

**REPOSYNC: AN ONLINE NARRATIVE REPORT MANAGEMENT SYSTEM
FOR CAVITE STATE UNIVERSITY - CARMONA CAMPUS**

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Bachelor of Science in Information Technology

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REPOSYNC: AN ONLINE NARRATIVE REPORT MANAGEMENT SYSTEM FOR CAVITE STATE UNIVERSITY -CARMONA CAMPUS

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An undergraduate capstone project proposal submitted to the faculty of the Department of Industrial and Information Technology, Cavite State University, Carmona Campus, Carmona, Cavite in partial fulfillment of the requirements for the degree Bachelor of Science in Information Technology. Prepared under the supervision of Mr. Richard L. Hernandez

INTRODUCTION

In today's generation, the organization of electronic documents has become crucial for every university, where they can place electronic documents in a secure electronic format to ensure important documents are protected against loss and damage. Having to view and manage the documents in one place that can be easily accessed in a device can help increase sustainability in the environment (Mocean& Vlad, 2020). In the era of information technology and the continuous development of global networks, management systems play a significant role in providing services for managing digital documents. The administrative cost in small to large organizations has been reduced since the use of digital has become more common instead of paper documents (Broumandnia et al., 2022).

Manual processes require more effort to identify the error for correcting the documents and physical space to maintain paper documents. The documents are manually organized and the information can be more difficult to keep secure and locate. As a result, this manual process can affect the whole organization's productivity (Triphati, 2024). In addition, corrections and updates in transactions often

require to be redone entirely and information may need to be written down and entered multiple times (Breitmeyer, 2015). Document management is essential for an organization to operate effectively. Proper organizing, accessible, and kept updated can result in significant time and resource saving. Furthermore, effective document management minimizes the risk of errors and can significantly affect a business's success, involving organizing, storing, and managing documents that serve as a tool to collect, handle, and protect the documents. However, the objective of EDMS is to set its features to properly organize and store documents to accurately search and retrieve documents (Waldron, 2024). In addition, the document management system optimizes work flow, ensures security, and simplifies these processes. It replaces the paper-based methods offering convenient document retrieval and establishing effective document management procedures (Merwe, 2023).

On-the-job (OJT) training is one of the most effective and well organized methods of teaching students to develop skills and knowledge to succeed in a professional work space. This training is highly valued and plays a crucial role in helping students to transition smoothly from university to a workplace (Richards, 2023). A proper OJT training can help trainees to acquire skills and knowledge for their future profession. Even minor aspects are learned during the training and can be applied when they are already in the field (Lopez, 2017). Moreover, the training emphasizes the importance of social skills, allowing the trainees to interact effectively with their colleagues. During the OJT program, students have time to improve their skills, confidently face challenges, learn better from their experience and be able to adapt into a new job environment (Richards, 2023). The Cavite State University Carmona Campus is one of the satellite campuses located at Barangay Maduya, Carmona Cavite. The university offers a student On-the- Job Training program that trains the skills, knowledge and attitude of the students to some hands-on situation in the workplace. Students will need to document their experiences during the training

through a narrative report, then will be submitted to their respective advisers for checking weekly.

The submission of the reports will depend on the adviser's preference either through physically printed documents or online through Google drive or email. Once the narrative reports have been approved, the adviser will submit the document to the OJT coordinator.

The current state process of submitting and checking of document reports of OJT students in Cavite State University - Carmona Campus is a combination of online through Google drive or email and physical through printed documents, which affects the efficiency of the OJT coordinator upon collecting final narrative reports.

Project Context

The Cavite State University – Carmona Campus currently does not have a system for managing student's narrative reports. The current process of submission of the final report has different types of submission. Some advisers preferred online through Google drive or email and others preferred physical submission which may cause inefficiency on the end of OJT Coordinator. There is no central place where the OJT coordinator can access all the reports and it can be difficult for OJT coordinators to provide feedback to the students' printed reports. The checking of the submitted reports of OJT students is conducted weekly, the checking of the document reports depends on the adviser's strategy whether they prefer through physical or online. However, the physical submission can be messy due to piled up documents and online submission can be maximized and enhanced with a dedicated system which will be a repository for the report documents of the OJT students.

The proponents decided to conduct this study aimed to design a system that enhances the efficiency in managing narrative report documents of the Cavite State University – Carmona Campus OJT students where users can have an online space

that provides accessibility to the management system of digital documents. Allowing the OJT advisers to provide feedback on the submitted weekly reports of the students. The OJT coordinator will have a seamless process in collecting and managing narrative reports of the students and the system will have a interactive viewing experience of the final submitted reports using Flipbook

By utilizing the online processes the design system contributes to the sustainable development goals in one way the main objective of the study is to enhance the efficiency of the current process by automating the manual process of submission and checking of reports to the end of OJT coordinator and OJT advisers. It supports sustainable development in that concerns the environment by reducing the usage of paper documents to transitioning to digital documents. This project contributes to climate action goal number 13, the users of the system can submit and check documents without needing to travel to school as long as the user has an internet connection they can access the system online and reducing the usage of ink to print documents as the system utilizes electronic documents submission. Furthermore, it also align with sustainable consumption and reduction goal number 12, where students can submit their reports with the used of the system without high usage of paper prints document. This practice will be encourage in order to maintain toxic material and reduction of waste that may cause pollution.

Objectives of the Study

Specifically, it aims to:

1. design an Online Narrative Report Management System for Cavite State University - Carmona Campus that:
 - a. Handles user authentication and permission checking;
 - b. Enables the administration of user accounts within the system;

- c. Automatically sends emails when new accounts are created, updates on weekly report and new announcement posted;
 - d. Allows advisers to review and provide feedback on the weekly reports submitted by OJT students;
 - e. Allows users to upload files and pdf documents;
 - f. Convert students approved final report to Flipbook for interactive viewing experience;
 - g. Allows the OJT coordinator and advisers to post announcements or important updates within the system; and
 - h. Generate printable documents;
2. develop the system using the following:
- a. PHP programming language will be used as the main language for the server side, providing the necessary libraries and modules for the system's features,
 - b. Java script will be used as the main language for the front end;
 - c. Hypertext Markup Language to structure the content page of the application;
 - d. Tailwind CSS a Cascade style sheet framework will be used to speed up the development in styling the pages of the application;
 - e. MySQL for storing user's credentials;
 - f. DELL laptop with an i5 processor and built-in 8 GB RAM will be used to develop and run the application;
3. test the system in terms of unit, integration, and system testing;

4. evaluate the system using the adopted International Organization for Standardization 25010 evaluation instrument, and
5. Prepare an implementation plan.

Purpose and Description

The purpose of the study is to develop an online narrative report management system for Cavite State University – Carmona campus that improves the efficiency of managing narrative reports of the students, providing a seamless process of uploading and checking reports integrated with interactive flipbooks for viewing final narrative reports. This system will not only enhance the effectiveness of handling narrative reports, it will also push better communication and collaboration between the users. By providing a space dedicated for organizing digital documents, the information to everyone is sync.

This study aims to have an organized system for managing narrative reports of OJT students in Cavite State University - Carmona Campus the OJT coordinator will benefit from this system having an organized submission of narrative reports will resolve the problem inefficiency of managing different types of submission of final reports, the advisers will have a dedicated panel for managing advisee students on their weekly report submission through the document uploading module, they can provide feedback to the submitted document of the students using the report checking module, the students can receive notification through emailing modules for the advice changes from their advisers the emailing module will also be used for notification of announcement from the school furthermore will be used for emailing and recovery of the users account in account management and authentication module.

The account management modules will allow the OJT coordinator to keep check who are the users of the system, the OJT coordinator is allowed to send

temporary accounts to the advisers per semester through email, and also the accounts of the students will be sent through email once their submitted student id is verified. The authentication module will be used to verify each login and accessibility permissions based on the hierarchy of their role in the system. The highlight feature of the system is the flipbook, by converting the final submitted narrative report of the student into interactive digital flipbook and lastly the system can also generate printable narrative reports of the students.

The objective of the proposed project is set to follow and support sustainable development goals such as goal number 13 “Climate Action” and goal number 12 “Responsible Consumption and Production”. The contribution of this project to the state SDG is aimed to help the environment to reduce travel emission and trash printed report documents.

Time and Place of the Study

This study was conducted from March 2024 expected to end in June 2024 at Cavite State University - Carmona

Scope and Limitation of the Study

The study involves the topic of document management systems that focuses on developing an online narrative report management system that helps to reduce the administrative process of submission of narrative reports and weekly reports of the Cavite State University – Carmona Campus OJT students. The system supports various modules account management modules for management of the users on the system, account authentication module for verification of users when login checking the permission of the user based on the role, account emailing module is for emailing of users account and notification when there is a revision to the submitted report of the student from the advisers also for announcement from the school, report checking module allow the advisers check the submitted report of the students and provide feedback if there is revision, file uploading module allows the students submit their reports by uploading it to the system same for advisers and OJT coordinator

they can upload new and past narrative reports of the students, narrative report viewing using flipbook users can have an interactive viewing experience of the final submitted narrative reports of the students, announcement module OJT coordinator allow to put announcement through the system and the users will be notified through email and also the system can generate printable reports of the documents submitted in the system such as final narrative reports.

OJT students, OJT advisers and OJT coordinator on uploading and checking narrative reports. However, there is a limitation in the system: it does not support grading of students and editing of documents inside the system.

Conceptual Framework

The conceptual framework of the study (Fig.1) will be IPO model contains Input, Process, and Output to demonstrate the development process of REPOSYNC: An Online Narrative Report Management System for Cavite State University - Carmona.

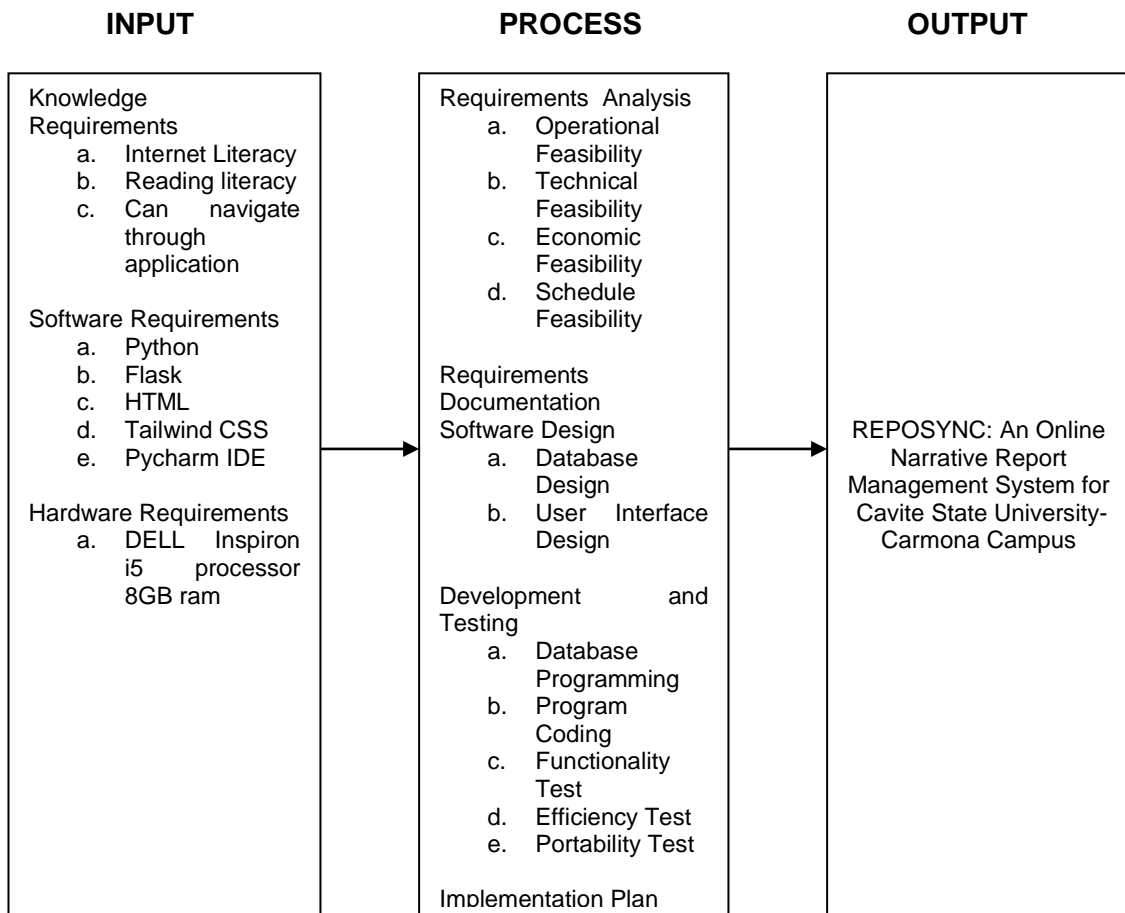


Figure 1. Conceptual Framework

Figure 1 shows the conceptual framework of the study using the Input, Process, and Output model showcasing the development process of an online narrative report management. The input stage contains three parts Knowledge requirement consists of the required knowledge that the researcher should have, Software Requirement consists of software tools that the researcher would use, and

Hardware requirements are hardware tools that the researcher would use to build the system.

The Process stage contains five parts first the requirement analysis list of feasibility that needs to assess in developing the system such as Operational, Technical, Economic, and Schedule feasibility. The second required documentation provides the necessary documentation for the conducted study. Third Software design consists of Database design and User Interface design of the system. Fourth development and testing include Database Programming, Program Coding, Functionality Test, Efficiency Test, and Portability Test. Fifth is the implementation plan.

With all the input and process the output developed system will be the REPOSYNC: An Online Narrative Report Management System for Cavite State University - Carmona.

Definition of Terms

The following terms are operationally defined in the study:

On-the-job-training (OJT) is a type of training that helps students get direct experience in using tools, software, techniques, or equipment used in a live environment (Richards, 2023).

Narrative report is a type of writing that tells a story or describes an event. (Peachy Essay, 2023).

Flipbook is an interactive digital publication with a realistic page-flip effect that makes it look just like a printed copy (FlippingBook, 2023).

Document Management System is software that provides an automated way to store, manage and track electronic documents and electronic images of paper documents (Kuligowski, 2024)

REVIEW OF RELATED LITERATURE

The chapter discussed the different related literature and studies for REPOSYNC: An Online Narrative Report Management System for Cavite State University - Carmona Campus.

Related Literature/Studies

Paper to Digital documents. According to recent research (McCarthy, 2021) the study claimed that a big change is happening where many institutions are moving from paper records to digital records. This shift to going digital is being driven by new technologies and people caring more about the environment. The use of digital records instead of paper makes work easier, allows people to access information more easily, and is better for the environment because it does not waste paper. According to the study of Zitter (2022) the use of technology improves how things operate and makes the overall experience better for students. It does this by eliminating barriers to education imposed by space and time and by expanding a student's access to quality learning. Moreover education needs to adapt to our digital world by doing this helps them provide higher quality education services.

As found by Villanueva (2023), agrees that digital formats offer advantages like easier access to information and cost savings, he also points out some challenges that come with the shift to digital. Hazarika (2020) further explores the complex issues of managing digital information, in both public and private universities that deal with large amounts of digital data. Digital documents and records ensure information can be properly assessed long-term while also keeping it safe and following all the necessary rules. Additionally it provides useful strategies and best practices for organizations on how to effectively manage digital records. In other words, managing digital information is the activity of selection, storage, conservation and preservation of the information, which is available in different formats for the

access of future generations and provides longevity to the digital content. (Hazarika, 2022).

Electronic Document Management Systems in Universities. Electronic Document Management Systems (EDMS) is important in managing documents efficiently within academic and research institutions. Having a digital library where all documents are neatly organized, easily accessible, and secure. (Akdogan, 2016). According to the research of Estrera (2017) a new Electronic Document Management System (EDMS) was introduced to solve document handling problems in a higher education institution. This system was based on the Quality Management System (QMS) of ISO 9001. Three colleges at Capitol University in Cagayan De Oro City, Philippines, tested the EDMS. They found it worked better than the old system. The EDMS scored 4.96 out of 5 for functionality, showing it always did what it was supposed to do. The old manual system only scored 3.05, showing it did not always work as expected. The study concluded that the EDMS was helpful and practical, especially in office environments. The study suggested that all university colleges should use the EDMS while also recommending upgrading the EDMS to an online system which would monitor and track documents centrally. Mukredet al. (2016), found that how ready Higher Professional Education (HPE) institutions in Yemen are to use Electronic Records Management Systems (ERMS). The study found that ERMS, which help organize electronic information, are super important for making decisions and keeping things organized in these institutions. By improving things like training, policies, and technology, institutions can become much better at using ERMS. In the study by Yusof et al. (2020), it was found that the successful adoption of ERMS heavily relies on factors such as people's attitudes, the organization's setup, and the overall environment of the organization. The study suggested that raising awareness about the benefits of ERMS, developing clear policies, and providing training could help overcome barriers to adoption. In a study by Ayaz (2020) the acceptance of the Electronic Document Management System (EDMS)

was examined through the Unified Theory of Acceptance and Use of Technology (UTAUT) in University of Bartın in Turkey. The study found that users of EDMS performed well in their tasks, suggesting that the system could simplify their daily work. It was also observed that the use of EDMS by senior management could increase its social influence. The study concluded that performance expectancy, social influence, and effort expectancy are key factors in the use of EDMS. Recommendations were made for administrators to develop an easy-to-use interface for EDMS and for top management to support its use. This support is expected to speed up user adaptation and acceptance of EDMS.

Benefits of Document Management System. In the past, organizations used paper-based document storage and management, which led to inefficiencies and issues related to work. High time consumption, mistakes, and redundancy during data collection, storage and retrieval (Balogunet al. 2019). In the words of Yatinet al. (2015) Document management systems have been seen as a solution for several paper-related problems, and they appear to provide the greatest amount of control over how paper documents are handled. It should be mentioned that document management systems control documents rather than the knowledge or information contained inside them. A Document Management System involves properly documenting and storing documents in appropriate locations. Document management systems often offer storage, information, and security (Ajala, Oludayo S. 2015). Odeh and Odeh (2019) presented a system to help academic personnel to organize their course files and provide several various functions for management staff. The course file can be accessed at any time and from anywhere. However, the signing of documents is done manually, thus the system is insecure.

As explained by Mika Maaranen (2017) It serves a vital function in enterprises. According to recent studies, finding existing papers takes up roughly 10% of the average worker's workload of information.

The information that they work on computers is kept in a various leveled record framework in which registries have records and subdirectories underneath them. In spite of the fact that they use the computer operating system to keep their image data structured, naming files and folders, arranging these nested folders, and dealing with the files in these directories are the fundamental aspects of file management (Nikhil et al. 2020). Business practice indicates that excellent document management may reduce those problems. If the staff know where to effortlessly find important documents, they can immerse themselves in productive work instead of looking for documents, documents are agreed to be maintained in specific designated locations within the organization. It also helps to ease server management issues related to disk space; they can free up hard drive space on their server by instructing the staff to send links to documents instead of the documents themselves (Mika Maaranen, 2017).

OJT Students Experience. On-the-job training (OJT) is a significant part of the educational system in the Philippines; it is one of the most influential programs especially at tertiary to senior high-school levels however not at the secondary level (Goyenechea ,et al., 2020). To help the student to strengthen their skills and acquire knowledge, an On-the-job training program offers for them to gain work experience. On-the-job training will be the guide to students to familiarize themselves with the specific dynamics, requirements, and workflow of a particular job. Plus, the OJT training program introduces the job's environment. In essence, on-the-job training programs serve as the link to the gap between academics and the industry. The two areas have big differences therefore the OJT program will be able to help students in the smooth transition between the two aspects. Moreover, the objective is to engage students in the OJT program to empower them to take opportunities as they emerge. This approach gives the student a high chance of finding employment and lays the groundwork for their professional journey after they graduate (Bouchrika, 2024). Perry (2022) also found that hands-on training provides employees with an extra

level of familiarity and specific competencies. It is challenging to replicate this experience in a classroom or traditional learning setting. Therefore, on-the-job training is often preferred over instructor-led training to ensure the best possible training outcomes. Legaspi (2019) stated that performing activities or tasks is not the only thing to learn in on-the-job training. Instead, it is how to act in various situations and interact with co-workers. Moreover, during the training program, the trainee learns how to pick up valuable insight on how to communicate professionally, particularly when interacting with supervisors and co-workers. Richards (2023) supports the idea that apart from teaching the student how to apply their knowledge and skills, on- the-job training programs familiarize them with the company's core values, mission, and vision.

System Technical Background

The development of REPOSYNC: An Online Narrative Report Management System for Cavite State University – Carmona Campus will use different types of software such as PHP, Hyper Text Markup Language, Tailwind CSS, JavaScript, MySQL and PyCharm IDE.

For hardware a DELL Inspiron with i5 processor 8GB ram that run on Windows 10 Pro operating systems will be used in developing the system. These hardware requirements aim to provide the developer with the right tools including those laptop, processing unit, memory, and storage. This ensures that the narrative report management system will run smoothly, be able to handle database operations, and respond to tasks given. These specific tools might change depending on how big the system is or how complicated the system can be but the current tools are also capable of performing heavy tasks and can be responsive for system development.

JavaScript is a dynamic programming language that's used for web development, in web applications, for game development, and lots more. It allows you to implement dynamic features on web pages that cannot be done with only HTML and CSS (Megida, 2021).

PHP a general-purpose language that can be use to make a lots of project includes Graphical User Interfaces and itsa open source server-side scripting language that many developers use for developing in the web (Chris, 2021).

MySQL. It is a powerful relation database management system that can effectively integrate with PHP. The collaboration with PHP allows the developers to develop better web applications through leveraging the MySQL framework for managing structured data and database storage (Tomar, 2023).

Hyper Text Markup Language.It is a simple markup language used to structure and construct web pages containing a wide variety of commands known as tags that tell the webhow to interpret content (Clinton 2023).

Tailwind CSS. A utility-first CSS framework bundle with sets of utility classes that can be used straightly through markup elements to design (De Roy, 2022).

PHP storm Is an integrated development environment dedicated to use of the programming language PHP it is built on the Intelli IDEA platform, which is written in Java. (Wood, 2019).

Synthesis

According to (McCarthy, 2021), people have cared more about the environment since digital technology emerged. The usage of digital records has become efficient and it's better for the environment because it does not generate paper waste, additionally, people can access information easily instead of paper. (Villanueva, 2023) agrees since digital formats offer more advantages such as reducing administrative work and less cost. Furthermore, the shift to digital systems has made an impact on the success of organizations in modern times (McCarthy, 2021). According to Zitter (2022) technology enhances educational operations, removing barriers related to space and time, and improving the learning experience for students. Hazarika (2020) explores the complex issues of managing digital information, in both public and private universities that deal with large amounts of digital data. The study found that managing digital information is the activity of

selection, storage, conservation and preservation of the information, which is available in different formats for the access of future generations and provides longevity to the digital content.

Electronic record management systems (ERMS) have become super important for making decisions and keeping things organized in these institutions (Murked et al., 2016). Estrera (2017) found that an EDMS based on ISO 9001 quality standards significantly improved document handling at Capitol University in the Philippines. The system outperformed the manual method, showing high functionality and efficiency. Yusof et al. (2020) noted that successful ERMS adoption depends on attitudes, organizational setup, and environment. Raising awareness, clear policies, and training are important factors to the successful adoption of EDMS. Ayaz (2020) examined EDMS acceptance in University of Bartın in Turkey. The study concluded that performance expectancy, social influence, and effort expectancy are key factors in the use of EDMS. Recommendations were made for administrators to develop an easy-to-use interface for EDMS and for top management to support its use. This support is expected to speed up user adaptation and acceptance of EDMS. The EDMS was helpful and practical, especially in office environments. It is suggested that all university colleges should use the EDMS and also recommended upgrading the EDMS to an online system. This would make it easier to monitor and track documents centrally. (Estrera, 2017).

In the past, paper-based document storage caused inefficiencies. Retrieving information was time-consuming and error-prone (Balogun et al. 2019). Document Management Systems (DMS) were developed to solve these concerns (Yatin et al. 2015). While DMS excels at organizing physical documents (Ajala, 2015), it does not handle the information contained inside them. Digital documents also confront issues. According to Maaranen (2017), identifying existing files takes a significant amount of work time. Although computer operating systems include organizational structures, organizing these folders and file names can be difficult (Nikhil et al. 2020).

Effective document management can greatly increase workflow. When employees can readily find documents, they may focus productive tasks rather than searching (Maaranen, 2017). DMS also helps with server maintenance by allowing employees to share document links rather than big files. In essence, document management systems are important grow over old paper-based approaches; nonetheless, both require good organization and user education to be effective.

The On-the-job training (OJT) have become the most influential program in the Philippines making it a significant part of the education system it help students strengthen their skills by gaining experience providing them extra level of familiarity and specific competencies in the industry making easy for them to transition once they graduated (Goyenechea , et al., 2020; Bouchrika, 2024; Perry, 2022). Things like performing task are not only the things to learn during on-the-job training it also helps the trainee to learn how to interact with co-workers having them to pick up valuable insight on how to communicate professionally and familiarize with the company core values, mission and vision (Legaspi 2019; Richards, 2023

METHODOLOGY

This chapter discusses the following design, development, testing, and implementation of REPOSYNC: An Online Narrative Report Management System for Cavite State University – Carmona Campus.

Design of Software, Systems, Products, and/or Processes

REPOSYNC: An Online Narrative Report Management System for Cavite State University – Carmona Campus. The design of the system revolves around managing the submission of OJT student's narrative reports. The development of this system consists of various technologies first Hypertext Markup Language will be used to structure the pages on the web next is Tailwind CSS which is a low-level Cascading Style Sheet framework that allows proponents to speed up the development of styling the structured pages using utility classes and unlike other frameworks that provide predefined classes for elements this will speed up the development of styling the structured pages next is JavaScript for client-side scripting it is used for object manipulation and form validation of the system, PHP will be used for the server-side logic which handles the request from the client side, the language will also be used to communicate with a relational database such MySQL which will be primarily used to store users information and credentials

The developers will also use DaisyUI which is a component library for Tailwind CSS, it adds additional component class names to Tailwind allowing proponents to build and style the pages efficiently. With this technology, the proponents can now be able to develop the system with efficiency in the right amount of time.

Requirement Analysis. The developed online narrative report management system will be dedicated to its stakeholders the OJT coordinator, advisers and OJT students at Cavite State University - Carmona Campus. The OJT coordinator will look after the systems management, review narrative reports, and ensure operations. Advisers will utilize the system to assess and provide feedback on students' weekly

reports. Students undergoing OJT will submit their narrative reports on the system for evaluation.

The primary focus is to create a system that can manage the narrative reports of OJT students at Cavite State University - Carmona Campus. This includes easy access to uploading reports of students and enabling advisers to review and offer feedback to it while ensuring supervision by the OJT coordinator. The system aims to simplify the submission, review process making it more efficient and structured. Additionally features such as file uploads, reports assessments, account management and announcements notification will also be added. The system can be easily accessed by the users via online by using their devices such as computers or smart phones. This allows them to view, check, upload, and manage the reports from various locations as long as there is an internet connection. The study will start in March 2024 and is expected to be finished in June 2024. In this timeframe the system will go through different phases such as requirements planning, system designing, system development, and cut over (Appendix 2 Gantt Chart). Each phase will have its scheduled time to make sure the project will be completed on time.

The requirement analysis phase will undergo on various feasibility including operational, technical, economic, and schedule. The operational feasibility will assess whether the proposed software development project for Cavite State University – Carmona Campus can be successfully implemented and sustained within the existing organizational structure, resources, and processes.

Operational Feasibility. The fishbone diagram will describe the various factors that could affect the project success, using it as instrument to identify the potential risk and challenges in conducting the study. The fishbone describes

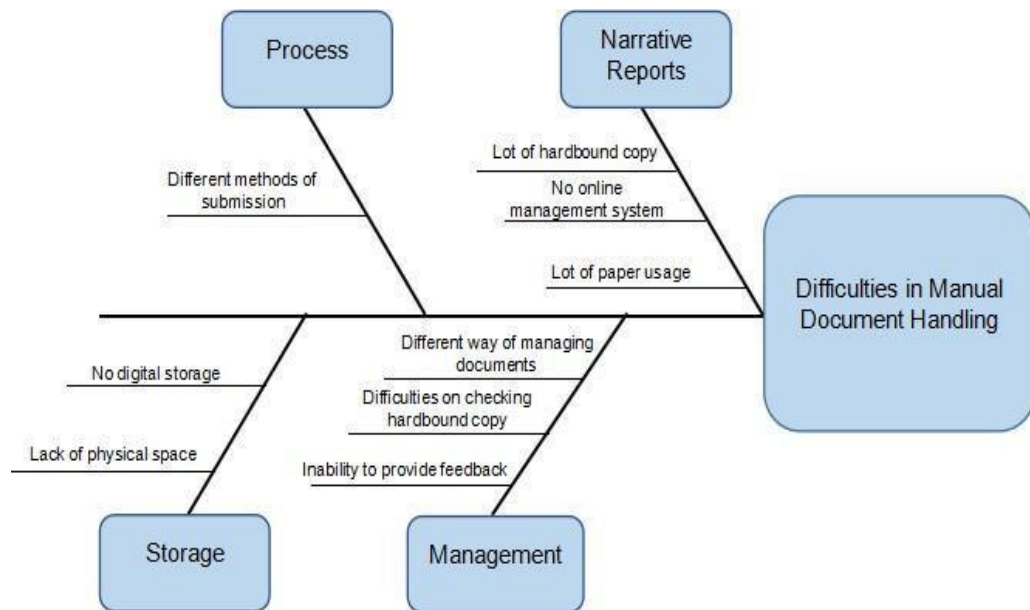


Figure 2. Fishbone Diagram

Technical feasibility. The proponents will assess the availability of technical resources in the organization, understanding and identifying if the stated objectives can able to fulfil despite the mentioned specific constraint (Appendix 1 Technical Feasibility Assessment). The study will be assessed based on the technology such as existing and emerging technologies that will be use in the development of the project resources includes hardware, software and personnel, identification of technical risks that could impact the projects' success such as assessing the likelihood and severity of each risk and develop mitigation strategies to address the identified risks such as adopting alternative technologies, seeking expert guidance, and conducting pilot testing

Economic Feasibility. The system will be conducted in Cavite State University – Carmona Campus the proponents estimated the cost and expense in developing REPOSYNC: An Online Narrative Report Management System for Cavite State University – Carmona Campus is expected (Appendix 2 Budgetary Requirement).

Schedule Feasibility. The estimated development timeframe of the stated project and is expected to be at 70 percent will be within 4 months this includes the data gathering, designing and analysis of the system (Appendix 3 Gantt Chart).

Requirement Documentation. The proposed online system aims to make the process of submitting final narrative reports and weekly reports easier for OJT students at Cavite State University – Carmona Campus.

Account Authentication Module. This module handles user authentication and permission checking. When users log in, their credentials like the email and password are verified in the system's database. Once authenticated, the module checks the user's role whether it is an OJT student, adviser, or OJT coordinator and grants appropriate permissions for accessing different features and functionalities within the system.

Account Management Module. This module enables the administration of user accounts within the system. It allows authorized users, such as the OJT coordinator, to create new accounts for OJT students and advisers. Additionally, this module facilitates the modification of existing account details like changing passwords, updating personal information, and the deactivation or deletion of accounts when necessary.

Account Emailing Module. The account emailing module is responsible for sending email notifications to users in various scenarios. It automatically sends emails when new accounts are created, providing users with their login credentials. It also handles password reset requests by sending reset links to users' registered email addresses. This module also notifies students when there is feedback or revision to their submitted reports from their advisers and also disseminates announcements from the school to the relevant users via email.

Report Checking Module. This module allows advisers to review and provide feedback on the weekly reports submitted by OJT students. Advisers can access a dedicated interface where they can view the submitted report and leave comments or

suggestions for improvement. If revisions are required, the adviser can request the student to update and resubmit the report through this module.

File Uploading Module. The document uploading module facilitates the submission of documents within the system. OJT students can use this module to upload their weekly report, ensuring that advisers can access and review them. Additionally, advisers and the OJT coordinator can upload new and past narrative reports of OJT students, enabling efficient document management and archiving.

Narrative Report Viewing using Flipbook. This module provides an interactive and user-friendly way to view the narrative reports submitted by OJT students. It employs a flipbook-style interface, allowing users to navigate through the pages of the report smoothly, resembling the experience of flipping through a physical book.

Announcement Module. The announcement module allows the OJT coordinator and advisers to post announcements or important updates within the system. These announcements can be viewed by the relevant users through a dedicated section or notification system. Additionally, when a new announcement is posted, the module automatically sends email notifications to the target users, ensuring they are promptly informed about important information.

Generate Printable Documents. This module enables users to generate printable versions of the documents submitted within the system, such as narrative reports. This ensures that users can easily obtain physical copies of these documents when needed.

System Development

The software development life cycle (SDLC) chosen for this project is Rapid Application Development (RAD) by Lapada (2019). The objective of this model is to produce a successful functional and operational online narrative report management system for Cavite State University – Carmona Campus. The RAD model consists of four stages: Requirements Planning, System Design, Construction, and Cut Over.

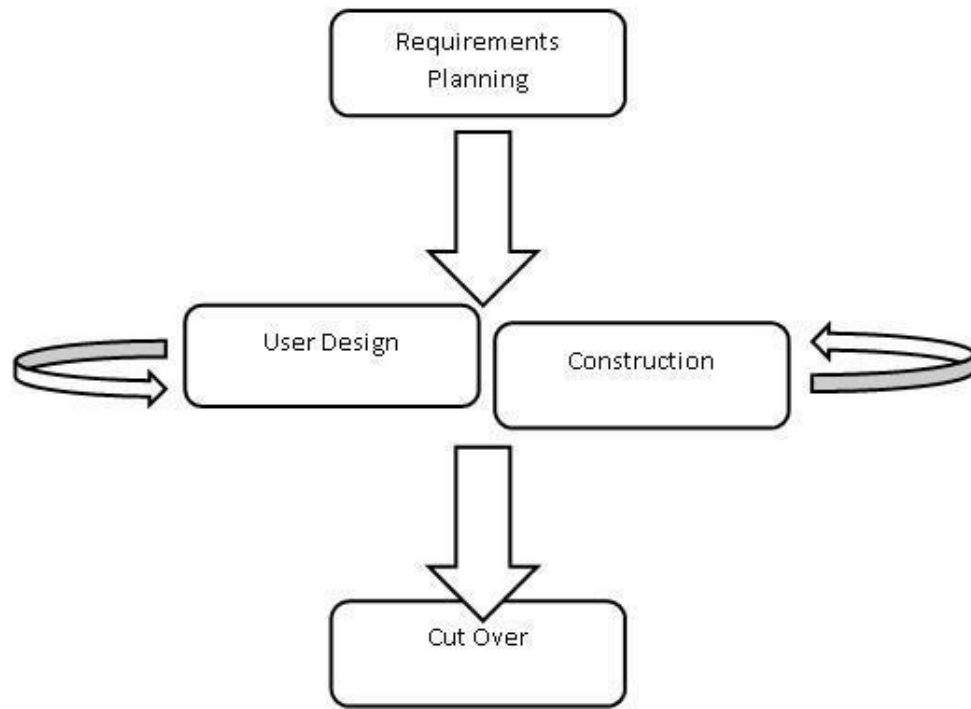


Figure 3. Rapid Application Development Model (Lapada, 2019).

The Rapid Application Development (RAD) model will be applied to the development of REPOSYNC: An Online Narrative Report Management System for Cavite State University - Carmona Campus. This model is best suited for developing web-based applications and systems in a short amount of time.

Requirements Planning. In this phase the primary aim is to know and document the needs and demands of the stakeholders. This stage involves communication with end users OJT coordinators, advisers and OJT students to gather requirements for the development of an online narrative report management system. The goal is to identify functionalities and features that should be included in the system the gathered data from interviews will be used for analysis and designing the system.

The current process of submission of the students' reports goes through various methods depending on the preference of the students adviser, the submission of reports includes physical submission or use of online platforms like Google Drive or email. On the collection of final reports of the students the current manual process

which is physical submission causes inefficiency to the end of OJT coordinator when the amount of documents gets piled up.

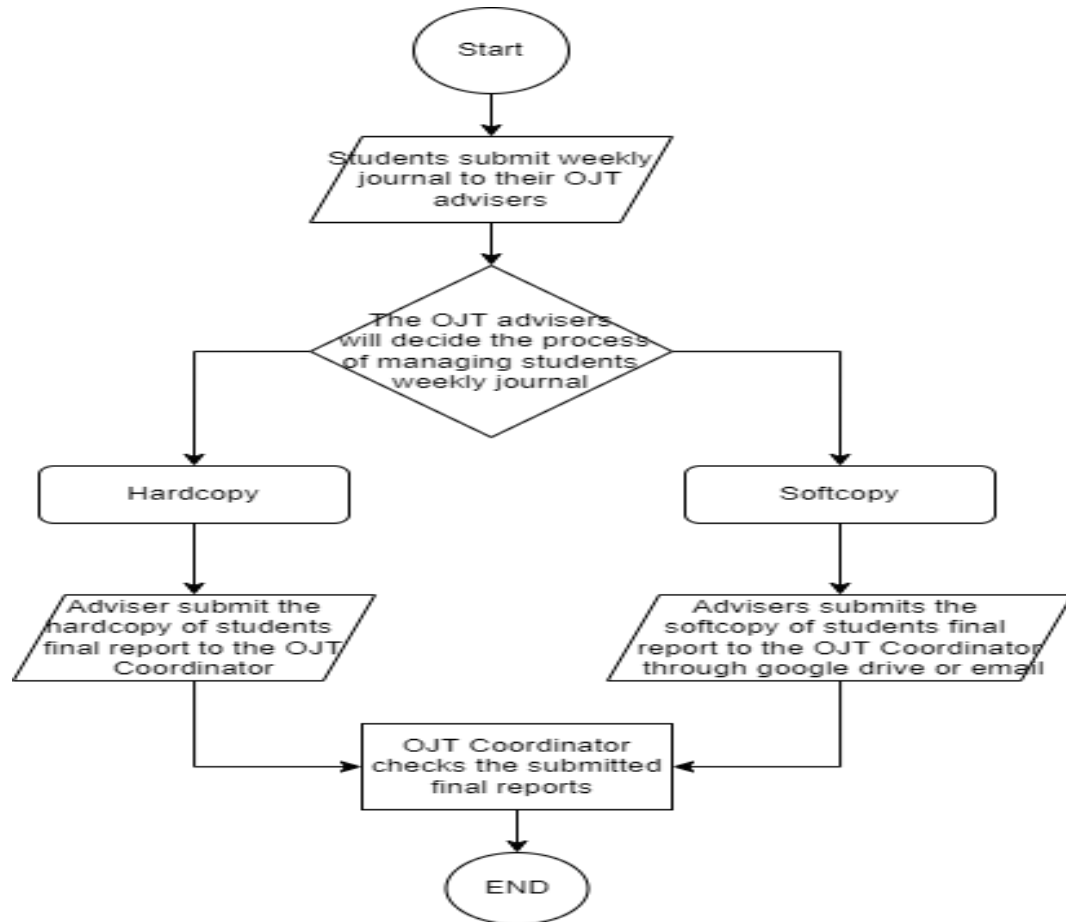


Figure 4. Business Process of Cavite State University Carmona Campus in collecting students report

User Design. In the User Design phase the focus shifts towards transforming the collected requirements into a system design. This phase includes developing wireframes, diagrams, and flowcharts for the system.

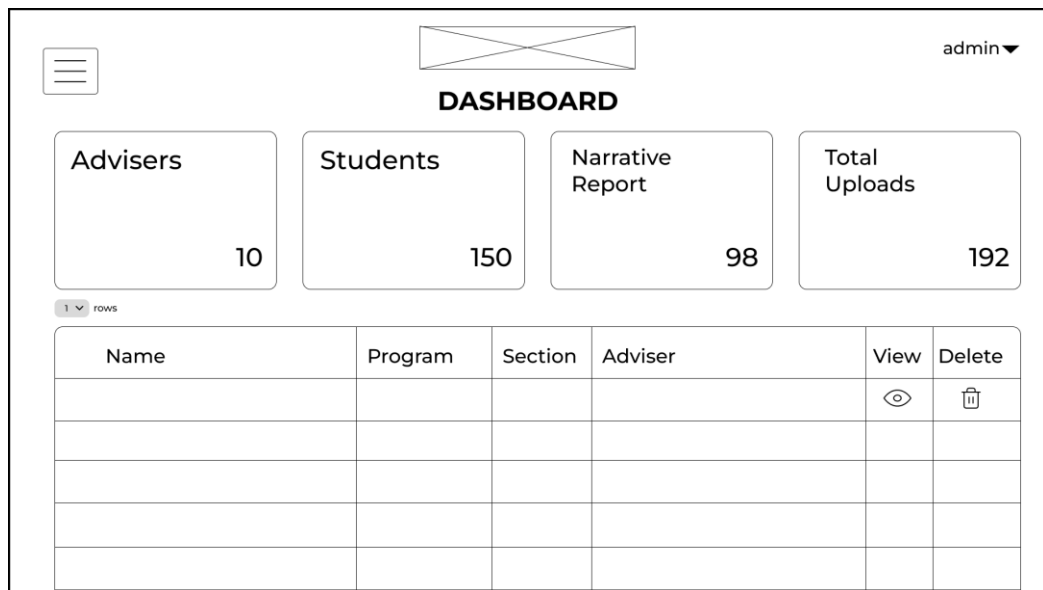


Figure 5 Admin and Adviser Dashboard

In the admin and adviser dashboard page the users can see different numbers related to count information such as total advisers and students that are enrolled, and using the system the admin can also view the count of uploaded narrative reports in the system the user can also do various actions such as add archive and update.

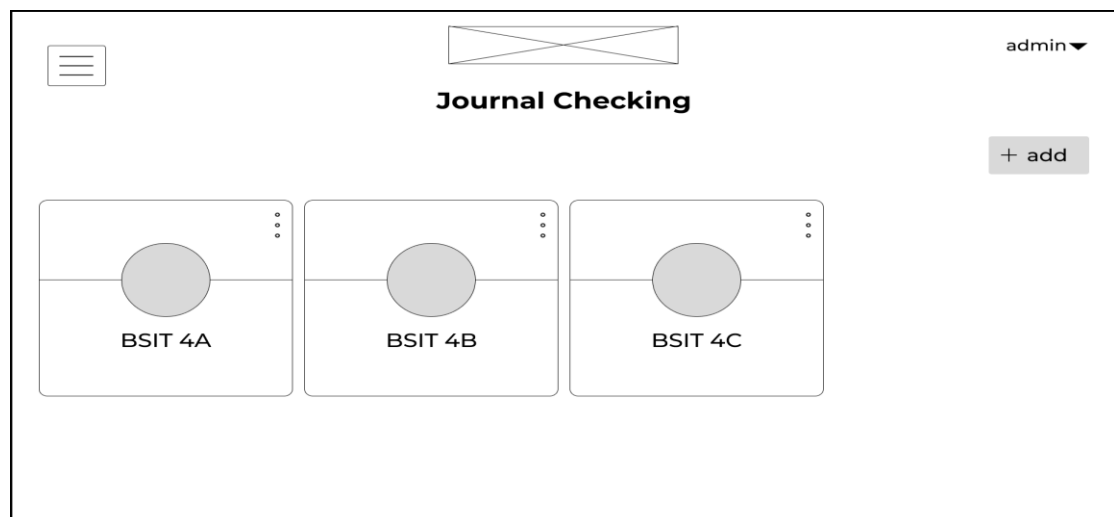


Figure 6. Report Checking

On the report checking page, the users can see the list of students that they have been assigned to advised throughout the semester. The adviser/admin can see the latest activity of the students, and advisers/admin can also sort their advisory list based on their programs and sections.

Figure 7. Uploading

In the Uploading page, the student can drop or drag their documents and after that they will input necessary information related about the upload and if the user authority is adviser or admin they can use this function to upload submitted narrative reports of the students and it will be then the system automatically convert PDF document to flipbook.

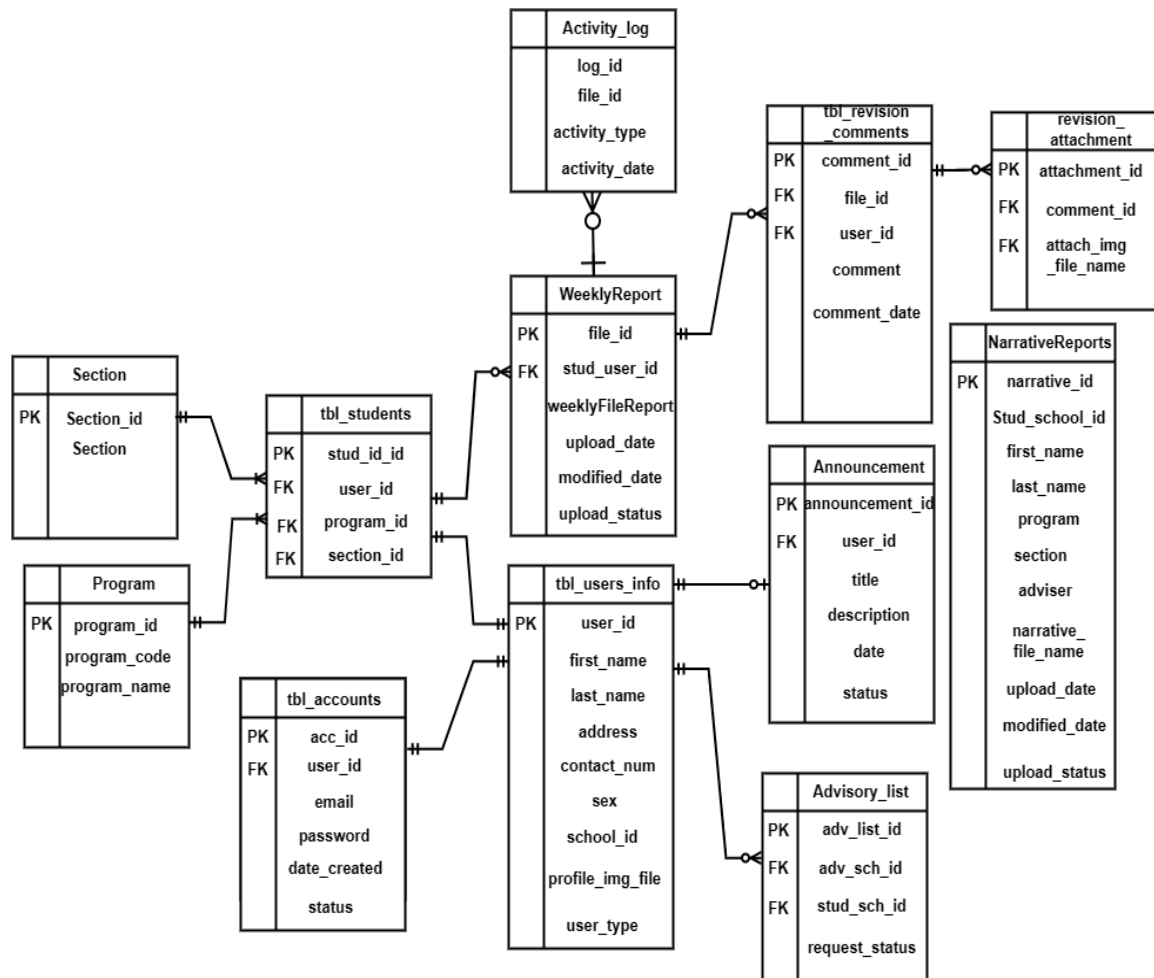


Figure 8. Entity Relationship Diagram

Figure 8 shows the entity relationship diagram of REPOSYNC: An Online Narrative Report Management System for Cavite State University – Carmona Campus it consists of twelve tables Activity_log, WeeklyReport, tbl_students, Section, Program, tbl_accounts, tbl_users_info, tbl_revision_comments, Announcement, Advisory_list, Revision_attachment, NarrativeReports. The relationship of each table consists of one-to-one means that each row on a table is equally linked to the other table, and one to many describes as a row in a table has many connections to other tables. The cardinality of each table consists of optional means each row on a table has the option to have a connection to the other table and mandatory means that each row on a table is mandatory to have a link to the other table.

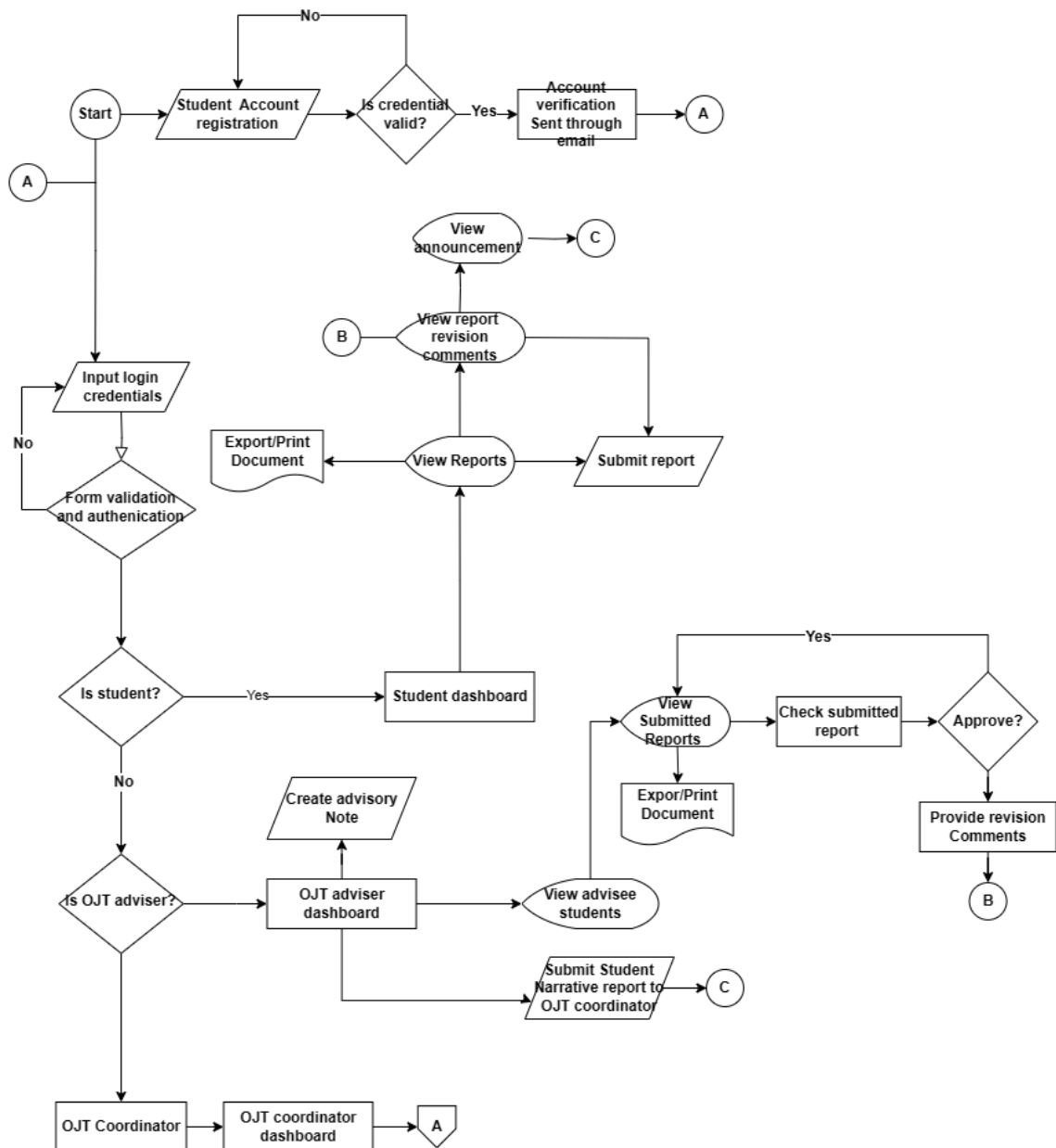


Figure 9. Flowchart first page

Figure 9 shows the step-by-step flow of the system. The OJT coordinator will create an active account for the assigned OJT advisers for a semester the account created will be emailed through the adviser's email address, for the student account, the OJT Coordinator or OJT adviser will create the accounts for each enrolled student. Once accounts are created, the coordinator or adviser will send the login

credentials to students' specified email addresses. Once the users of the system have an account they can now proceed in login. The system will ask for the user login credential, the system will check the input login credentials if the user inputs are valid the users will now proceed otherwise the system will keep asking for valid inputs. Once the account is validated the system will check the login account user role and redirect the user to their designated pages.

If the login account is student they can now view the narrative report, they can submit and wait for approval from their advisers, or view the revision comments from their advisers and resubmit the weekly report again they can also see the posted announcement from the admin and notes from their advisers and end their session. If the login user is an adviser they can choose different actions such submit the final report of the student to the OJT coordinator and they can view the submitted reports and check if it is approved or not. If the submitted report is not approved the adviser can change the status to "with revision" and they can provide feedback for the specific area of the report to be revised then the comments will be reflected in the student report revision comments.

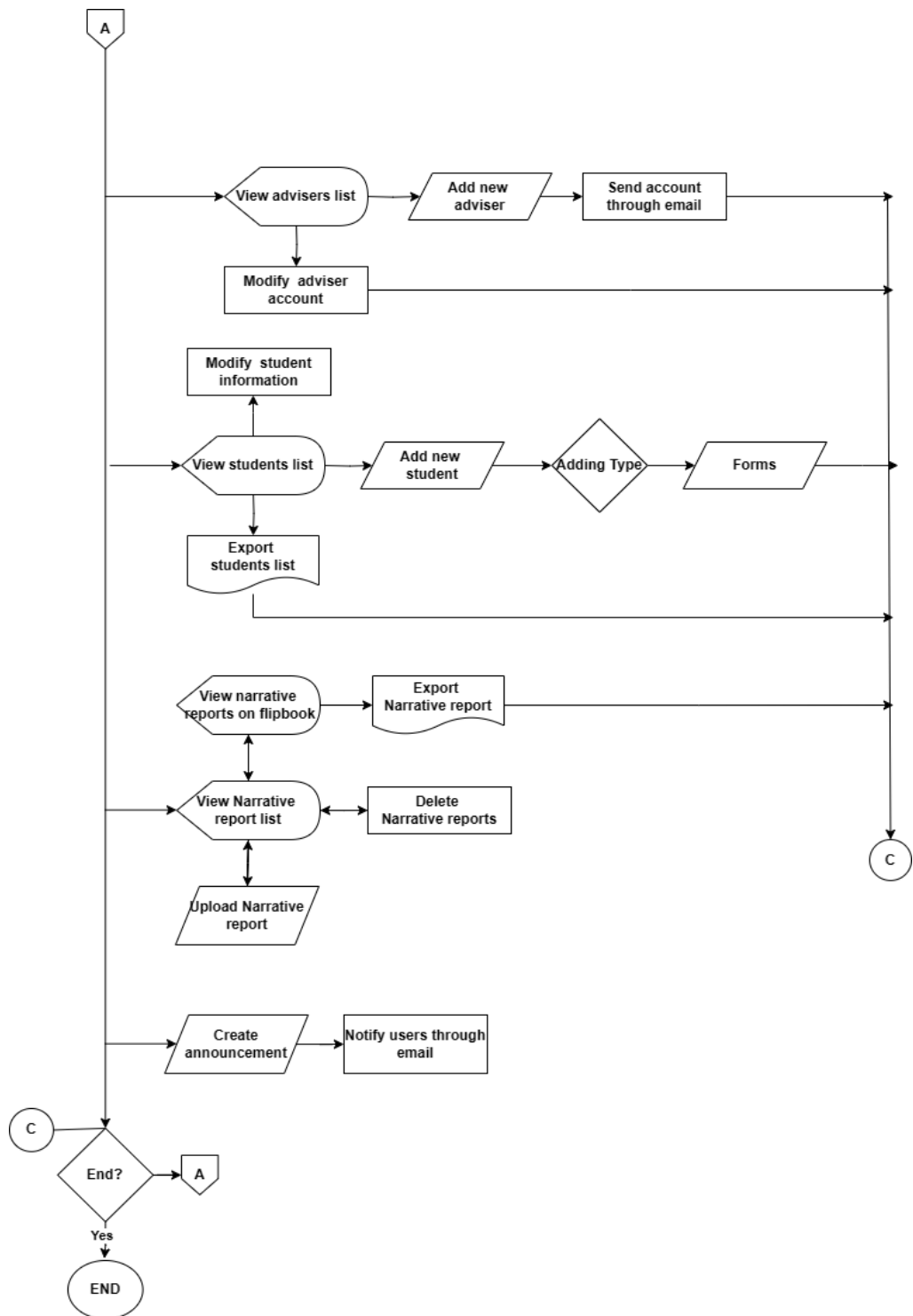


Figure 10. Flowchart second page

Figure 10 shows the continuous process for OJT coordinator the figure shows different actions that OJT coordinator can access. In advisers list, the user can perform actions such update or deactivate the adviser account information, the user

can also add new adviser to the list and the account of the adviser will be sent to their respective emails then proceed to end, otherwise the user can choose the action to view students list user can also perform actions like create, update, and deactivate students account information. The user can also export the list back to excel file and proceed to viewing narrative reports submitted by the advisers. The user can interact the list of narrative reports of the students, user can see various information of narrative reports such as name, section, program and adviser of the student. User can view list of narrative reports uploaded and converted to flipbook and simulates the viewing and reading experience of an actual book. User can also proceeds to export the narratives into PDF files and last action is creating announcement for all users and the system will notify users through their emails about the announcement then user can now proceed to end.

Construction. In the Construction phase the system is developed based on the designs and requirements gathered from the previous phases. This includes coding, testing and integrating system features. The functionalities and features that are identified in the requirements phases are implemented and making sure that the system meets the criteria (Appendix 4, Appendix 5 and Appendix 6).

Cut Over. In this phase the proponents will carry out thorough and comprehensive testing of the developed system. The proponents will allow the user to test refined functionality and features of the developed system. The proponents will gather feedback from the user based on their experience in using the system, if the user is satisfied with the outcome the proponents will now start the deployment and do implementation plan of REPOSYNC: An Online Narrative Report Management System for Cavite State University Carmona - Campus however , if the user is not satisfied the proponents will have to assess and process the gathered feedback from the user and start changing and redesigning the developed system until the system fully developed and functional.

System Testing

The system will be tested by IT experts using the provided Evaluation instrument provided by the department (Appendix 4 Evaluation Instrument – System testing). The testers will be testing the developed web system in terms of functionality, portability and efficiency.

System Evaluation

The evaluation of the developed online web system will be using the International Organization for Standardization 25010 for the product quality (Appendix 5.) and quality in use (Appendix 6.). For product quality the minimum requirements of respondents are 80 individuals that consist of 5 to 10 experts in the field of IT, 3 to 5 Domain experts and the remaining respondents needed to meet the requirement will be secondary users. For quality in use, it requires 1 respondent with the role of system administrator to demonstrate the use case of the developed system. In selecting respondents the proponents will be using purposive sampling technique.

The proponents will use the formula by Mamalat (2023), this formula will get the probability of the answers from the respondents, which will help the proponents to know the errors and what needs to be better for the system.

$$\text{Weighted Mean} = \frac{\sum wx}{\sum w}$$

Where:

\sum is the sum up,

W is the weights and

x is the value.

The mean interpretation (Table 1). Each numerical scale represents an interpretation score, for 4.51 – 5.00 will be interpreted as excellent, 3.51 – 4.50 interpreted as very good, 2.51 – 3.50 interpreted as good, 1.51 – 2.50 interpreted as fair, 1.50 interpreted as poor

Table 1. Mean interpretation

| NUMERICAL SCALE | INTERPRETATION |
|------------------------|-----------------------|
| 4.51-5.00 | Excellent |
| 3.51-4.50 | Very Good |
| 2.51-3.50 | Good |
| 1.51-2.50 | Fair |
| 1.50-Below | Poor |

Implementation Plan

Table 2 shows the Implementation plan of REPOSYNC: An Online Narrative Report Management System for Cavite State University – Carmona. In the implementation plan will be discussing the strategies of the proponents the activities will be doing, the person that involve in the activities and the duration of the strategy.

Table 2. Implementation plan

| STRATEGY | ACTIVITIES | PERSONS INVOLVED | DURATION |
|---|---|--|-----------------|
| Approval from the Research Advisory committee | Working on all necessary documents signatures | Proponents, Research Adviser, Technical Critic, Program, Department , and Campus Research Coordinator, Department chair and Campus Administrator | 40 days |
| System's Deployment | Deployment of the web system required software and hardware | Proponents/ Developer | 1 day |
| Three-day training | Conduct of hands-on system tutorial to the end-user | Proponent, End-users | 3 days |

The Implementation Plan (Table 2) prepared by the proponent consist of 3 strategies and provided necessary activities including the persons involve and the

duration. In the first strategy the proponent needs an approval from the research to work necessary documents like signatures it will require the person will be involve in this activity are the proponents and research adviser committee the process of this activities will take 26 days. For the second strategy is deployment of the developed system this deployment of web system will require hardware and software the person will be involve on this activity is the proponent/developer the deployment of the system on the web will take 3 hours to complete and last is three-day training the activity for this strategy the proponent will have to conduct hands on tutorial to the access the developed web system to the end-users this activity is expected to last for 3 days.

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DEPARTMENT OF INDUSTRIAL AND INFORMATION TECHNOLOGY

Technical Feasibility Assessment

Name of Researcher(s) : **YURI NEIL AIMS G. AUSAN, KURT MICHAEL Y. CHIONG,**

RIO CARL H. DE LA CRUZ, KENNETH L. GUICO

Program : **BACHELOR OF SCIENCE IN INFORMATION**

TECHNOLOGY

Title of Study: : **REPOSYNC: AN ONLINE NARRATIVE REPORT**

MANAGEMENT SYSTEM FOR CAVITE

STATE UNIVERSITY – CARMONA

CAMPUS

Project Overview

The study aims to develop an Online Narrative Report Management System for Cavite State University - Carmona Campus. It includes modules for account authentication and management, emailing, journal checking, document uploading,

narrative report viewing using Flipbook, announcement, and document generation. The project has a plan for development, testing, and evaluation, scheduled from March 2024 to June 2024. The budget must not go over 50,000 pesos (PHP), covering costs for adviser and critic fees, hosting services, and other needed resources.

Technology Assessment

Existing Technologies:

Currently, the Cavite State university – Carmona campus has different methods for managing narrative reports, including physical submission and online platforms like Google Drive or email based on the preferences of the advisers.

Emerging Technologies:

1. *PDF to Flipbook*. This feature is the highlight of the developed system making the viewing experience of the user interactive.

Resource Assessment

Hardware:

1. *Workstations*. These can be desktop computers, laptops, or even mobile devices like tablets or smartphones, as long as they have internet connectivity.
2. *Network Infrastructure*. This includes routers, switches, cables, and other networking equipment to ensure internet connectivity.

Software:

1. Hypertext Markup Language (HTML) for webpage structure.

2. Tailwind CSS for efficient styling.
3. JavaScript for interactive features.
4. PHP for handling requests and server-side logic.
5. MySQL for secure storage of user information.

Personnel:

1. *Internet Literacy.* All team members are comfortable using the internet for research and accessing online resources.
2. *Reading literacy.* All team members are able for understanding project documentation and instructions.
3. *Can navigate through application.* All team members are able to navigate through the system and use it effectively.

Risk Assessment

| Potential Risk | Likelihood | Impact | Mitigation |
|-----------------------------|------------|--------|--|
| Storage Full | Moderate | High | Regularly monitor storage usage and upgrade storage capacity as needed. |
| Loss of Internet Connection | Low | Medium | Use mobile data as a backup and invest in reliable internet service providers. |
| File corruption | Moderate | High | Implement regular data backups. |

| | | | |
|--|----------|------|---|
| Cybersecurity Breach | High | High | Implement strong passwords and use encryption for sensitive data. |
| Hardware failure | Moderate | High | Perform regular maintenance and upgrades. |
| Overall Technical Feasibility Assessment | | | |
| <p>Based on the assessment, the project is technically feasible. The existing and emerging technologies, along with the available resources, indicate that the development of the Online Narrative Report Management System for Cavite State University - Carmona Campus is possible. However, there are some things to consider for the project to be success. Firstly, finding a reliable internet connectivity is important as the system relies on online access for data management. Backup internet connections and mobile data can mitigate this potential risk. Secondly, regular monitoring of storage usage and implementation of data backup strategies are important to prevent issues such as storage full and file corruption. Lastly, maintaining cybersecurity measures is needed to protect sensitive information stored within the system.</p> | | | |



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DEPARTMENT OF INDUSTRIAL AND INFORMATION TECHNOLOGY

Budgetary Requirements


Name of Researcher(s) : **YURI NEIL AIMS G. AUSAN, KURT MICHAEL Y. CHIONG, RIO CARL H. DE LA CRUZ, and KENNETH L. GUICO**

Program : **BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY**

Title of Study: : **REPOSYNC: AN ONLINE NARRATIVE REPORT MANAGEMENT SYSTEM FOR CAVITE STATE UNIVERSITY - CARMONA CAMPUS**

| PARTICULARS | AMOUNT (P) |
|--------------------------------------|---------------|
| 1. 2 months Godaddy Web Hosting Plan | ₱299.00/month |
| 2. Convert API plan | ₱4600/month |
| TOTAL | ₱4899 |

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REPOSYNC: AN ONLINE NARRATIVE REPORT MANAGEMENT SYSTEM FOR CAVITE STATE UNIVERSITY -CARMONA CAMPUS

I. INTRODUCTION

The primary focus is to create a system that can manage the narrative reports of OJT students at Cavite State University - Carmona Campus. This includes easy access to uploading reports of students and enabling advisers to review and offer feedback to it while ensuring supervision by the OJT coordinator. The system aims to simplified the submission, review process making it more efficient and structured. Additionally features such as file uploads, journal assessments, account management and announcements notification will also be added.

OBJECTIVES

The main objective of the study is this test document is to discover the bugs and fix the issues before the user evaluation.

This project will help to reduce the administrative process on submission of narrative reports and weekly journal of the Cavite State University – Carmona Campus OJT students.

Specifically, it aims to:

1. develop test cases for the testers (IT experts);
2. test the system in terms of functionality, portability and efficiency; and
3. gather feedback from the testers.

II. TASKS

The testers were provided a questionnaire which includes a checklist of attributes that the proposed system should comply with. A column for the tester's comments or recommendations is also provided.

The bugs discovered in this tool were addressed by the developer if deemed necessary and/or within the requirements and specifications of this project.

III. HARDWARE REQUIREMENTS

The following hardware specifications ensure that the system runs. Before the start of the software testing, the minimum hardware requirements as stated below is compared to the actual specification used by the tester.

Table 1. Minimum hardware specification

| HARDWARE SPECIFICATION | MINIMUM |
|------------------------|---------|
|------------------------|---------|

| | |
|---------------------|---------|
| RAM | 2 GB |
| Hard disk drive | 400 MB |
| Screen resolution | 480x800 |
| Internet Connection | 1mbps |

IV. SOFTWARE TESTING QUESTIONNAIRE

Table 2. Test environments

| ITEM(S) FOR CHECKING | COMPLIANCE | REMARKS (IF ANY) |
|--|------------|------------------|
| 1. The role of the tester had been clearly defined. | | |
| 2. The tester used the project in Web Browsers: a. Google Chrome b. Mozilla Firefox c. Microsoft Edge d. Apple Safari | | |
| 3. The tester used the project in the following screen resolutions: a. 1080x1920 b. 480x800 c. 720x1280 | | |

Test Scenarios:

Table 3. Functionality

| CRITERION | COMPLIANCE | REMARKS/ REQUEST FOR CHANGE (IF ANY) |
|----------------------------------|------------|--------------------------------------|
| A. Account Authentication Module | | |

| | | |
|---|--|--|
| 1. Test if users can log in with their correct usernames and passwords. | | |
| 2. Check if users cannot log in with wrong usernames or passwords. | | |
| 3. Test if users can reset their passwords if they forget them. | | |
| B. Account Management Module | | |
| 1. Test if new accounts can be created successfully. | | |
| 2. Check if existing account details can be changed. | | |
| 3. Test if accounts can be deleted. | | |
| 4. Test if users can change their current passwords. | | |

Table 3. Continued.

| CRITERION | COMPLIANCE | REMARKS/ REQUEST FOR CHANGE (IF ANY) |
|--|------------|--------------------------------------|
| 5. Test if accounts can be activated and deactivated. | | |
| C. Account Emailing Module | | |
| 1. Test if emails are sent when new accounts are created. | | |
| 2. Check if users get emails when they want to reset their passwords. | | |
| 3. Test if users get emails about any announcements. | | |
| D. Journal Checking Module | | |
| 1. Check if authorized users can give feedback on the journals. | | |
| 2. Test if the system checks for any copied or plagiarized text in the journals. | | |
| E. Document Uploading Module | | |
| 1. Test if students can upload their weekly reports | | |
| 2. Check if advisers can upload documents. | | |

| | | |
|---|--|--|
| 3. Test if the coordinator can upload documents. | | |
| 4. Test if users can see the documents that have been uploaded. | | |
| 5. Test if the system keeps track of different file formats of documents. | | |
| F. Report Viewing | | |
| 1. Test if users can see narrative reports in a flipbook format. | | |
| 2. Test if users can see the submitted weekly report | | |
| G. Announcement Module | | |
| 1. Test if new announcements can be made. | | |
| 2. Check if users get notifications about announcements. | | |
| H. Generate Printable Documents | | |
| 1. Test if users can make printable versions of narrative reports. | | |
| 2. Test if users can make printable versions of weekly | | |

| | | |
|----------|--|--|
| reports. | | |
|----------|--|--|

Table 4. Portability

| SPECIFICATIONS (MODEL, OS, RAM, RESOLUTION) | INSTALLED | WORKED PROPERLY | ACTIONS | RESPONSE TIME(S) |
|--|------------------|----------------------------|----------------|-----------------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Prepared:

YURI NEIL AIMS G. AUSAN
KURT MICHAEL Y. CHIONG
RIO CARL H. DE LA CRUZ
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**EVALUATION INSTRUMENT FOR
 REPOSYNC: AN ONLINE NARRATIVE REPORT MANAGEMENT SYSTEM
 FOR CAVITE STATE UNIVERSITY - CARMONA CAMPUS**

Dear Participant,

Good day! We are currently conducting a research entitled “**REPOSYNC: AN ONLINE NARRATIVE REPORT MANAGEMENT SYSTEM FOR CAVITE STATE UNIVERSITY - CARMONA CAMPUS**”. In line with this, I/we are/am respectfully requesting for your assistance in filling out this evaluation form. It will not be a problem if you wish not to participate, but your responses will be highly valued. The evaluation form can be completed anonymously. Responses from completed questionnaires will be collated for analysis; once complete, the original questionnaires will be kept electronically. Rest assured that all information indicated therein will be treated with utmost confidentiality under the Data Privacy Law of 2012 and strictly used only for the above purpose. All the gathered information/data will also be retained in the system and used as a part of the historical data for further analysis. If you wish to learn more about the results of the research, please send an email to **cc.riocarl.delacruz@cvsu.edu.ph**.

We are hoping for your kind consideration and support. Thank you very much.

Name (Optional): _____ Date: _____

Address (Optional): _____

Profession: _____ Specialization: _____

☐ IT expert

☐ Domain expert

☐ Secondary

Instructions: Please evaluate using the given scale and placing a checkmark (✓) on the appropriate column corresponding to your response.

Numerical Rating:

5 – Excellent

4 – Very Good

3 – Good

2 – Fair

1 – Poor

| INDICATOR | 5 | 4 | 3 | 2 | 1 |
|--|---|---|---|---|---|
| Functional Suitability | | | | | |
| 4. Functional completeness - Degree to which the set of functions covers all the specified tasks and user objectives. | | | | | |
| 5. Functional correctness - Degree to which a product or system provides the correct results with the needed degree of precision. | | | | | |
| 6. Functional appropriateness - Degree to which the functions facilitate the accomplishment of specified tasks and objectives. | | | | | |
| Performance Efficiency | | | | | |
| 7. Time behavior - Degree to which the response and processing times and throughput rates of a product or system, when performing its functions, meet requirements. | | | | | |
| 8. Resource utilization - Degree to which the amounts and types of resources used by a product or system, when performing its functions, meet requirements. | | | | | |

| INDICATOR | 5 | 4 | 3 | 2 | 1 |
|--|---|---|---|---|---|
| 9. Capacity - Degree to which the maximum limits of a product or system parameter meet requirements. | | | | | |
| Compatibility | | | | | |
| 10. Co-existence - Degree to which a product can perform its required functions efficiently while sharing a common environment and resources with other products, without detrimental impact on any other product. | | | | | |
| 11. Interoperability - Degree to which two or more systems, products or components can exchange information and use the information that has been exchanged. | | | | | |
| Usability | | | | | |
| 12. Appropriateness recognizability - Degree to which users can recognize whether a product or system is appropriate for their needs. | | | | | |
| 13. Learnability - Degree to which a product or system can be used by specified users to achieve specified goals of learning to use the product or system with effectiveness, efficiency, freedom from risk and satisfaction in a specified context of use. | | | | | |
| 14. Operability - Degree to which a product or | | | | | |

| INDICATOR | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| system has attributes that make it easy to operate and control. | | | | | |
| 15. User error protection - Degree to which a system protects users against making errors. | | | | | |
| 16. User interface aesthetics - Degree to which a user interface enables pleasing and satisfying interaction for the user. | | | | | |
| 17. Accessibility - Degree to which a product or system can be used by people with the widest range of characteristics and capabilities to achieve a specified goal in a specified context of use. | | | | | |
| Reliability | | | | | |
| 18. Maturity - Degree to which a system, product or component meets needs for reliability under normal operation. | | | | | |
| 19. Availability - Degree to which a system, product or component is operational and accessible when required for use. | | | | | |
| 20. Fault tolerance - Degree to which a system, product or component operates as intended despite the presence of hardware or software faults. | | | | | |

| INDICATOR | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 21. Recoverability - Degree to which, in the event of an interruption or a failure, a product or system can recover the data directly affected and re-establish the desired state of the system. | | | | | |
| Security | | | | | |
| 22. Confidentiality - Degree to which a product or system ensures that data are accessible only to those authorized to have access. | | | | | |
| 23. Integrity - Degree to which a system, product or component prevents unauthorized access to, or modification of, computer programs or data. | | | | | |
| 24. Non-repudiation - Degree to which actions or events can be proven to have taken place so that the events or actions cannot be repudiated later. | | | | | |
| 25. Accountability - Degree to which the actions of an entity can be traced uniquely to the entity. | | | | | |
| 26. Authenticity - Degree to which the identity of a subject or resource can be proved to be the one claimed. | | | | | |
| Maintainability | | | | | |
| 27. Modularity - Degree to which a system or computer program is composed of discrete components such that a change to one | | | | | |

| INDICATOR | 5 | 4 | 3 | 2 | 1 |
|--|---|---|---|---|---|
| component has minimal impact on other components. | | | | | |
| 28. Reusability - Degree to which an asset can be used in more than one system, or in building other assets. | | | | | |
| 29. Analysability - Degree of effectiveness and efficiency with which it is possible to assess the impact on a product or system of an intended change to one or more of its parts, or to diagnose a product for deficiencies or causes of failures, or to identify parts to be modified. | | | | | |
| 30. Modifiability - Degree to which a product or system can be effectively and efficiently modified without introducing defects or degrading existing product quality. | | | | | |
| 31. Testability - Degree of effectiveness and efficiency with which test criteria can be established for a system, product or component and tests can be performed to determine whether those criteria have been met. | | | | | |
| Portability | | | | | |
| 32. Adaptability - Degree to which a product or system can effectively and efficiently be adapted for different or evolving hardware, software or | | | | | |

| INDICATOR | 5 | 4 | 3 | 2 | 1 |
|--|---|---|---|---|---|
| other operational or usage environments. | | | | | |
| 33. Installability - Degree of effectiveness and efficiency with which a product or system can be successfully installed and/or uninstalled in a specified environment. | | | | | |
| 34. Replaceability - Degree to which a product can replace another specified software product for the same purpose in the same environment. | | | | | |

Adopted from the International Organization for Standardization (ISO) 25010 for product quality

Remarks/Comments/Suggestions:

Signature of Respondent



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We are hoping for your kind consideration and support. Thank you very much.

Name (Optional): _____ Date: _____
 Address (Optional): _____
 Profession: _____ Specialization: _____

Instructions: Please evaluate using the given scale and placing a checkmark (✓) on the appropriate column corresponding to your response.

Numerical Rating:

5 – Excellent

4 – Very Good

3 – Good

2 – Fair

1 – Poor

| INDICATOR | 5 | 4 | 3 | 2 | 1 |
|--|---|---|---|---|---|
| Effectiveness | | | | | |
| 35. Effectiveness - Degree of accuracy and completeness with which users achieve specified goals. | | | | | |
| Efficiency | | | | | |
| 36. Efficiency - Degree of resources expended in relation to the accuracy and completeness with which users achieve goals. | | | | | |
| Satisfaction | | | | | |
| 37. Usefulness - Degree to which a user is satisfied with their perceived achievement of pragmatic goals, including the results of use and the consequences of use. | | | | | |
| 38. Trust - Degree to which a user or other stakeholder has confidence that a product or system will behave as intended. | | | | | |
| 39. Pleasure - Degree to which a user obtains pleasure from fulfilling their personal needs. | | | | | |
| 40. Comfort - Degree to which the user is satisfied with physical comfort. | | | | | |
| Freedom from Risk | | | | | |

| INDICATOR | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 41. Economic Risk Mitigation- Degree to which a product or system mitigates the potential risk to financial status, efficient operation, commercial property, reputation or other resources in the intended contexts of use. | | | | | |
| 42. Health and Safety Risk Mitigation- Degree to which a product or system mitigates the potential risk to people in the intended contexts of use. | | | | | |
| 43. Environmental Risk Mitigation- Degree to which a product or system mitigates the potential risk to property or the environment in the intended contexts of use. | | | | | |
| Context coverage | | | | | |
| 44. Context Completeness- Degree to which a product or system can be used with effectiveness, efficiency, freedom from risk, and satisfaction in all the specified contexts of use. | | | | | |
| 45. Flexibility- Degree to which a product or system can be used with effectiveness, efficiency, freedom from risk and satisfaction in contexts beyond those initially specified in the requirements. | | | | | |

Adopted from the International Organization for Standardization (ISO) 25010 for quality in use

Remarks/Comments/Suggestions:

Signature of Respondent