testing					
Post Requisite: The QMR can view the list of documents that require approval of the document controller.					
No.	Test Steps/ Scripts	Test Data	Expected Result	Actual Result	Status (Passed/ Failed)
1.	Click QMR Pending Documents from the sidebar menu	N/A	User should be directed to Quality Management Representative page	User is directed to Quality Management Representative page.	Passed
2.	Click the title of a document	N/A	The user should be redirected to the Document Details page	The user has been redirected to the Document Details page	Passed
3.	Add a comment	"Document has been approved by QMR"	The system should accept the comment input	The system returns a message "comment added successfully"	Passed
4.	Click Process Document	N/A	The DCRF viewer modal should appear	The DCRF viewer is displayed	Passed
5.	Click Generate	N/A	The system should display the generated DCRF	The DCRF has been generated	Passed
6.	Click Save	N/A	The Send Document modal should appear	The Send Document page has been displayed	Passed
7.	Choose the account of the Document Controller, then click Approve	N/A	The document should be sent back to the QMS Document Controller	The Document Controller has received the document	Passed



Appendix 4

User's Manual

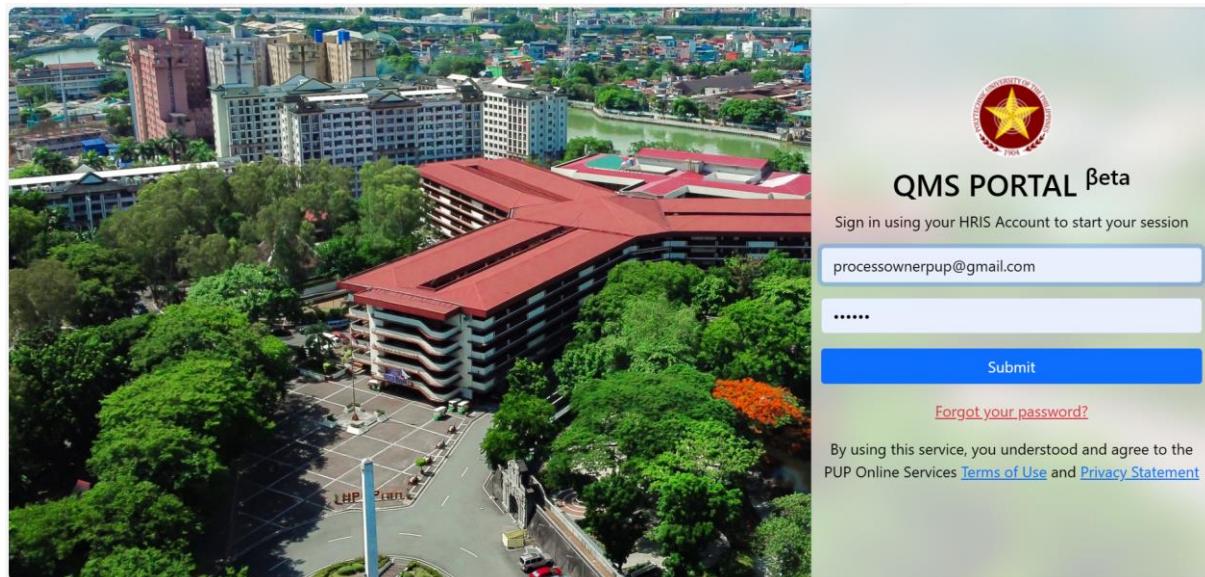
Process Owner Account

A1. Login to DIMS using the account of the Process Owner.

Process Owner Account Details

Email: processowner@gmail.com

Password: Qwe12!

The image shows a composite view. On the left is an aerial photograph of the Polytechnic University of the Philippines (PUP) campus, featuring modern buildings with red roofs and extensive green landscaping. On the right is a screenshot of the "QMS PORTAL Beta" login interface. The portal includes the PUP logo at the top, a sign-in form with fields for email and password, a "Submit" button, and links for "Forgot your password?". Below the form, there is a note about terms and conditions.



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After successfully logging in the Process Owner will be redirected to the home page. In this page, we can see a top bar that contains the search bar, and the notifications button.

Dashboard

B1. The dashboard page displays an overview of the information regarding the documents within the system. This includes document counts, latest approved documents, and a list of unread notifications.

The screenshot shows the QMS PORTAL Documented Information Management System dashboard. At the top, it says "Welcome, process owner! (processownerup@gmail.com)". On the left, there's a sidebar with "Sections" including "Overview", "Homepage", and "Dashboard" (which is highlighted). Under "Document", there are options for "Enroll Document", "Documented Information", "Tracking", and "History". The main area has a "Dashboard" title with four boxes: "1 APPROVED DOCUMENTS", "5 PENDING DOCUMENTS", "0 ARCHIVED DOCUMENTS", and "1 RETURNED DOCUMENTS". Below this, a section titled "New Notifications" lists two items: "1/14/2024 3:41:01 AM Document has been returned: Memorandum of Agreement.pdf" and "1/14/2024 3:40:05 AM Your document has been distributed: Certificate-2nd-IQA-Audit-2023-A. Coronado.pdf". At the bottom, it says "Copyright © 2023, All Rights Reserved IQMS" and has links for "Home", "Terms", "Privacy", "Policy", and "Contact".



Enroll Document Tab

C1. The process owner must select an action (either Creation, Revision, or Deletion), choose creation, document section and document type, provide the Rationale, and then upload the document file.

A screenshot of the QMS Portal interface. The top navigation bar is dark blue with the text "QMS PORTAL" and "Documented Information Management System". On the right, it says "Welcome, process owner!" with a user icon, and there are links for "Search docs, tags, etc.", a search icon, and a notifications icon showing 2 notifications. The main content area has a white background. On the left, a sidebar titled "Sections" shows "Overview", "Homepage", "Dashboard", "Document" (which is expanded), and "Enroll Document" (highlighted with a red background). Under "Document", there are links for "Documented Information", "Tracking", and "History". The main form area is titled "Logged-in User: process owner". It has fields for "Action" (radio buttons for Creation, Revision, or Deletion), "Document Title" (text input), "Section" (dropdown menu), "Document Type" (dropdown menu), "Rationale" (text area), and "File" (file input with "Choose File" button). At the bottom are two buttons: "Generate DCRF" (red) and "View DCRF" (blue). The footer is dark blue with "Copyright © 2023, All Rights Reserved IQMS" and links for "Home", "Terms", "Privacy", "Policy", and "Contact".

QMS PORTAL
Documented Information Management System

Welcome, process owner!

Search docs, tags, etc. 2

Sections

Overview

Homepage

Dashboard

Document

Enroll Document

Documented Information

Tracking

History

Logged-in User: process owner

Action: Creation Revision Deletion

Document Title:

Section:

Document Type:

Rationale:

File: No file chosen

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Sections

- Overview
- Homepage
- Dashboard
- Document
- Enroll Document**
- Documented Information
- Tracking
- History

Logged-in User: process owner

Action: Creation Revision Deletion

Document Title: Certificate-2nd-IQA-Audit-2023-A. Coronado.pdf Section: Operations Document Type: Forms Manual

For Revision:

Old Document Title: Certificate-2nd-IQA-Audit-2023-A. Coronado.pdf Old Document Code: PUP-Fo-4-XXXX-Operations-YY New Responsibilities:

Old Effectivity Date: 13/01/2025

Upload screenshot of document's section being revised for reference:
Choose Files No file chosen

Rationale:

File: Choose File No file chosen

Generate DCRF **View DCRF**

If the process owner chooses revision, another input box will display such as old document title, old document code, new responsibilities, old effectivity date, screenshot of what has been revised, input document file for reference. rationale, and input new file.



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A screenshot of the QMS Portal interface. At the top, there's a dark header bar with the university logo, the text "QMS PORTAL Documented Information Management System", and a "Welcome, process owner!" message with a user icon. On the left, a sidebar titled "Sections" shows "Overview", "Homepage", "Dashboard", "Document" (which is expanded), "Enroll Document" (highlighted in red), "Documented Information", "Tracking", and "History". The main content area has a title "Logged-in User: process owner" and a sub-section "Action: Creation" (radio button unselected), "Revision" (radio button unselected), and "Deletion" (radio button selected). Below this, fields show "Document Title: Certificate-2nd-IQA-Audit-2023-A. Coronad", "Section: Operations", and "Document Type: Forms Manual". A large blue-bordered box labeled "Rationale:" is empty. Underneath, a "File:" field shows "Choose File No file chosen". At the bottom of the form are two buttons: "Generate DCRF" (red) and "View DCRF" (blue). The footer contains copyright information "Copyright © 2023. All Rights Reserved. IQMS" and links to "Home", "Terms", "Privacy", "Policy", and "Contact".

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If the process owner chooses the action deletion, it will display the document that they want to be archived and put a rationale for what is the reason.



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C2. After completing the required fields, click the “Generate DCRF” button. Then click the “Generate” button to generate the DCRF. After the generated DCRF has been displayed, click the X (close) button.

50%
PUP-DCRF-4-QMSO-001
Revision 0
Effective August 10, 2022
ANNEX C

 DOCUMENT CHANGE REQUEST FORM				
SECTION Operations	DOCUMENT CODE:			
SUBJECT / DOCUMENT TITLE matrix				
PURPOSE OF CHANGE	CREATION	REVISION	DELETION	OTHER
To sector head				
ARE THERE DOCUMENTS AFFECTED BY THIS CHANGE?		NEW RESPONSIBILITIES CREATED BY THIS CHANGE?		INITIATED BY process owner
NO	YES	NONE		Old Revision / Effectivity Date
TITLE / CODE / REV Attach Separate Document Revision		YES / SPECIFY:		New Revision Code New Effectivity Date
REVIEW OF CONCERNED FUNCTIONS				
FUNCTION	COMMENT		SIGNATURE	
ACTIONS TAKEN	<input type="checkbox"/> For Final Draft		<input type="checkbox"/> For Printing	
Acted Upon:		<input type="checkbox"/> For Deletion		
		<input type="checkbox"/> _____		
Generate				



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C3. Click the “View DCRF” button to review and ensure that the information generated are correct. In the bottom part of the modal, select the Sector Head account responsible for the approval of the document, then click Submit Document.

DCRF

2 of 2

FUNCTION	COMMENT	SIGNATURE

ACTIONS TAKEN: For Final Draft For Printing For Deletion _____

Acted Upon: _____ Date: _____

Send Document for Approval of Sector Head:
sectorheadpup@gmail.com

Submit Document **Close**



Documented Information Tab

D1. The Shared button displays all the approved documents of the process owners enrolled documents.

The screenshot shows the QMS PORTAL interface. The left sidebar has sections for Overview, Document (with Documented Information highlighted), Document Approval, and QMS Pending Documents. The main area shows a table of documents under the 'Shared' tab. The table has columns for Id, Revision, Document Title, Document Code, Author, and Action. One entry is shown: Id 300, Revision 0, Document Title REV2.pdf, Document Code PUP-Fo-1-XXXX-Operations-YY, Author bel2 chris, and Action View (highlighted).

Id	Revision	Document Title	Document Code	Author	Action
300	0	REV2.pdf	PUP-Fo-1-XXXX-Operations-YY	bel2 chris	View



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D2. The process owner can view the document details where they can view the document, document change request form and other details such as Rationale, Author, User Sector, ID, Document Code, Action, Section, Document Type, Date Submitted, Status, Release Date, Effectivity Date, how many times the process owner downloaded the file, views, file size, location, Read Only, and previous actions of the focal persons.

The screenshot shows the QMS PORTAL interface. On the left is a sidebar with navigation links for Sections (Overview, Document, Document Approval, Admin Tools), and a central content area displaying a document's properties and history.

Document Properties:

- REV2.pdf**
- Document Change Request Form**
- Rationale:** for creation of file
- Author:** bel2 chris
- User Sector:** PRESIDENT
- ID:** 300
- Document Code:** PUP-Fo-1-XXXX-Operations-YY
- Revision No:** 0

Action: creation

Section: Operations

Document Type: Forms Manual

Date Submitted: 1/9/2024 1:42:27 PM

Status: Approved

Release Date: 1/9/2024 2:09:03 PM

Effectivity Date: 1/9/2025 2:09:03 PM

Previous Actions:

Initiated By	Comments	Timestamp
bel2@gmail.com	Document submitted REV2.pdf for sector approval	1/9/2024 1:42:27 PM
bel2@gmail.com	endorsed	1/9/2024 1:43:21 PM
bel2@gmail.com	Document has been submitted to bel2 chris for QMS approval	1/9/2024 1:43:44 PM
bel2@gmail.com	ready for endorsement	1/9/2024 2:06:48 PM



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D3. The Returned button displays all the returned documents from the Sector Head, Document Controller, or Quality Management Representative. When the document is returned, the process owner should update the document and submit it again.

A screenshot of the QMS Portal interface. The top navigation bar includes the university logo, the title "QMS PORTAL Documented Information Management System", and a "Welcome, process owner!" message. A search bar and a notification icon are also present. The left sidebar has sections for "Sections" (Overview, Homepage, Dashboard), "Document" (Enroll Document, Documented Information, Tracking, History), and "Documented Information" (selected). The main content area shows a table titled "Returned" with one entry. The table columns are Id, Revision, Document Title, Document Code, Author, and Action. The entry details are: Id 309, Revision 0, Document Title "Certificate-2nd-IOA-Audit-2023-A_Coronado.pdf", Document Code "PUP-Fo-4-XXXX-Operations-YY", Author "process owner", and Action "View". Navigation buttons for "Previous", "1", and "Next" are at the bottom of the table. The footer contains copyright information and links to Home, Terms, Privacy, Policy, and Contact.



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D4. The Process Owner can also view the details of the returned document where the content is also the same in the shared document, but this has comments that have been changed and they need to resubmit the document. After that the process owner can update the document to the corresponding approver.

The screenshot shows a document detail page in the QMS Portal. The top navigation bar includes 'Welcome, process owner' and a search bar. The left sidebar lists sections like Overview, Document, and History. The main content area displays a document titled 'Memorandum of Agreement.pdf' and a 'Document Change Request Form'. The document properties on the right show ID: 296, Document Code: 296, and Revision No: 0. The document status is 'Returned'. A 'Comments' section contains a message from 'processowner@up.edu.ph' stating 'Need to change'. The bottom of the page includes a file upload section and a red 'Update Document' button.



Tracking Tab

E1. The process owner can go to the Tracking page to view the status of all submitted documents.

QMS PORTAL
Documented Information Management System

Welcome, process owner!

Sections

- ✓ Overview
- 🏠 Homepage
- 📊 Dashboard
- ✓ Document
- 📝 Enroll Document
- 📋 Documented Information
- 📍 **Tracking**
- 🕒 History

Document Tracking

Show 10 entries

ID	Document Title	Status	Timestamp	Approval Details
304	Attendance Sheet.pdf	Pending: University Approval	1/10/2024 9:13:57 AM	View Approval History
308	MODULE-3_-CRYPTOGRAPHY (1).pdf	Pending: Sector Approval	1/12/2024 6:01:59 AM	View Approval History
309	Certificate-2nd-IQA-Audit-2023-A. Coronado.pdf	Distributed	1/13/2024 11:41:35 AM	View Approval History
296	Memorandum of Agreement.pdf	Returned	1/7/2024 1:59:21 PM	View Approval History
297	Off-Campus Document Certification Form.pdf	Pending: Sector Approval	1/7/2024 1:59:54 PM	View Approval History
298	Opportunities for Improvement.pdf	Pending: Sector Approval	1/7/2024 2:01:01 PM	View Approval History
299	Terms of Reference.pdf	Pending: Sector Approval	1/7/2024 2:01:59 PM	View Approval History

Showing 1 to 7 of 7 entries

Previous 1 Next

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E2. Every document has an approval history to check what is the ongoing status of the documents. We can see the name, the comments where the document is, and timestamp of what action has been done to record.

Name	Comments	Timestamp
processownerpup@gmail.com	Document submitted Attendance Sheet.pdf for sector approval	1/10/2024 9:13:57 AM
sectorheadpup@gmail.com	ok	1/14/2024 3:37:35 AM
sectorheadpup@gmail.com	Document has been submitted to Document Controller for QMS approval	1/14/2024 3:37:52 AM
documentcontrollerpup@gmail.com	ok	1/14/2024 3:39:24 AM
documentcontrollerpup@gmail.com	Document has been submitted to Quality Management Representative for QMR approval	1/14/2024 3:39:41 AM
299 Terms of Reference.pdf	Pending: Sector Approval	1/7/2024 2:01:59 PM

Showing 1 to 7 of 7 entries

Close

Approval Details

7 AM View Approval History

9 AM View Approval History

35 AM View Approval History

PM View Approval History

PM View Approval History

PM View Approval History

PM View Approval History

Previous 1 Next

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History Tab

F1. This page displays all the archived documents where the Process Owner can only see ID, Revision, Document Code, Document Title, Owner, and Archived Date without viewing the archived document.

A screenshot of the QMS PORTAL interface. The top navigation bar includes the university logo, the portal name, and a welcome message for a process owner. A search bar and a notifications icon are also present. The left sidebar shows a tree view of sections: Overview (Homepage, Dashboard), Document (Enroll Document, Documented Information, Tracking, History - highlighted in red), and other collapsed sections like Settings and Help. The main content area is titled "Archived Documents" and lists one item in a table format. The table columns are Id, Revision, Document Code, Document Title, Owner, and Archive Date. The single row shows Id 309, Revision 0, Document Code PUP-Fo-4-XXXX-Operations-YY, Document Title Certificate-2nd-IQA-Audit-2023-A, Coronado.pdf, Owner process owner, and Archive Date 1/14/2024 6:44:08 AM. At the bottom, there's a footer with copyright information and links to Home, Terms, Privacy, Policy, and Contact.



Sector Head Account

Dashboard

A1. It displays the count of total pending and endorsed documents. When clicked it will redirect to the assigned page.

A screenshot of the QMS Portal dashboard for a Sector Head. The top navigation bar is dark blue with the university's name and a search bar. The left sidebar has sections for Overview (Homepage, Dashboard), Document Approval (Sector Pending Documents, Reports), and Settings. The main dashboard shows a summary: 4 SECTOR HEAD PENDING DOCUMENTS and 0 SECTOR HEAD ENDORSED DOCUMENTS. Below this, there's a message about no latest approved documents and a section for New Notifications with a recent entry from 1/14/2024 at 4:03:55 AM. The bottom footer is dark blue with copyright information and links to Home, Terms, Privacy, Policy, and Contact.



Sector Pending Documents

B1. The pending button displays all the pending documents in the table. You can navigate if you're on the active page when the button is red. Click the Document Title to view the details.

A screenshot of the QMS Portal interface. The top navigation bar includes the university logo, the text "POLYTECHNIC UNIVERSITY OF THE PHILIPPINES", and the year "1904". On the right, there's a welcome message "Welcome, Sector Head! 🚀" and a search bar. The left sidebar has sections for "Overview", "Homepage", "Dashboard", "Document Approval" (with "Sector Pending Documents" highlighted in red), and "Reports". The main content area is titled "Sector Head Controller" and shows a table of "Sector Pending Documents". The table has columns: "Document Title", "Author", "Date Created", "Action", and "Status". The "Status" column contains orange buttons labeled "Pending: Sector Approval". A red circle highlights the "Pending" button in the table header. The table shows four entries: "MODULE-3_-CRYPTOGRAPHY (1).pdf" (process owner, Jan 12, 2024, creation, Pending: Sector Approval); "Off-Campus Document Certification Form.pdf" (process owner, Jan 07, 2024, creation, Pending: Sector Approval); "Opportunities for Improvement.pdf" (process owner, Jan 07, 2024, creation, Pending: Sector Approval); and "Terms of Reference.pdf" (process owner, Jan 07, 2024, creation, Pending: Sector Approval). At the bottom of the table, it says "Showing 1 to 4 of 4 entries". The footer of the page includes copyright information "Copyright © 2023, All Rights Reserved IQMS", and links for "Home", "Terms", "Privacy", "Policy", and "Contact".

Document Title	Author	Date Created	Action	Status
MODULE-3_-CRYPTOGRAPHY (1).pdf	process owner	Jan 12, 2024	creation	Pending: Sector Approval
Off-Campus Document Certification Form.pdf	process owner	Jan 07, 2024	creation	Pending: Sector Approval
Opportunities for Improvement.pdf	process owner	Jan 07, 2024	creation	Pending: Sector Approval
Terms of Reference.pdf	process owner	Jan 07, 2024	creation	Pending: Sector Approval



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

B2. The endorsed button displays all the endorsed documents in the table. You can navigate if you're on the active page when the button is red. Click the Document Title to view the details.

The screenshot shows the QMS PORTAL Documented Information Management System. The top navigation bar includes a logo, the portal name, a welcome message for 'Sector Head!', and a search bar. The left sidebar has sections for Overview, Document Approval (with a red box around 'Sector Pending Documents'), and Reports. The main content area is titled 'Sector Head Controller' and shows a table of endorsed documents. The table has columns for Document Title, Author, Date Created, Action, and Status. One entry is shown: 'MODULE-3_CRYPTOGRAPHY (1).pdf' by 'process owner' on 'Jan 12, 2024' with action 'creation' and status 'Approved'. Navigation buttons at the bottom include 'Previous', '1', and 'Next'.

Document Title	Author	Date Created	Action	Status
MODULE-3_CRYPTOGRAPHY (1).pdf	process owner	Jan 12, 2024	creation	Approved



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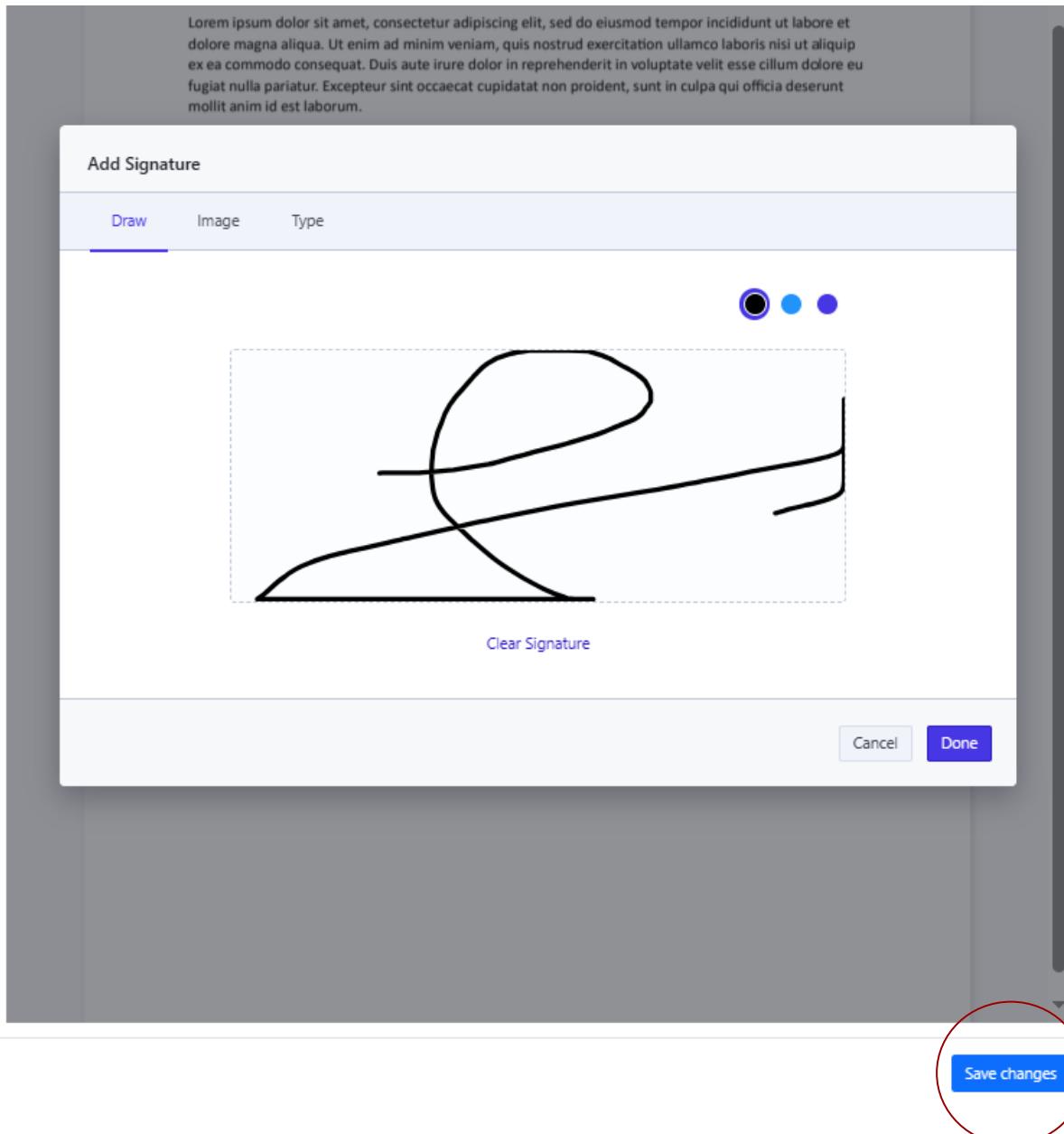
B3. The document details display the document, DCRF, rationale, author, User Sector, ID, Document Code, Revision Number, Action, Section, Document Type, Date Submitted, Status, Number of times downloaded, Views, File Size, Location, Read Only and Previous Action. The Sector Head can also comment to send it to the Document Controller. Clicking the “Return Document” button will return the document directly back to the process owner.

The screenshot shows a web-based document management system. On the left, a sidebar titled 'Sections' includes 'Overview', 'Homepage', 'Dashboard', 'Document Approval' (with 'Sector Pending Documents' and 'Reports'), and 'Logs'. The main content area displays a document titled 'Terms of Reference.pdf' with a link to 'View document to sign it'. Below the title are two buttons: 'Document Change Request Form' and 'Edit'. To the right of the title, there are two boxes: one for 'Rationale' (listing 'Terms of Reference', 'Author: process owner', 'User Sector: Office of the Executive Vice President') and another for 'ID' (listing '299', 'Document Code: None', 'Revision No: 0'). Further down, there are boxes for 'Action' (listing 'creation', 'Section: Support', 'Document Type: Work Instruction Manual') and 'Date Submitted' (listing '1/7/2024 2:01:59 PM', 'Status: Pending for Sector Approval'). On the far right, a 'Properties' panel shows 'Downloads: 0', 'Views: 0', 'File size: Sample', 'Location: Database-Stored', and 'Read only: Edit'. Below these are sections for 'Previous Actions' (listing an entry from 'processownerpup@gmail.com' at '1/7/2024 2:01:59 PM') and a 'Comment' input field. At the bottom are 'Process Document' and 'Return Document' buttons, and a footer with copyright information and links to 'Home', 'Terms', 'Privacy', 'Policy', and 'Contact'.



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B4. Click on the document title to view the document and add a signature, then click “Save Changes”.





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B5. The sector head can also view the DCRF by clicking the "Document Change Request Form".

DCRF PDF Viewer x

□□ □ 1 / 2 □□ □ □ □ □ □ □ □ □ □ □ □

PSPDFKit for Web Evaluation
PUP-DCRF-4-OMSO-001
Effective August 10, 2022
ANNEX C

	DOCUMENT CHANGE REQUEST FORM				
SECTION	DOCUMENT CODE				
Support					
SUBJECT / DOCUMENT TITLE					
Terms of Reference					
PURPOSE OF CHANGE	CREATION	REVISION	DELETION	OTHER	
Terms of Reference					
ARE THERE DOCUMENTS AFFECTED BY THIS CHANGE?		NEW RESPONSIBILITIES CREATED BY THIS CHANGE?		INITIATED BY process owner	
ENO	YES	ENONE	Old Revision / Effectivity Date		
TITLE / CODE / REV Attach Separate Document Revision		YES / SPECIFY:		New Revision Code New Effectivity Date	
REVIEW OF CONCERNED FUNCTIONS					
FUNCTION		COMMENT		SIGNATURE	



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B6. After the sector head has reviewed all the details regarding the document and added their comments, they can either click “Process Document” or “Return Document”. If the sector head clicks the “Process Document” button, this will display the DCRF viewer window, where the sector head can add their signature.

The screenshot shows the DCRF View interface. On the left, there's a sidebar with sections like Overview, Document Approval, and Action. The main area displays a document titled "Terms of Reference.pdf" and "Document Change Req.". Below this are fields for Rationale, Author, User Sector, and Action. A large central window is titled "DCRF View" and contains a table for "REVIEW OF CONCERNED FUNCTIONS". The table has columns for FUNCTION, COMMENT, and SIGNATURE. The "SIGNATURE" column for the first row is circled in red. At the bottom of the DCRF View window, there are buttons for Generate and Save. The footer of the page includes links for Home, Terms, Privacy, Policy, and Contact, along with copyright information: Copyright © 2023, All Rights Reserved QMIS.



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B7. Click on the signature box, write the signature, then click Close. Click the Generate button, click Close, then click Refresh. After that, click the “Save” button.

A screenshot of a software application titled "DCRF View". The main window shows a document titled "Terms of Reference.pdf" with a thumbnail preview. A large, handwritten signature is visible over the preview. Below the preview are several tabs: "NONE", "YES", and "NONE" again. To the right of the preview is a "Properties" panel showing file details like "Downloads: 0", "Views: 1", and "File size: Sample". At the bottom of the main window are buttons for "Generate", "Save", and "Comment: Ok". On the left side of the screen, there is a sidebar with sections like "Sections", "Overview", "Document Approval", and "Previous Actions". The "Previous Actions" section shows an entry initiated by "processownerpup@gmail.com". At the bottom of the screen, there are buttons for "Process Document" and "Return Document".

DCRF View

Terms of Reference.pdf
(View document to sign it)

Document Change Req

Rationale:
Terms of Reference

Author:
process owner

User Sector:
Office of the Executive Vice President

Action:
creation

Section:
Support

Document Type:
Work Instruction Manual

Previous Actions:

Initiated By
processownerpup@gmail.com

Comment:
Ok

ACTIONS TAKEN: For Final Draft For Printing For Deletion

Acted Upon: Date

Generate

Save

Properties

Downloads: 0

Views: 1

File size: Sample

Location: Database-Stored

Read only:

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Document Controller Account

Dashboard Tab

A1. The Document Controller dashboard displays the total count of pending, distribution, and endorsed documents. When clicked, it will redirect to the designated page.

The screenshot shows the QMS PORTAL interface. The left sidebar has sections for Overview, Document Approval, and Admin Tools. The Overview section is expanded, showing QMS Pending Documents, Documented Information List, and Reports. The Admin Tools section shows Audit Logs, Archive Bin, and DCRF Editor. The main dashboard area displays three summary boxes: 1 QMS PENDING DOCUMENTS, 0 PENDING DISTRIBUTION DOCUMENTS, and 1 QMS ENDORSED DOCUMENTS. Below these is a section for New Notifications, listing several recent events with small preview icons and red download icons.

Date	Notification	Action
1/14/2024 7:02:42 AM	New document received for qms approval: MODULE-3_-CRYPTOGRAPHY (1).pdf	Download
1/14/2024 6:43:38 AM	Document has been approved for archive: Certificate-2nd-IQA-Audit-2023-A. Coronado.pdf	Download
1/14/2024 4:04:35 AM	New document received for qms approval: Certificate-2nd-IQA-Audit-2023-A. Coronado.pdf	Download
1/14/2024 3:37:52 AM	New document received for qms approval: Attendance Sheet.pdf	Download
1/13/2024 12:07:10 PM	Document has been approved and ready for distribution: Certificate-2nd-IQA-Audit-2023-A. Coronado.pdf	Download



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QMS Pending Documents Tab

B1. The pending button displays all the pending documents that need to be reviewed. It displays the document title, author, date created, action, status on the table.

A screenshot of the QMS Portal interface. The top navigation bar includes the university logo, the text "POLYTECHNIC UNIVERSITY OF THE PHILIPPINES", and the year "1904". The main header says "QMS PORTAL Documented Information Management System". On the right, it says "Welcome, Document Controller" with a dropdown arrow, a search bar containing "Search doc, tag, etc.", and a blue search icon. The left sidebar has sections for "Sections" (Overview, Homepage, Dashboard), "Document Approval" (QMS Pending Documents, Documented Information List, Reports), and "Admin Tools" (Audit Logs, Archive Bin, DCRF Editor). The main content area is titled "QMS Document Controller" and shows a table of pending documents. The table has columns: Document Title, Author, Date Created, Action, and Status. A single entry is listed: "MODULE 3 - CRYPTOGRAPHY (1).pdf" by "process owner" on "Jan 12, 2024" with "creation" action and "Pending: IQMS Approval" status. A red circle highlights the "Pending" button in the table header. At the bottom, there's a footer with "Copyright © 2023. All Rights Reserved IQMS" and links for Home, Terms, Privacy, Policy, and Contact.



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B2. The distribution button displays all the needed distributed documents that need to be given to the process owner. It displays the document title, author, notes, action, and status on the table.

The screenshot shows the QMS Document Controller interface. On the left, there's a sidebar with sections like Overview, Document Approval (with a red box around 'QMS Pending Documents'), and Admin Tools. The main area is titled 'QMS Document Controller' and has tabs for Pending, Distribution (which is highlighted with a red circle), and Endorsed. Below the tabs, there's a search bar and a table with columns: Document Title, Author, Notes, and Status. One entry is shown: 'MODULE-3_-CRYPTOGRAPHY (1).pdf' by 'process owner' with notes 'To swctor head' and status 'Ready for Distribution'. Navigation buttons for Previous, Next, and a page number '1' are at the bottom of the table. The footer includes copyright information and links to Home, Terms, Privacy, Policy, and Contact.

Document Title	Author	Notes	Status
MODULE-3_-CRYPTOGRAPHY (1).pdf	process owner	To swctor head	Ready for Distribution



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B3. The endorsed button displays all documents that have been passed to the Quality Management Representative. It displays the document title, author, date created, action, and status on the table.

The screenshot shows the QMS Document Controller interface. On the left, there's a sidebar with sections like Overview, Document Approval (which is expanded to show QMS Pending Documents, Documented Information List, and Reports), and Admin Tools (Audit Logs, Archive Bin, DCRF Editor). The main area is titled "QMS Document Controller" and has tabs for Pending, Distribution, and Endorsed (which is highlighted with a red circle). Below the tabs, there's a search bar and a table with columns: Document Title, Author, Date Created, Action, and Status. One entry is shown: Attendance Sheet.pdf by process owner on Jan 10, 2024, with an action of creation and a status of Approved. At the bottom, it says "Showing 1 to 1 of 1 entries".

Document Title	Author	Date Created	Action	Status
Attendance Sheet.pdf	process owner	Jan 10, 2024	creation	Approved



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B4. The document controller can view the details of the document where they need to input a comment to process the document. If the document controller chooses to return the document, it will return to the process owner.

The screenshot shows a web-based Document Management System (DMS) interface. At the top, there's a navigation bar with the QMS PORTAL logo, a search bar, and various system controls like 'Reset' and 'Welcome, Document Controller'. The main content area displays a document titled 'Opportunities for Improvement.pdf'. To the right of the document preview, there's a 'Properties' panel showing metadata such as ID (29), Document Code (None), Revision No. (0), Date Submitted (1/17/2024 2:01:01 PM), and Status (Pending for IQMS Approval). Below the document preview, there's a 'Previous Actions' table listing three entries. At the bottom of the page, there's a 'Comment' text area with the word 'Ok' typed into it, followed by 'Process Document' and 'Return Document' buttons.



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B5. When the document chooses the process document, the DCRF will display where they need to sign the form. Click the box of the 2nd row to put the e-signature.

The screenshot shows the QMS PORTAL interface with the DCRF Editor selected. The main area displays a form for managing changes. The first section asks if documents are affected by the change, with options NO, YES, and NONE. The second section asks for a title, code, or revision, with fields for attaching a separate document and specifying new revision code and effectivity date. Below these is a table titled 'REVIEW OF CONCERNED FUNCTIONS' with columns for Function, Comment, and Signature. The second row of the table has the word 'Ok' in the Comment column and is circled in red. At the bottom, there is a section for actions taken with several radio button options.

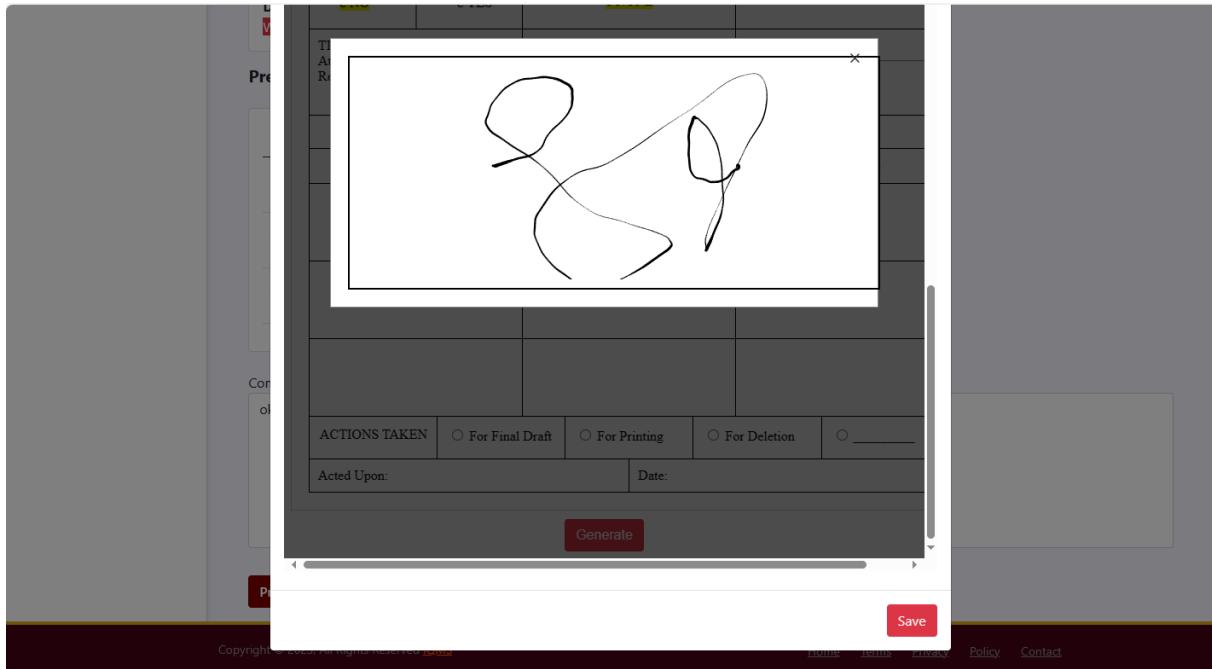
ARE THERE DOCUMENTS AFFECTED BY THIS CHANGE?		NEW RESPONSIBILITIES CREATED BY THIS CHANGE?	INITIATED BY process owner
<input type="radio"/> NO	<input type="radio"/> YES	<input type="radio"/> NONE	Old Revision / Effectivity Date
TITLE / CODE / REV Attach Separate Document Revision		<input type="radio"/> YES / SPECIFY:	New Revision Code New Effectivity Date
REVIEW OF CONCERNED FUNCTIONS			
FUNCTION	COMMENT	SIGNATURE	
	ok		
	Ok		

ACTIONS TAKEN:



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B6. Sign and save it then choose the Quality Management Representative to send the document.





Documented Information List

C1. It displays ID, Revision, Document Code, Document Title, and Author to the table.

Also when the user clicks the hyperlink of each document title it will display the details.

A screenshot of the QMS PORTAL Documented Information Management System. The interface has a dark header bar with the university's logo and name. On the left is a sidebar with sections like Overview, Document Approval, and Admin Tools. The main area shows a table of documents with columns for Id, Revision, Document Code, Document Title, and Author. Two rows are listed: one for PUP-Fo-1-XXXX-Operations-YY (Author: bel2 chris) and another for Qu-PUP-Leadership and Planning-YY (Author: chris tec).

Id	Revision	Document Code	Document Title	Author
300	0	PUP-Fo-1-XXXX-Operations-YY	REV2.pdf	bel2 chris
302	0	Qu-PUP-Leadership and Planning-YY	9789240022379-eng.pdf	chris tec

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C2. The document details in the document controller can view and download the documents. When the document controller clicks the download icon it will download the document through PDF.

The screenshot shows the QMS PORTAL Documented Information Management System. The left sidebar has sections like Overview, Document Approval (with sub-options: QMS Pending Documents, Documented Information List, Reports), and Admin Tools (Audit Logs, Archive Bin, DCRF Editor). The main content area displays a document titled '9789240022379-eng.pdf' and 'Document Change Request Form'. The document details include:

Rationale: creation file	ID: 302
Author: chris tec	Document Code: Qu-PUP-Leadership and Planning-YY
User Sector: PRESIDENT	Revision No: 0

Action:
creation
Section:
Leadership and Planning
Document Type:
Quality Manual

Date Submitted:
1/9/2024 2:48:12 PM
Status:
Approved
Release Date:
1/9/2024 25:200 PM
Effectivity Date:
1/9/2025 25:200 PM

Properties

Downloads: 0
Views: 0
File size: Sample
Location: Database-Stored
Read only: True

Previous Actions:

Initiated By	Comments	Timestamp
chris@gmail.com	Document submitted 9789240022379-eng.pdf for sector approval	1/9/2024 2:48:12 PM
bel2@gmail.com	done	1/9/2024 2:49:19 PM
bel2@gmail.com	Document has been submitted to bel2 chris for QMS approval	1/9/2024 2:49:42 PM
bel2@gmail.com	endorsement	1/9/2024 2:50:39 PM



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Reports

D1. The QMS Document Controller can generate reports of all the approved Documented Information within the system. In the Reports page, you can filter by report type, category, document type etc when they click the filter button. Then, you can generate the report by clicking the “Download Report” button, then choosing between the PDF or XLSX format.

The screenshot shows the QMS PORTAL interface. On the left, there's a sidebar with sections like Overview, Document Approval, and Admin Tools. The main area displays a table of document history with columns for DCRF_ID, Author, Action, Section, Document Code, Document Title, Sector, Document Type, Revision No, and Date Created. A red circle highlights the 'Download Report' button at the top right of the table. Below the table, it says 'Showing 1 to 3 of 3 entries'. At the bottom, there are links for Home, Terms, Privacy, Policy, and Contact.

DCRF_ID	Author	Action	Section	Document Code	Document Title	Sector	Document Type	Revision No	Date Created
300	bel2 chris	creation	Operations	PUP-Fo-1-XXXX-Operations-YY	REV2.pdf	PRESIDENT	Forms Manual	0	01-09-2024
302	chris tec	creation	Leadership and Planning	Qu-PUP-Leadership and Planning-YY	9789240022379-eng.pdf	PRESIDENT	Quality Manual	0	01-09-2024
309	process owner	deletion	Operations	PUP-Fo-4-XXXX-Operations-YY	Certificate-2nd-iQA-Audit-2023-A. Coronado.pdf	Office of the Executive Vice President	Forms Manual	0	01-14-2024



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Audit Logs

E1. The Document Controller can also view the Audit Logs page, where all the actions done within the system are displayed, including details such as the user who made the action and timestamp.

The screenshot shows a web browser displaying the 'Audit Logs' page of the QMS PORTAL. The page has a dark header with the portal logo and a search bar. On the left, there's a sidebar with sections for Overview, Document Approval, and Admin Tools, with 'Audit Logs' being the active tab. The main content area is titled 'Audit Logs' and contains a table of audit log entries. The table columns are Id, User Id, User Name, Action, Details, and Timestamp. There are 15 entries listed, all showing a 'Login' action by various users (e.g., empleojericho@gmail.com, karlchestermiranda@gmail.com) at different dates and times between December 6, 2023, and December 7, 2023.

Id	User Id	User Name	Action	Details	Timestamp
4025	10661498-c865-4ecd-b920-bdbfb7cc2d5c	empleojericho@gmail.com	Login	User logged in	12/8/2023 11:02:37 AM
4022	b87466ea-6339-4939-914b-b775b4ba2515	karlchestermiranda@gmail.com	Login	User logged in	12/7/2023 9:56:29 AM
4021	b87466ea-6339-4939-914b-b775b4ba2515	karlchestermiranda@gmail.com	Login	User logged in	12/7/2023 9:06:27 AM
4020	b87466ea-6339-4939-914b-b775b4ba2515	karlchestermiranda@gmail.com	Login	User logged in	12/7/2023 8:24:17 AM
4019	b87466ea-6339-4939-914b-b775b4ba2515	karlchestermiranda@gmail.com	Login	User logged in	12/7/2023 7:53:28 AM
4017	f8d72d45-a432-498b-a3c1-cb48b847b32c	krixchstr@gmail.com	Login	User logged in	12/7/2023 7:52:51 AM
4015	b87466ea-6339-4939-914b-b775b4ba2515	karlchestermiranda@gmail.com	Login	User logged in	12/7/2023 7:38:41 AM
4014	b87466ea-6339-4939-914b-b775b4ba2515	karlchestermiranda@gmail.com	Login	User logged in	12/7/2023 7:00:41 AM
4013	b87466ea-6339-4939-914b-b775b4ba2515	karlchestermiranda@gmail.com	Login	User logged in	12/7/2023 6:28:01 AM
4012	b87466ea-6339-4939-914b-b775b4ba2515	karlchestermiranda@gmail.com	Login	User logged in	12/7/2023 5:53:43 AM
4010	f18e9dd7-5855-4783-a6d3-0a1653f3632d	bel2@gmail.com	Login	User logged in	12/7/2023 5:53:13 AM



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Archive Bin

F1. The Document Controller can also view the Archive Bin page which contains all the archived documents within the system.

A screenshot of the QMS PORTAL Documented Information Management System. The left sidebar shows sections like Overview, Document Approval, and Admin Tools, with 'Archive Bin' highlighted in red. The main area displays a table titled 'Archived Documents' with columns for Id, Revision, Document Code, Document Title, Owner, and Archive Date. The bottom navigation bar includes links for Home, Terms, Privacy, Policy, and Contact, along with the URL https://qmsdocument.azurewebsites.net/Home/Index and a copyright notice: Copyright © 2023, All Rights Reserved IQMS.



Quality Management Representative Account

Dashboard

A1. The dashboard of the QMR only counts the total pending and approved documents.

When clicked it will redirect to the designated page.

The screenshot shows the QMS PORTAL Documented Information Management System. The top navigation bar includes a logo, the portal name, a welcome message for the Quality Management Representative, and a search bar. The left sidebar has sections for Overview, Document Approval, and QMR Pending Documents, with 'Dashboard' being the active tab. The main dashboard area displays two boxes: one for 'QMR PENDING DOCUMENTS' (2) and one for 'QMR APPROVED DOCUMENTS' (1). Below these are sections for 'New Notifications' and 'Latest approved document'. The notifications list four entries from January 14, 2024, each with a download icon. At the bottom, there's a footer with copyright information and links to Home, Terms, Privacy, Policy, and Contact.

Welcome, Quality Management Representative! (qualitymanagementpup@gmail.com)

Dashboard

2 QMR PENDING DOCUMENTS

1 QMR APPROVED DOCUMENTS

No documents available

Latest approved document

New Notifications

Date	Document Description	Action
1/14/2024 9:00:51 AM	New document received for final approval: Opportunities for Improvement.pdf	Download
1/14/2024 7:39:45 AM	New document received for final approval: MODULE-3_-CRYPTOGRAPHY (1).pdf	Download
1/14/2024 6:42:39 AM	New document received for final approval: Certificate-2nd-IQA-Audit-2023-A. Coronado.pdf	Download
1/14/2024 3:39:41 AM	New document received for final approval: Attendance Sheet.pdf	Download

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QMR Pending Documents Tab

B1. The pending button displays all the pending documents where the table shows the document title, author, date created, action, and status.

A screenshot of the QMS Portal interface. The top navigation bar includes the university logo, the text "POLYTECHNIC UNIVERSITY OF THE PHILIPPINES", and the year "1904". The main header says "Quality Management Representative". On the left, a sidebar titled "Sections" lists "Overview", "Homepage", "Dashboard", "Document Approval", "Reports", and "QMR Pending Documents" (which is highlighted). The main content area is titled "Quality Management Representative" and shows a table of pending documents. A red circle highlights the "Pending" button in the toolbar above the table. The table has columns for "Document Title", "Author", "Date Created", "Action", and "Status". It lists two entries: "Attendance Sheet.pdf" by "process owner" on "Jan 10, 2024" with actions "creation" and a status "Pending: Final Approval"; and "Opportunities for Improvement.pdf" by "process owner" on "Jan 07, 2024" with actions "creation" and a status "Pending: Final Approval".

Document Title	Author	Date Created	Action	Status
Attendance Sheet.pdf	process owner	Jan 10, 2024	creation	Pending: Final Approval
Opportunities for Improvement.pdf	process owner	Jan 07, 2024	creation	Pending: Final Approval

Showing 1 to 2 of 2 entries

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B2. The approved button displays all the approved documents where the table shows the document title, author, date created, action, and status.

A screenshot of the QMS Portal interface. The top navigation bar includes the university logo, the text "POLYTECHNIC UNIVERSITY OF THE PHILIPPINES", and "1904". The main header says "Quality Management Representative". On the left, there's a sidebar with sections like "Overview", "Homepage", "Dashboard", "Document Approval", "Reports", and a red button for "QMR Pending Documents". The main content area has a heading "Quality Management Representative" with two buttons: "Pending" (blue) and "Approved" (red, circled). Below this is a table with columns: Document Title, Author, Date Created, Action, and Status. One entry is shown: "MODULE-3_-CRYPTOGRAPHY (1).pdf" by "process owner" on "Jan 12, 2024" with "creation" under Action and "Approved" under Status. Navigation buttons at the bottom right show "Previous", "1", and "Next".

Document Title	Author	Date Created	Action	Status
MODULE-3_-CRYPTOGRAPHY (1).pdf	process owner	Jan 12, 2024	creation	Approved



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B3. When the QMR clicks the document title, the document details will display. After approving the document, it will be sent back to the Document Controller for distribution. If the QMR clicks the return document, it will be returned to the process owner for update.

Take note that the comment is required to approve the document.

The screenshot shows the QMS PORTAL interface. On the left, a sidebar lists sections like Overview, Dashboard, Document Approval, and Reports. The main area displays a document titled 'Attendance Sheet.pdf'. The document details include:

Rationale: To sector head	ID: 304
Author: process owner	Document Code: P-QM-0004-00
User Sector: Office of the Executive Vice President	Revision No: 0

Below the document details, there's a table titled 'Previous Actions' showing a history of document interactions:

Initiated By	Comments	Timestamp
processownerpup@gmail.com	Document submitted Attendance Sheet.pdf for sector approval	1/10/2024 9:13:57 AM
sectorheadpup@gmail.com	ok	1/14/2024 3:37:25 AM
sectorheadpup@gmail.com	Document has been submitted to Document Controller for QMS approval	1/14/2024 3:37:52 AM
documentcontrollerpup@gmail.com	ok	1/14/2024 3:39:24 AM
documentcontrollerpup@gmail.com	Document has been submitted to Quality Management Representative for QMR approval	1/14/2024 3:39:41 AM
qualitymanagementpup@gmail.com	a	1/14/2024 7:43:37 AM

A red oval highlights the 'Comment' field in the last row of the 'Previous Actions' table, which contains the value 'a'. At the bottom of the page, there are 'Approve Document' and 'Return Document' buttons.



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B4. After clicking the approve document button, a DCRF View will display where the QMR needs to sign it. Click the 3rd row on the column of the signature box to sign.

The screenshot shows a web-based application interface for a Document Control Record Form (DCRF). At the top, there's a header bar with a back arrow, refresh icon, and a URL: <https://qmsdocument.azurewebsites.net/documents/documentdetails/304>. Below the header is a table with the following data:

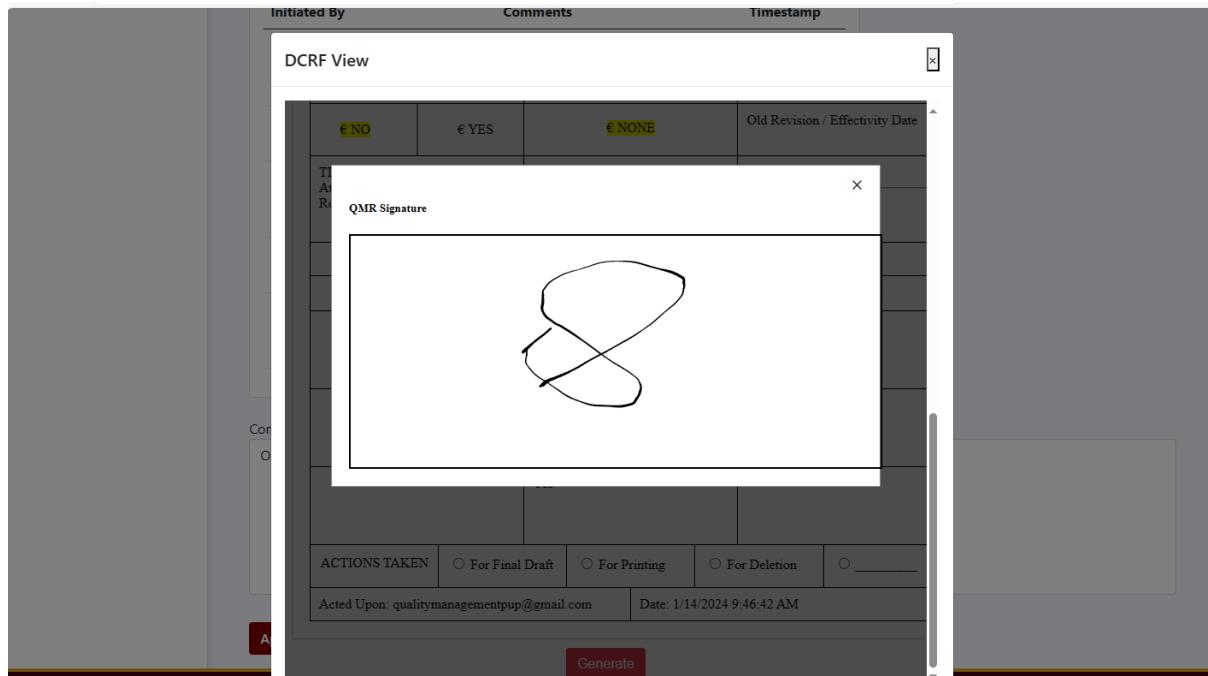
TITLE / CODE / REV Attach Separate Document Revision		€ YES / SPECIFY:	New Revision Code New Effectivity Date 1/14/2025 9:42:56 AM
REVIEW OF CONCERNED FUNCTIONS			
FUNCTION	COMMENT		SIGNATURE
	ok		
	ok		
	a		
ACTIONS TAKEN	<input type="radio"/> For Final Draft	<input type="radio"/> For Printing	<input type="radio"/> For Deletion
Acted Upon: qualitymanagementpup@gmail.com		Date: 1/14/2024 9:42:58 AM	
Generate			

A red oval highlights the third row of the "FUNCTION" column. At the bottom right of the form, there are "Save" and "Cancel" buttons. The footer contains copyright information and links to "Home", "About", "Privacy", "Policy", and "Contact".



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B5. Sign the Signature box and close it to save your signature.



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B6. After closing the signature box, it will display on the DCRF. Generate to update the DCRD then save it to send it back to the document controller.

A screenshot of a digital signature application window. The window contains several sections: a top header with fields for 'TITLE / CODE / REV' (containing 'Attach Separate Document Revision'), 'YES / SPECIFY' (with 'New Revision Code' and 'New Effectivity Date 1/14/2025 9:47:35 AM'), a 'REVIEW OF CONCERNED FUNCTIONS' section with three rows for 'FUNCTION', 'COMMENT', and 'SIGNATURE' (the third row has a handwritten signature), an 'ACTIONS TAKEN' section with radio buttons for 'For Final Draft', 'For Printing', 'For Deletion', and '_____', and a footer with 'Acted Upon: qualitymanagementpup@gmail.com' and 'Date: 1/14/2024 9:47:42 AM'. At the bottom are 'Generate' and 'Save' buttons.



Appendix 5

Sample Generated Outputs

Figure 46. Generated Report (PDF)

Generated Reports - Total Records: 17									
DCRF_ID	Author	Action	Section	Document Code	Document Title	Sector	Document Type	Revision No	New Rev Date Created
196	bel123@gmail.com	deletion	Support	HTODPASC	Belonio_Async-Activity1.pdf	PRESIDENT	Reference Manual	0	11-21-2023
197	bel123@gmail.com	deletion	Support	HTODPASC	SIA - Data Domains.pdf	PRESIDENT	Reference Manual	0	08-26-2023
198	bel123@gmail.com	deletion	Support	HTODPASC	Belonio_Async-Activity2.pdf	PRESIDENT	Reference Manual	0	08-26-2023
199	bel123@gmail.com	deletion	Support	HTODPASC	SQL DDL.pdf	PRESIDENT	Reference Manual	0	08-26-2023
215	bel123@gmail.com	creation	Leadership and Planning	2BZUTHWZ	Group 7 - Document Management System.pdf	1	Process Manual	0	10-10-2023
216	bel123@gmail.com	creation	Leadership and Planning	I2IGHWNE	Group 7 - DMS Survey Questionnaire.pdf	1	Quality Manual	0	10-27-2023
217	rey@gmail.com	creation	Leadership and Planning	DKIJN898	UREC-Form-10-Study-Protocol.pdf	1	Process Manual	0	10-27-2023
219	bel123@gmail.com	revision	Operations	I2IGHWNE	Group 7 - DMS Survey Questionnaire.pdf	1	Quality Manual	1	10-27-2023
222	bel123@gmail.com	creation	Leadership and Planning	1KU304J4	CURRICULUM VITAE.pdf	1	Quality Manual	0	11-13-2023
227	bel2@gmail.com	deletion	Leadership and Planning	5Z493V05	Storyboard.pdf	1	Quality Manual	0	11-14-2023

Figure 47. Generated Report (XLSX)

DCRF_ID	Author	Action	Section	Document Code	Document Title	Sector	Document Revision No	New Rev Date Created
196	bel123@gmail.com	deletion	Support	HTODPASC	Belonio_Async-Activity1.pdf	PRESIDENT	Reference 0	11-21-2023
197	bel123@gmail.com	deletion	Support	HTODPASC	SIA - Data Domains.pdf	PRESIDENT	Reference 0	08-26-2023
198	bel123@gmail.com	deletion	Support	HTODPASC	Belonio_Async-Activity2.pdf	PRESIDENT	Reference 0	08-26-2023
199	bel123@gmail.com	deletion	Support	HTODPASC	SQL DDL.pdf	PRESIDENT	Reference 0	08-26-2023
215	bel123@gmail.com	creation	Leadership and Planning	2BZUTHWZ	Group 7 - Document Management System.pdf	1	Process M.0	10-10-2023
216	bel123@gmail.com	creation	Leadership and Planning	I2IGHWNE	Group 7 - DMS Survey Questionnaire.pdf	1	Quality M.0	10-27-2023
217	rey@gmail.com	creation	Leadership and Planning	DKIJN898	UREC-Form-10-Study-Protocol.pdf	1	Process M.0	10-27-2023
219	bel123@gmail.com	revision	Operations	I2IGHWNE	Group 7 - DMS Survey Questionnaire.pdf	1	Quality M.1	10-27-2023
222	bel123@gmail.com	creation	Leadership	1KU304J4	CURRICULUM VITAE.pdf	1	Quality M.0	11-13-2023
227	bel2@gmail.com	deletion	Leadership	5Z493V05	Storyboard.pdf	1	Quality M.0	11-14-2023
230	bel2@gmail.com	creation	Leadership	NVPBUST	[DMS] - Revision Matrix Form (1).pdf	1	Process M.0	11-14-2023
241	bel123@gmail.com	creation	Performar Qu-PUP-Performance Evaluation YY		revision Report (1).pdf	1	Quality M.0	11-21-2023
242	bel123@gmail.com	revision	Performar Qu-PUP-Performance Evaluation YY		revision_Report.pdf	1	Quality M.1	11-21-2023
243	bel123@gmail.com	creation	Leadership PUP-Pr-1XXXX-Leadership and Planning-YY-ZZ		Creation Reports_11-22-2023 (7).pdf	1	Process M.0	11-22-2023
244	bel123@gmail.com	creation	Operation Qu-PUP-Operations-YY		All Report_11-22-2023 (4).pdf	1	Quality M.0	11-22-2023
245	bel123@gmail.com	creation	Leadership Qu-PUP-Leadership and Planning YY		Group 7 - Proposal Revision Matrix Form.pdf	1	Quality M.0	11-23-2023
246	bel123@gmail.com	creation	Leadership PUP-Pr-1XXXX-Leadership and Planning YY-ZZ		November-24-Attendance-Report (2).pdf	1	Process M.0	11-24-2023



Appendix 6

Certification Of Originality Check/Turnitin Result

Figure 48. Turnitin Similarity Report

Similarity Report	
PAPER NAME	AUTHOR
Group-7-Documented-Information-Management-System	Christian Allen Belonio
WORD COUNT	CHARACTER COUNT
16156 Words	94376 Characters
PAGE COUNT	FILE SIZE
114 Pages	2.2MB
SUBMISSION DATE	REPORT DATE
Apr 17, 2024 3:12 PM GMT+8	Apr 17, 2024 3:13 PM GMT+8
● 12% Overall Similarity	
The combined total of all matches, including overlapping sources, for each database.	
<ul style="list-style-type: none">• 4% Internet database• Crossref database• 11% Submitted Works database• 2% Publications database• Crossref Posted Content database	



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Appendix 7

Certification of Editing

Figure 49. Certificate of Language Editing

<p style="text-align: center;"><u>CERTIFICATE OF LANGUAGE EDITING</u></p> <hr/> <p>Capstone Project Title: "DOCUMENTED INFORMATION MANAGEMENT MODULE FOR PUP QUALITY MANAGEMENT SYSTEM PORTAL"</p> <p>Researchers: Belonio, Christian Allen A. Empleo, Jericho B. Inday, Rey Adrian R. Manansala, John Michael P.</p> <p>Course: Bachelor of Science in Information Technology</p> <hr/> <p>This is to certify that the paper mentioned above has been reviewed and edited by the undersigned against the set of structural rules that govern the composition of grammar, spelling, punctuation, sentence structure, and phrasing in the English language.</p> <p><i>P. Santos</i> Jay Mark B. Santos, PhD, LPT, CSSWB Language Editor</p> <p>Date: June 13, 2024</p>	
--	--



Appendix 8

Implementation Report

Figure 50. Sample Accomplishment Report

Accomplishment Report		
Project Name: PUP IQMSO Portal - Documented Information Management		Date: April 2023
Team:	Belonio, Christian Allen A. Empleo, Jericho B. Inday, Rey Adrian R. Manansala, John Michael P.	
Reporting Period:	Month of April	
Status:		
Work Items	This Month Status	Next Month Plan
1. Transition of php into c# asp.net core mvc. 2. Setting of security feature. 3. Making Use Case Diagram 4. Document tracking. 5. Creating a sidebar. 6. Implementing switching of roles. 7. Creating login interface same w/ PUPSIS. 8. Finalize database of the 3 modules.	1. Studying c# asp.net. 2. Familiarizing to the security features for the DIMS. 3. Creating Use Case Diagram 4. Familiarizing how Document Tracking works. 5. Creating initial sidebar. 6. Familiarizing how switching of roles works. 7. Creating login interface same w/ PUPSIS. 8. Finalizing database of the 3 modules.	1. Start to code the backend CRUD and Approval of the DIMS. 2. Checking and Finalizing of Diagrams.



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Figure 51. Continuation of Sample Accomplishment Report

Problem and Solving Ideas

Issue #	Solution
1. Transition PHP to C# Asp.net	- Studying C# asp.net because it is completely different to PHP. The MVC of the asp.net makes the programming language hard but we just to be familiarize.
2. Security Features for the system.	- Our client said that the documents should be encrypted to avoid security issues in the future.
3. Actors and Functionality of each actor.	- There are many focal persons so there are revisions to the Use Case Diagram. We just need to check to our client if we got all the actors for the diagram.
8. Database of 3 modules.	- We create a database in the SQL Server Management Studio Management Studio 19 since we transfer to C#.

Deliverables to be developed in the future:

Deliverables:	Date:
Interface and Functionality of Document Tracking.	May 30, 2023
Functionality of Switching Roles or Modules.	May 30, 2023



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Appendix 9

Capstone Project Revision Matrices

Figure 52. Page 1 of Proposal Defense Revision Matrix

INFORMATION		CAPSTONE PROJECT REVISION MATRIX			
Title Program	Documented Information Management Module for PUP Quality Management System Bachelor of Science in Information Technology	Year and Section	3-5		
Researcher Names and Email Addresses:	1. Belonio, Christian Allen A. (allenbelonio2415@gmail.com) 2. Empleo, Jericho B. (empleojericho@gmail.com) 3. Inday, Rey Adrian R. (indayreyadrian@gmail.com) 4. Manansala, John Michael P. (johnmichaelmanansala@gmail.com)				
REVISION INFORMATION					
Presentation Date Presentation Type	Month: September <input checked="" type="checkbox"/> Proposal	Day: 5th <input type="checkbox"/> Tool	Year: 2023 <input type="checkbox"/> Final	Time: 1:45 PM <input type="checkbox"/> Redefense	Room: S-508
Comments/Suggestions by the Panelists		Action Taken by the Proponents/Researchers	Suggested by: Panelist's Name	Panelist Signature	
The panelist said that the Technical Background in Chapter 1, including Equipment/Hardware, Software, and People/Manpower, should focus on PUP IQMSO's existing setup rather than the proposed system.		We have revised the technical background section to align with the panelist's feedback. The updated content now exclusively describes the existing technical infrastructure of PUP IQMSO.	9-10 Prof. Santos, John Dustin		
The panelist pointed out that the network infrastructure section should focus on detailing PUP IQMSO's existing network setup rather than our proposed system.		In response to the panelist's feedback, we have revised the network infrastructure section to align with the client's specific requirements. The updated content now exclusively describes the existing network infrastructure of PUP IQMSO.	11 Prof. Santos, John Dustin		



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Figure 53. Page 2 of Proposal Defense Revision Matrix

They noted that the Systems Architecture section should not discuss the proposed system at this stage. They emphasized the importance of focusing solely on the existing architecture without including any details related to our proposed system.	Since we do not yet have sufficient information regarding this, we temporarily removed the Systems Architecture diagram from the paper. However, we intend to revisit and enhance this section once we gather sufficient information about the System Architecture of PUP IQMSO.	11 Prof. Santos, John Dustin <i>ok</i>
The panelist also emphasized that we should have provided the Storage, Backup, and Recovery Procedure of PUP IQMSO instead of detailing our proposed system's procedure.	In response to this, we revised the Storage, Backup, and Recovery Procedure of our paper to align with their suggestion. It now contains the current storage, backup, and recovery procedure used by PUP IQMSO.	12 Prof. Santos, John Dustin <i>ok</i>
They also said the same with the Security Procedures and the Policies and Procedures section of our paper. It should focus on the currently existing security and policy framework of PUP IQMSO instead of our proposed system's procedures.	In line with this, we have worked on revising the 'Security Procedures' and 'Policies and Procedures' sections to align with their suggestion.	12-13 Prof. Santos, John Dustin <i>ok</i>
The panelists pointed out that the Review of Related Literatures section should follow a thematic approach, wherein each theme/topic should include multiple sources and citations.	We revised the RRL section by structuring it in a thematic way, ensuring that each theme or topic contains multiple relevant sources and citations, as recommended by the panelists.	24 Prof. Santos, John Dustin <i>Explore more RRLs especially on the final part.</i>

Figure 54. Page 3 of Proposal Defense Revision Matrix

The panelists noted that we have references to both ISO 25010 and ISO 9126, which caused some confusion. They recommended selecting the most suitable ISO framework for our proposed system.	We revised the Quality Plan section of our paper and we chose ISO 25010 as the reference ISO framework for our Quality Plan. This decision was made to align with the proposed system's focus on enhanced security.	104 Prof. Santos, John Dustin <i>ok</i>
Some comments and suggestions were also given by Ms. Arada regarding our proposed system:		
- "For uploading, the system should accept multiple pages in a single upload."	The system will be enhanced to allow for the uploading of documents with multiple pages in a single upload.	
- "How will the system handle attachments with multiple pages within a single file, and what are the storage size requirements for uploading?"	We will investigate the requirements for handling attachments with multiple pages within a single file and ensure the system's storage capabilities align with these needs.	Prof. Arada, Marian <i>ok</i>
- "Specify how files will be uploaded in bulk to avoid the need for individual uploads."	We will implement a bulk file upload feature to optimize the process of uploading multiple files simultaneously, addressing the concern of inputting files one by one.	
- "Examine the feasibility of importing their existing Excel data into the system"	We will explore the possibility of developing an import feature to facilitate the transfer of existing Excel data into the system	



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Figure 55. Page 1 of Tool Defense Revision Matrix

INFORMATION		CAPSTONE PROJECT REVISION MATRIX		
Title Program	Documented Information Management Module for PUP Quality Management System Portal Bachelor of Science in Information Technology	Year and Section	4-5	
Researcher Names and Email Addresses:	1. Belonio, Christian Allen A. (allenbelonio2415@gmail.com) 2. Empleo, Jericho B. (empleojericho@gmail.com) 3. Rey Adrian R. Inday (indayreyadrian@gmail.com) 4. John Michael P. Manansala (johnmichaelmanansala@gmail.com)			
REVISION INFORMATION		Time:	Room: S-508	
Presentation Date Presentation Type	Month: November <input type="checkbox"/> Proposal Day: 29 <input checked="" type="checkbox"/> Tool Year: 2023 <input type="checkbox"/> Final		<input type="checkbox"/> Redefense	
Comments/Suggestions by the Panelists	Action Taken by the PropONENTS/Researchers	Suggested by: Panelist's Name	Panelist Signature	
Put the panelist's comment here as stated in the Comments and Suggestions Sheet	Kindly discuss what did your group do. If the comment is about the manuscript, kindly indicate the page number.	Page No.	<i>JD Santos</i> <i>M. Aran R. Inday</i> <i>John Michael P. Manansala</i> <i>Rey Adrian R. Inday</i> <i>Allen Belonio</i>	
1. The panelist also wanted a detailed history of changes in the revised documents. 2. They also suggested having a clear indication on which part of the document underwent revision.	A detailed version history feature has been added to provide a comprehensive overview of changes made to revised documents. We have revised the system to indicate the specific parts undergoing revision.	Mr. John Dustin D. Santos Mr. John Dustin D. Santos		



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Figure 56. Page 2 of Tool Defense Revision Matrix

3. Concerns raised about insufficient data, particularly in the process.	We will review and address the concerns regarding insufficient data in the process, ensuring the completeness of data.	Mr. John Dustin D. Santos JO Santos M. A. Santos
4. The panel asked if the approver's email is the one displayed in the system instead of their name. Also, the panel wanted us to ensure that the documents are being submitted to the correct approver, considering considering potential changes in the PUP system	We revised the system interface to display the approver name, enhancing clarity. Also, we will implement additional validation checks to ensure documents are routed to the correct approver.	Mr. John Dustin D. Santos JO Santos M. A. Santos



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Figure 57. Page 1 of Final Defense Revision Matrix

	Republic of the Philippines POLYTECHNIC UNIVERSITY OF THE PHILIPPINES Office of the Vice President for Academic Affairs College of Computer and Information Sciences			CAPSTONE PROJECT REVISION MATRIX		
INFORMATION						
Title	Documented Information Management Module for PUP Quality Management System Portal			Year and Section	4-5	
Program	Bachelor of Science in Information Technology			Time		
Researcher Names and Email Addresses:	1. Belonio, Christian Allen A. (allenbelonio2415@gmail.com) 2. Empleo, Jericho B. (empleojericho@gmail.com) 3. Rey Adrian R. Inday (indayreyadrian@gmail.com) 4. John Michael P. Manansala (johnmichealmanansala@gmail.com)					
REVISION INFORMATION						
Presentation Date	Month: January	Day: 16	Year: 2024	Time:	Room: S-507	
Presentation Type	<input type="checkbox"/> Proposal <input type="checkbox"/> Tool <input checked="" type="checkbox"/> Final <input type="checkbox"/> Redefense					
ACTION						
Comments/Suggestions by the Panelists	Action Taken by the Proponents/Researchers	Suggested by: Panelist's Name	Panelist Signature	Page No.		
1. The "System Proposal" in the title page should be replaced with "Capstone Project" and "Proponents" should be removed.	Updated the title page with the necessary changes.	1 Mr. John Dustin D. Santos Ms. Marian G. Arada	<i>✓ 1/30/24</i> <i>✓ John 1/30/24</i>			
2. In the title page, "Course" should be replaced by "Degree" and "INTE 40173 - Capstone Project" should be replaced by "Bachelor of Science in Information Technology".	Updated the title page with the necessary changes.	1 Mr. John Dustin D. Santos Ms. Marian G. Arada	<i>✓ 1/30/24</i> <i>✓ John 1/30/24</i>			
3. Specify in the paper the qualifications of respondents, stating their specific roles under QMS.	The qualifications of the respondents, specifying their roles under QMS (e.g., process owner, sector head, document controller, and QMR), has been stated in the paper.	82, 92, 97 Mr. John Dustin D. Santos Ms. Marian G. Arada	<i>✓ 1/30/24</i> <i>✓ John 1/30/24</i>			



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Figure 58. Page 2 of Final Defense Revision Matrix

4. There should be a proper representation of the respondents and their corresponding sectors.	The researchers added a detailed table in the paper that indicates the number of respondents for each sector.	97	Mr. John Dustin D. Santos Ms. Marian G. Arada	ok <i>[Signature]</i> 1/30/24 <i>[Signature]</i> 1/30/24
5. The term "Average Mean" should be replaced with "Weighted Mean".	In Chapter 4 - Results and Discussions, the "Weighted Mean" has been indicated instead of Average Mean.	98, 100, 102, 104, 106	Mr. John Dustin D. Santos Ms. Marian G. Arada	ok <i>[Signature]</i> 1/30/24 <i>[Signature]</i> 1/30/24
6. Indicate the formula used for the weighted mean and include the formula in the discussion.	The formula used for weighted mean has been added, and this formula is mentioned in the discussion of results in Chapter 4.	99	Mr. John Dustin D. Santos Ms. Marian G. Arada	ok <i>[Signature]</i> 1/30/24 <i>[Signature]</i> 1/30/24
7. Improve the discussion for each result/presentation of data by adding interpretation/analysis instead of just merely converting into text what is presented in the tables.	The Chapter 4 - Results and Discussion section of the paper has been updated by incorporating more interpretation and analysis of presented data.	99,100 101,102 103,104 105,106 107,108	Mr. John Dustin D. Santos Ms. Marian G. Arada	ok <i>[Signature]</i> 2/8/24 <i>[Signature]</i> 2/8/24
8. Investigate why two respondents answered 'disagree' regarding the security aspect of the survey questionnaire and expand the recommendations accordingly.l.	The reasoning behind the "disagree" rating is now included in the Findings section of Chapter 5, and added another recommendation which addresses the said limitation.	109, 112	Mr. John Dustin D. Santos Ms. Marian G. Arada	ok <i>[Signature]</i> 1/30/24 <i>[Signature]</i> 1/30/24
9. There should be additional respondents from other sectors aside from the OVPRED.	Additional respondents from other sectors were included, as recommended by the panelists.		Mr. John Dustin D. Santos Ms. Marian G. Arada	ok <i>[Signature]</i> 1/30/24 <i>[Signature]</i> 1/30/24
10. The contents of the paper should be presented as a finished study and not as a proposal.	Revised the presentation of the paper to reflect a finished study rather than a proposal.		Mr. John Dustin D. Santos Ms. Marian G. Arada	ok <i>[Signature]</i> 1/30/24 <i>[Signature]</i> 1/30/24



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Appendix 10

Ethics Clearance and Terminal Report

Figure 59. Approved Ethical Clearance

Republic of the Philippines
POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
OFFICE of the VICE PRESIDENT for RESEARCH, EXTENSION, and DEVELOPMENT
RESEARCH MANAGEMENT OFFICE
UNIVERSITY RESEARCH ETHICS CENTER

Date: November 21, 2023

To/For: Christian Allen A. Belonio
Jericho B. Empleo
Rey Adrian R. Inday
John Michael P. Manansala

Subject: Ethical Clearance

From: Prof. Jackson Jake U. Llames
Chief, Research Ethics Center

[Handwritten signature]

This is to inform you that your submitted documentary requirements for your research project titled "**Documented Information Management Module for PUP Quality Management System Portal**" passed the evaluation of the PUP Research Ethics Committee (REC) in accordance with the requirements set by the Philippine Health Research Ethics Board (PHREB).

UREC Code	UREC-2023-1178
Type of Review	Expedited
Approval Date	November 21, 2023
Expiry Date	November 20, 2024
PUP-UREC Decision	Approved

The standard conditions of this approval are as follows:

1. Conduct the project strictly in accordance with the submitted and approved research protocol and other documentary requirements.
2. If changes will be done in the conduct of the research project/study that will affect the research participants, an amendment of the research protocol must be submitted to urec@pup.edu.ph before implementing such changes.
3. For ethical clearance that is about to expire, researcher/s must apply for resubmission of the research protocol.
4. A final report/terminal report must be submitted when the research project/study is complete.
5. Researchers must advise in writing the PUP-UREC (email: urec@pup.edu.ph) if the research project/study has been discontinued.

You may now commence on your research project/study. Good luck.

S423, 4th Floor South Wing, PUP A. Mabini Campus, Anonas Street, Sta. Mesa, Manila 1016
Trunk Line: 335-1787 or 335-1777 local 235/357
Website: www.pup.edu.ph | Email: vpredl@pup.edu.ph

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ISO 9001:2015 CERTIFIED
CERTIFICATE NUMBER: SCP0004130



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Figure 60. Terminal Report

UNIVERSITY RESEARCH ETHICS CENTER		
	Terminal Report	
	UREC Form No.	18
	Version No.	1
Ethics Code UREC-2023-1178		
Research Title Documented Information Management Module for PUP Quality Management System Portal		
Researcher/s Christian Allen A. Belonio, Jericho B. Empleo, Rey Adrian R. Inday, John Michael P. Manansala		
College/Department College of Computer and Information Sciences		
Project Period December 2023 – February 2024		
Report Submission date June 17, 2024		
I. Abstract and Keywords		
This study involves the development, implementation, and evaluation of the Documented Information Management System (DIMS) within the Polytechnic University of the Philippines' Quality Management System. Recognizing the challenges posed by traditional document management, the DIMS aimed to enhance ISO-standard document practices, focusing on enrollment, review, approval, and distribution processes. The study used a mixed-methods approach, combining survey questionnaires based on ISO 25010 criteria with usability testing. The results indicate strong user agreement (mean scores ranging from 3.68 to 3.76 on a Likert scale) across functional suitability, performance efficiency, usability, reliability, and security aspects. The respondents affirm that the DIMS effectively addresses inadequacies in managing documented information, aligns with performance specifications, and offers a user-friendly platform. The DIMS demonstrated its capability to systematize processes, reduce delays, and fortify security measures within the Quality Management System. Implications of this study suggest the capability of the DIMS to enhance collaboration, compliance, and information security. Recommendations include establishing continuous improvement measures, comprehensive user training programs, implementing document templates and standardization, advanced analytics, and optimization on user experience and interface. The study also highlighted the role of Document Management Systems in meeting evolving user needs, technological advancements, and ISO standards. This research contributes to the discourse on document management systems in academic institutions, providing insights into system development, evaluation, and user recommendations, with broader implications for information management in educational settings.		
II. Introduction		
The "Documented Information Management Module for PUP Quality Management System Portal" is a study focused on effectively managing the documented information required by ISO 9001:2015 and ISO 10013:2021 standards, as determined by the Polytechnic University of the Philippines (PUP) for its Quality Management System (QMS). This module aims to streamline document handling through an intuitive user interface, version control mechanisms, and role-based access controls. It encompasses the enrollment, revision, and management of documented information essential to the university's quality assurance processes, improving collaboration, ensuring compliance with quality standards, and enhancing PUP's academic and administrative operations. Quality Management Systems (QMS) provide a framework of standards and best practices to ensure processes and products meet specific criteria, significantly impacting various sectors, including education and manufacturing [Firdaus et al. 2022]. Studies have shown that the successful implementation of QMS depends on factors such as management commitment, employee involvement, and a well-structured document management system [Xuan and Trung 2020; Mohammad Mesaad Al-Asiri 2018; Jaffet 2018; Mehrabioun 2021; Rodríguez-Mantilla 2018]. Effective document control is critical, involving procedures for document development, approval, distribution, access, storage, security, and disposal, ensuring compliance with regulatory requirements and safeguarding sensitive information [Malak 2023; Ferrier 2021]. This capstone project addresses these needs by developing a module to improve the management of documented information within PUP's QMS, enhancing compliance with ISO standards and ensuring the accuracy and security of information.		
<p>S423, 4th Floor South Wing, PUP A. Mabini Campus, Anonas Street, Sta. Mesa, Manila 1016 Trunk Line: 335-1787 or 335-1777 local 235/357 Website: www.pup.edu.ph Email: vpredl@pup.edu.ph</p> <p>THE COUNTRY'S 1st POLYTECHNICU</p> <p> CERTIFICATION INTERNATIONAL SOCOTEC ISO 9001</p> <p> PAB ACCREDITED QMS CERTIFICATION BODY MSA-388</p> <p>ISO 9001:2015 CERTIFIED CERTIFICATE NUMBER: SCP000413Q</p>		

Appendix 11

Biographical Statements



Christian Allen A. Belonio is a 21-year-old college student that currently in his final year of pursuing a degree in Bachelor of Science in Information Technology. During the four-year course at Polytechnic University of the Philippines, he has shown great dedication building his foundation in technology knowledge. He gained various achievements as a reflection of his dedication. As part of this capstone, he is the team lead and the main programmer responsible for the development of a web application for the PUP Quality Management System Portal. Recently finished his internship at CyberQ Group, which gained an opportunity building his foundation in the field of cybersecurity that will further advance his programming skill. He will pursue a specialization in cybersecurity that will practically apply his programming skills. He is currently planning to undergo training and testing his skills for having a role in Offensive Security and being a SOC Analyst.

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Jericho B. Empleo is a 22-year-old student currently in his fourth year of pursuing a Bachelor of Science in Information Technology at the Polytechnic University of the Philippines. Throughout his academic journey, He has demonstrated exceptional academic performance, a consistent Dean's List since his freshman year. He has a passion for backend development, an area he aspires to specialize in. His projects often involve creating and managing APIs, implementing server-side logic, and ensuring seamless integration between different system components. With his dedication, strong technical skills, and a genuine passion for backend development, He makes significant contributions to the tech industry. He dreams of becoming a backend developer, where he can leverage his expertise to build robust and innovative solutions that drive technological advancement.



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Rey Adrian R. Inday is a 21-year-old fourth-year student pursuing a Bachelor of Science in Information Technology at the Polytechnic University of the Philippines. Throughout his college years, he has consistently achieved President's Lister in recognition of his academic achievements. Before his current studies, he was also an academic achiever at the University of the East – Caloocan. He aims to specialize in web and software development within the IT industry. His project portfolio reflects his expertise, including co-developing a web application for the PUP Quality Management System Portal using C# ASP .NET and creating a Solid Waste Collection Management System in Java. His skills encompass a range of programming languages and development tools, and his interests in artificial intelligence, machine learning, and game development highlight his commitment to making significant contributions to the IT field.



John Michael P. Manansala is a 21-year-old fourth-year student pursuing a Bachelor of Science in Information Technology at the Polytechnic University of the Philippines. Throughout his academic journey, he has achieved and demonstrated excellence throughout his academic performance. He has recently finished his internship at Pixel8 Web Solutions & consultancy Inc., which sparked a passion in UI/UX design. He aims to use and apply his learnings in the industry.