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**DEVELOPMENT OF A WEB-BASED DOCUMENT MANAGEMENT SYSTEM FOR  
CAVITE STATE UNIVERSITY-BACOOR CITY CAMPUS  
EXTENSION SERVICES**

**Undergraduate Capstone Project  
Submitted to the Faculty  
Cavite State University-Bacoor City Campus  
Bacoor Cavite**

**In partial fulfillment  
of the requirements for the degree of  
Bachelor of Science in Information Technology**

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June 2025**

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An undergraduate capstone project proposal submitted to the faculty of the Department of Computer Studies, Cavite State University, Cavite in partial fulfillment of the requirements for the degree of Bachelor of Science in Information Technologies with Contribution No. \_\_\_\_\_ Prepared under the supervision of Ms. Donnalyn B. Montallana, MIT.

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## **INTRODUCTION**

Proper documentation is important because it ensures that information is presented clearly, professionally, and consistently. It makes documents easier to read, understand, and follow, which reduces confusion and errors. Using correct formatting such as margins, font styles, and structured layouts shows attention to detail and professionalism. It also helps in maintaining a consistent standard across documents, making them look organized and credible. It allows others to quickly find and understand the information they need. Most importantly Documentation is not something that should be done quickly or carelessly. It needs to be planned, discussed, and carefully thought through. It's not just a paper that can be submitted without proper structure or completeness.

Bacoorex is a community extension program of Cavite State University–Bacoor City Campus that supports its adopted barangays by organizing

meetings, conducting various extension activities, and facilitating relief operations and bayanihan initiatives to address local needs and promote sustainable community development. In addition, Cavite State University–Bacoor City Campus Extension Services is a growing program, which started as a proposal in 2017, was approved in 2019, and officially launched in 2020. The program, located at the Bacoor City campus, led by Professor Janice A. Nealega, MBA, the head of Extension Services. Moreover, Cavite State University–Bacoor City Campus has seven departments, those are Department of Computer Studies (DCS) for Information Technology and Computer Science, Department of Management Studies (DMS) for Hospitality Management and Business management, Department of Criminology (DC), Department of Arts and Science (DAS), and Department of Teacher Education (DTE). These departments send paper works to the staff of the extension; the staff of the extension faces difficulties in manually checking the papers individually for possible corrections or revisions, and this causes delays and is time-consuming.

The Department Extension Coordinators work closely with several extension partners, including BGMP Male, BGMP Female, Mambog, and Molino 2. A Memorandum of Agreement (MOA) serves as a formal contract between CvSU Bacoor City Campus and these partner organizations, setting the terms of cooperation and explaining the roles and responsibilities. This agreement is an important part of the process, as it helps ensure commitment and responsibility from everyone involved. Each department usually works with the same partners and follow the same process for conducting extension activities. Initially, they submit an activity proposal, which must be approved by the Campus Head. Once approved, coordinators carry out events or meetings with the partner groups. During these activities, they collect attendance data, including the number of participants based on gender, type, category and survey. After the event, all required documents such as attendance sheets, photos, accomplishment reports, and other materials are

gathered and submitted for final completion. This organized process helps ensure smooth coordination, complete documentation, and proper handling of each extension activity.

### **Project Context**

Initially, Department Extension Coordinators encountered challenges in preparing and submitting accomplishment reports due to the numerous components and requirements that must be completed. Part of the process involves recording the number of participants based on gender, category, and type, followed by summarizing the total number of individuals. Additionally, they are required to evaluate how many participants completed surveys. Coordinators face difficulties in manually checking and organizing this information, making the process not only time-consuming but also prone to delays and inefficiencies.

In addition to the main challenges faced by the departments, the Head of the Campus Extension Services, Ms. Janice, and the Staff, Ms. Diana, also encountered difficulties in reviewing the accomplishment reports submitted by the five departments. The staff is required to manually check each document for possible errors or corrections before forwarding them to the Head. This process results in a heavy workload and contributes to delays in the overall reporting and approval process.

Furthermore, Department Extension Coordinators must record the attendance of every extensionist in training, evaluation, monitoring, AR, event and meeting, as this information is required for the accomplishment reports. They need to track whether each extensionist has met the minimum quota of 54 hours. Since the process is done manually, it is not only time-consuming but also prone to errors, which can lead to delays in the reporting process. This manual approach also makes it difficult to keep accurate.

The system is designed to help address these problems by automatically

generating a bar graph to show the number of hours completed by each extensionist, and a pie chart to display the percentage of their attendance and absences. This will make the process faster and eliminate manual errors.

## **Objectives of the Study**

The general objective of the study was to design and develop a Web-Based Document Management System for Cavite State University – Bacoor Campus Extension Services, promoting and making it easier to submit documents and other papers.

Specifically, aimed to:

1. Design a website using a methodology that will:
  - a. provides intuitive navigation and easy access to the key features and functionalities;
  - b. Improve the interface that allows the coordinator and the facilitator to easily access and manage submissions;
  - c. Enable real-time updates to documents as they are being forwarded;
  - d. Implement features that record the time in and time out to each department and extension coordinator of the event;
2. Develop the system using the following:
  - a. HTML5, CSS 4.15, and Bootstrap v5.3 for the front end of the system;
  - b. Python 3.13 for the back end of the system;
  - c. Visual Studio Code 1.100 for the application; and
3. Test the system in terms of system testing;
4. Evaluate the system using the adapted ISO 25010 evaluation instrument; and
5. Prepare an implementation plan.

## **Purpose and Description**

The proposed web-based document management system is expected to bring significant benefits to various stakeholders within Cavite State University Bacoor City Campus, particularly in its Extension Services Unit. The study's significance is outlined as follows:

### **University, Extension Services Unit and RDE**

The system enhances efficiency in managing documents related to extension programs, reports, and partnerships by providing a centralized and secure digital repository, which reduces reliance on paper-based records. This improves accessibility, allowing faculty and staff to retrieve and submit documents remotely. Additionally, it streamlines workflows, minimizing delays in approvals, submissions, and archiving, ensuring a more efficient and organized process overall.

### **Staff Extensionist and Department Coordinator**

The system simplifies document filing and retrieval processes, reducing the time spent on administrative tasks. It ensures document integrity and security through proper access controls and backup mechanisms. Additionally, it provides an automated attendance system and sends Gmail notifications for upcoming meetings, enhancing efficiency and communication.

### **Beneficiaries and Stakeholders**

The system enhances transparency in extension service projects by enabling them to track engagements effectively. It also encourages greater participation in university-led outreach programs by providing easy access to reports, fostering a more informed activity.

### **Future Researchers**

The system serves as a reference for future studies related to digital

document management in educational institutions. It provides a framework for further improvements and technological advancements in university records management, supporting the continuous evolution of efficient and secure processes.

### **Time and Place of the Study**

The study was conducted at Cavite State University Bacoor City Campus. Initial planning began prior to November 2024, where the researchers outlined the project scope, identified key objectives, and selected an iterative development approach to allow for continuous refinement through multiple development cycles.

In November 2024, the study formally focused on developing a web-based management system. In January 2024, the researchers interviewed Ms. Diana Mae M. Belarmino, Staff. Coordinator of Campus Research and Extension Services at Cavite State University Bacoor City Campus, SHIV, Molino VI, City of Bacoor, to gather detailed system requirements and user expectations.

The system was developed using Python as the main programming language. The web-based design phase began in January, during the Analysis and Design Phase, where the system's functionality and structure were carefully planned and visualized. This included creating prototypes and planning system workflows to demonstrate how the system would operate. Following the iterative methodology, the team continuously refined the system by incorporating feedback and improvements at each development cycle. The development process continued through February 2025, during which the researchers focused on coding, debugging, optimizing the web-based management system, and revising their research paper. The goal of this research was to collect data from the extension coordinator, focusing on their interactions with and opinions about the web-based management system to ensure it effectively meet user needs.

## **Scope and Limitations**

This capstone project involves the development of a web-based document management system tailored for the Cavite State University – Bacoor City Campus Extension Services. The system is designed to streamline the end-to-end process of managing extension-related documents, from uploading and reviewing to approval and status tracking. Documents can be classified under statuses such as pending, approved, rejected, ongoing, or completed, enabling organized and transparent document flow. The platform features a role-based access control mechanism where specific functionalities are assigned to designated users, including the Staff Extensionist, Department Coordinator, Campus Coordinator, and the School Dean, Extensionist. Each user has access only to the features relevant to their roles and responsibilities, ensuring secure and efficient handling of extension documents.

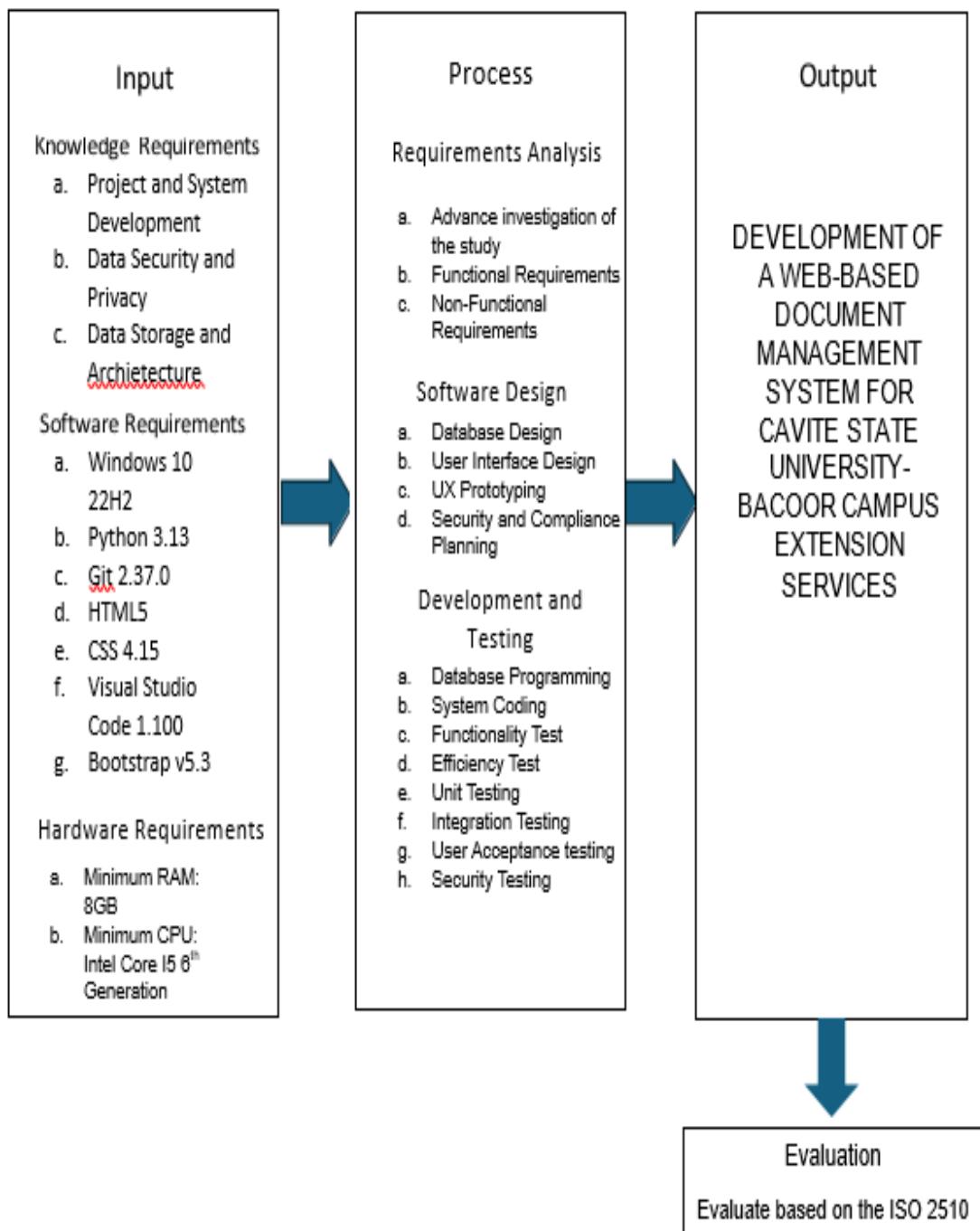
Among the system's core features is an attendance module, which allows users to record and view attendance per activity. Attendance data is visualized through auto-generated graphs, giving users a clear overview of participation trends. To promote effective communication and feedback, a document-specific chat box is embedded within the system, allowing project members to exchange messages related to their documents. A reporting module enables the Staff Extensionist and Campus Coordinator to generate and print quarterly and annual reports in PDF format, streamlining the report submission process. In addition, the system is equipped with a basic notification feature that sends real-time alerts for document uploads and provides reminders two days before any upcoming extension-related activities. The platform is accessible through both desktop and mobile browsers, allowing users to manage documents even on the go.

Despite its comprehensive functionality, the system has several limitations. Being fully web-based, it is entirely dependent on a stable internet connection, which

can hinder access in areas with poor connectivity. The system does not support offline usage. Although the chat feature facilitates basic communication, it lacks real-time messaging capabilities and is limited to text-only discussions within specific documents. The reporting module only allows generation of fixed-format reports, limiting users from customizing layouts or including additional data outside of the predefined templates. Notification capabilities are also limited, offering alerts only for document uploads and a two-day advance notice for scheduled activities, with no option for custom reminders or multi-channel alerts such as SMS or email. Furthermore, the system's role-based access control is static users cannot create, modify, or assign new roles or permissions beyond those initially programmed. The system also does not support integration with third-party applications such as Google Calendar, Microsoft Office, or cloud storage platforms, which restricts interoperability and external data synchronization.

### **Conceptual Framework**

The Conceptual Framework of The Study Used the Input-Process-Output Model for Developing the DEVELOPMENT OF A WEB-BASED DOCUMENT MANAGEMENT SYSTEM FOR CAVITE STATE UNIVERSITY-BACOOR CAMPUS EXTENSION SERVICES



**Figure #1. Conceptual framework of the study**

The above figure shows the Conceptual Framework and how the system was developed. The Input Stage consists of the Hardware Requirements, Software Requirements, Knowledge Requirements. The system's Hardware Requirements must have a minimum of 8GB RAM with Intel core i5 6<sup>th</sup> Generation. For the software

requirements of the system, Windows 10 must be used to support essential development tools such as Visual Studio Code, Python, HTML, CSS and Bootstrap to create the Web-Based Document System for Extension Services. The knowledge requirement for the system must have a good understanding of web development, database design, and system testing.

The front end of the system is developed using html, css and bootstrap. This development tool makes creating a user friendly interface possible. On the other hand, the back end of the system will be developed using python and django. Python and django is an open-source web application framework that aims to create conventions for common tasks, such as authentication, routing, and database interactions.

The system's database was developed using MySQL, an open-source relational database management system widely used for web applications and other database-driven software.

Hardware and Software requirements are also considered, as they can organize the System's UI components and codes using the above software services. For the Process Stage, the process has requirements where the researchers need to investigate in advance so they can study the problem and collect all the data. Design is the one that will show the layout design of the system, process the flow, and document how.

## **Definition of Terms**

The following terms are operationally defined in the study:

- **CSS (Cascading Style Sheets)** – A stylesheet language used to describe the presentation of a document written in HTML. It controls the layout, colors, fonts, and overall visual design of web pages.
- **Database** – A structured collection of data that allows for efficient storage, retrieval, and management of information used by the system.
- **Document Management System (DMS)** – A software solution used to digitally store, organize, track, and manage documents, reducing paper use and simplifying file access.
- **Gmail Notification** – An automated email alert sent via Gmail to inform users of system updates, such as document submissions or reminders.
- **HTML (Hypertext Markup Language)** – The standard markup language used to structure content on the web. It defines elements like headings, paragraphs, links, and images.
- **Iterative Methodology** – A software development process involving repeated cycles of planning, designing, coding, and testing, allowing continuous improvements based on user feedback.
- **MySQL** – An open-source relational database management system that stores and retrieves data for the system efficiently.
- **PDF Format** – A file format (Portable Document Format) used to present documents consistently across different devices and platforms, commonly used for sharing reports.
- **PyCharm** – An integrated development environment (IDE) designed for Python programming. It helps developers write, test, and debug code effectively.

- **Python** – A high-level programming language known for its readability and efficiency, used to build the system's back-end functionalities.
- **Real-Time Update** – A system capability that reflects changes or updates immediately, ensuring users always see the most current data.
- **Role-Based Access Control** – A security mechanism that restricts access to system features based on a user's role, ensuring appropriate data handling and permissions.
- **System Testing** – A phase in software development where the entire system is tested to verify that it meets specified requirements and functions correctly.
- **User Interface (UI)** – The visual part of the system that users interact with, including buttons, forms, menus, and other navigational elements.
- **Web-Based System** – A software application accessed through a web browser via the internet, enabling users to interact with the system anytime and anywhere.

## **REVIEW RELATED LITERATURE**

This chapter researchers gathered local and foreign related literature a study to provide a background for the present research. It gives the researchers a brief knowledge of the concept of the study.

### **Foreign Literature**

#### **Learning Management System (LMS)**

Learning Management Systems (LMS) reinforce the learning process through online classroom environments. A standard LMS supports an inclusive learning environment for academic progress with interceding structures that promote online collaborative-groupings, professional training, discussions, and communication among other LMS users. Instructors should balance active learning with the use of LMS technological resources and the use of guidelines from the qualified curriculum. An LMS allows instructors to facilitate and model discussions, plan online activities, set learning expectations, provide learners with options, and assist in problem-solving with processes for decision making. An instructor's presence within an LMS creates an engaging learning environment. Students can retain their autonomy, enthusiasm, and motivation with LMS use. Stakeholders of the educational community must find scientific studies to support their contributions in LMS platforms to assist scholars in learning. (Bradley et al., 2021).

## **The role of digital innovation in knowledge management systems: A systematic literature review**

This article investigates the literary corpus on digital innovation in knowledge management systems (KMS) to understand its role in business governance. The study introduces a broad survey of the scientific literature on this topic to understand how digital innovation promotes new business models through the optimization of new knowledge. We carried out a bibliometric analysis on a database, including 46 articles published in the last three decades (1990–2020). All the articles were written in English. The results show that research published on the topic reveals interesting implications for business models and business performance. These findings especially highlight the links between innovation and sustainability, revealing that digital transformation tools contribute over the long-term to the value creation process. This research contributes to the existing literature analyzing the KMS topic by considering it from the digital innovation processes perspective, pointing out the need to implement new knowledge creation and to share measures which support global and inclusive growth. (Di Vaio et al., 2021).

## **Artificial intelligence in tactical human resource management: A systematic literature review**

Digitization within Human Resource Management (HRM) has resulted in Artificial Intelligence (AI) becoming increasingly prevalent in Human Resource Management Systems (HRMS) and HR Information Systems (HRIS). The tactical procedures of recruitment, employee performance evaluation and satisfaction, compensation and benefit analysis, best practice analysis, discipline management, and employee training and development systems have seen a growth in the incorporation of AI. To better understand this evolution, we seek to explore publication sources and literature that feature the application of AI within HRM. By

utilizing a systematic literature review methodology, this paper identifies which tactical HRIS (T- HRIS) components are featured in literature and how each T-HRIS component is represented. This paper gives insight to which component of tactical HRM/HRIS receives attention and identifies gaps in research to give direction to future research agendas. (Votto et al., 2021).

**ICT officials' opinion on deploying open-source learning management system for teaching and learning in universities in a developing society.**

Information and Communication Technology specialists, working within universities play important roles in the deployment of educational technologies for teaching and learning. Given the centrality of these specialists and the woeful dearth of empirics on this subject-matter in Sub-Saharan Africa, this paper interrogates the perspectives of ICT specialists working within universities in Ghana, on the deployment of Moodle®/Sakai® Learning Management System (LMS) by universities in the country for teaching and learning and the challenges involved. Data collection entailed semi-structured interviews with twenty informants. Thematic analysis was used for data analysis. It emerged that there has been impressive formulation of e-learning policy, construction of computer laboratories, Staff Resource Centre, Electronic Support Unit in the Balm Library, installation of Internet facility, Learning Management System, Enterprise Solution Software, Library Solution Software to promote ICT-mediated teaching and learning in the face of barriers. The paper adds knowledge to the extant literature in the field, impacts practice and policy along the pathway for ensuring sustainable deployment of LMS in universities in Sub-Saharan Africa. (Moses et al, 2021).

**Health Block: A secure blockchain-based healthcare data management system.**

The security and privacy of electronic healthcare records (EHRs) remain a

critical issue for both healthcare services consumers and providers. Breaching a healthcare system causes the disclosure of sensitive health data. This data is usually saved into centralized databases, which creates vulnerabilities and gives rise to cyber-attacks. This research focuses on enhancing the security and privacy of EHRs by using blockchain technology. This paper proposes a new architecture that takes advantage of decentralized databases to avoid centralized storage issues. The decentralized used database for storing patient electronic health records is the Orbit DB with Interplanetary File System (IPFS). Besides, we have deployed a blockchain network built on Hyperledger fabric by using Hyperledger composer to save hashes of stored data and control access when retrieving it. The proposed Blockchain-based architecture is designed to contribute to the healthcare management systems' robustness and to avoid recorded security limitations in commonly used systems for smart healthcare. Performance evaluation results issued from Hyperledger Caliper and comparative analysis have proved the robustness and superiority of the proposed system in terms of security and privacy requirements, key features of blockchain-based healthcare systems, and performance metrics including various throughput and latency. (Zaabar et al., 2021).

## **Local Literature**

### **Web Service for Document Management of University Degree Projects**

Addresses the challenges of managing and exchanging documents related to university degree projects. They propose a web service solution that facilitates the storage, exchange, classification, and search of files generated during the graduation process. The service is built using a REST API architecture with Django (Python) for the backend and Vuejs (JavaScript) for the frontend. The paper details the development process using the XP (Extreme Programming) methodology, outlining

the planning, design, coding, testing, and release phases. The authors present the results, including functional and non-functional requirements, modules, use cases, entity relationship model, and performance tests. They conclude that the web service effectively addresses the challenges of managing degree project documents and highlights its potential for both administrative and didactic use. The paper suggests future work to enhance the service's functionality, such as implementing file previews, notification alerts, and a shared files module (Sarmiento, et. al, 2022).

### **Web-based Document Management System - Project Proposal**

Web-based document management systems (WDMS) have transformed the way educational institutions handle student records, providing numerous advantages like improved administrative efficiency and enhanced data security, but their adoption can be challenging due to technical hurdles, the need for user training, potential internet access issues, and high initial costs, which must be navigated to realize their benefits within modern learning environments fully (Gonzales, et. al, 2023).

### **Web-based Document Management Systems**

Web-based Document Management Systems (DMS) are increasingly adopted by organizations aiming to improve efficiency, data accessibility, and security in handling records, yet their implementation often encounters challenges related to technological infrastructure, user adaptability, and organizational readiness, particularly in developing regions where paper-based processes remain dominant (Nagrama et al., 2024). Successful deployment depends on aligning technical elements such as interoperability, machine learning integration, and cloud-based architectures with human and organizational factors, including standardized

document preparation, user training, and policy support (Guo et al., 2021; Sambetbayeva et al., 2022; Han et al., 2020; Radzi et al., 2018).

### **Automated Attendance Monitoring Systems**

Automated Attendance Monitoring Systems have become increasingly popular in Philippine educational institutions due to their potential to streamline attendance tracking, reduce human error, and discourage absenteeism, but their implementation often faces issues such as equipment maintenance, resistance from users unfamiliar with technology, and limitations in internet connectivity in rural areas, all of which must be addressed to achieve the system's full potential in enhancing academic accountability (Reyes, et al., 2020).

### **Comprehensive Full Stack Document Management System**

Addresses the challenges faced of document system, the system aims to provide organizations with a user-friendly platform for efficient document creation, storage, retrieval, and collaboration. The front-end is built using HTML, CSS, and JavaScript for a responsive and intuitive interface, while the back end utilizes PHP for server-side scripting and seamless communication with the MySQL database. The system prioritizes security by implementing secure coding practices and a robust database schema for efficient document storage and organization. The paper outlines an Agile methodology for development, including project initiation, planning, design, development, testing, deployment, and maintenance phases. The architecture of the system is based on a three-tier client/server model, separating the user interface, business logic, and database management for scalability and security (Kumar, et. al, 2024).

## **WEB-BASED DOCUMENT MANAGEMENT AND TRACKING SYSTEM**

Web-based document management system developed to tackle the difficulties organizations face with the increasing volume of documents, highlighting Anna Joy D Vitto's contributions on Academia.edu, which detail the system's design aimed at enhancing traditional document handling practices, motivated by the challenges of organizing, storing, retrieving, sharing, and tracking information effectively, especially in the context of inter-departmental communication; the study identified specific organizational challenges through surveys to guide the system's development, which offers features for document storage, retrieval, updating, sharing, and tracking, ultimately intending to simplify document management for employees and suggesting avenues for future research on its effectiveness and integration with other organizational systems, applicable across various sectors like government, education, business, and non-profits, while also referencing existing literature on web-based document management solutions for further improvements (Vitto's, et. al, 2022).

### **Local Studies**

#### **Document Management and Repository System of Capstone Projects and Theses**

The development of a Web-Based Document Management System (WDMS) for the Extension and Community Relations Division (ECRD) at the University of Science and Technology of Southern Philippines (USTP) aligns with a growing trend in the integration of Information Technology (IT) solutions in organizational operations. Document management, particularly in government, educational, and non-governmental sectors, is increasingly digitalized to streamline workflows, improve accessibility, enhance collaboration, and reduce the risks associated with

physical document handling. The development of a web-based document management system for the USTP Extension and Community Relations Division offers numerous benefits, including streamlined workflows, enhanced document organization, and improved report generation. Through the integration of automation, tagging, and decision support features, the system will address current challenges faced by the office, such as delayed processes and difficulties in managing documents across multiple campuses. Drawing from successful implementations of EDMS in similar organizational contexts, the proposed system holds significant potential to improve the efficiency and effectiveness of the Extension Office's operations (Estrera, et. Al, 2022)

### **Design and Implementation of a Web-based Document Management System**

The document titled "Design and Implementation of a Web-based Document Management System" by Samuel M. Alade provides a comprehensive analysis of the shift from traditional paper-based document management systems to modern electronic solutions, illustrating their vital importance in enhancing efficiency and productivity in diverse sectors, while emphasizing the need for organizations to adopt these systems to maintain competitiveness in a digital world, particularly highlighting a 96.60% user satisfaction rate and addressing the challenges faced by organizations in developing countries, such as Nigeria, in transitioning to effective document management practices (Alada, 2023).

### **Design and Implementation of a Web-based Document Management System**

Addresses the challenges of document management in organizations, particularly in educational institutions in Nigeria, where traditional paper-based systems are still prevalent. The authors propose a web-based document management system (WBEDMS) designed to be user-friendly, secure, and efficient,

offering features such as document capture, storage, retrieval, version control, and workflow management. The system was developed using Object-Oriented Hypermedia Design Methodology (OOHDM) and implemented using NetBeans, HTML, CSS, JavaScript, PHP, and MySQL. The evaluation results indicate that the WBEDMS achieved a high level of success, with a 95% accuracy rating, a 99.20% usability rating, and a 97% overall quality rating. The paper concludes that the developed WBEDMS is a valuable tool for organizations in Nigeria, particularly in the education sector (Samuel L. Alade 2023).

### **Development and Implementation of Document Management System for Ilocos Sur Polytechnic State College, Tagudin Campus**

Addresses the challenges faced by ISPSC in managing paper-based documents as it prepares to become a university with additional campuses and a larger student and staff population. The researchers developed and implemented a web-based DMS at ISPSC, Tagudin Campus, designed to capture, store, organize, retrieve, and manage documents and files in a centralized digital environment. They conducted a user-satisfaction survey using the Website Analysis and Measurement Inventory (WAMMI) questionnaire, finding that respondents were generally very satisfied with the DMS's ability to arrange, store, track, and manage paper files within the campus. The study highlights the successful implementation of a digital solution to address the challenges of managing paper-based documents in educational institutions, demonstrating the potential for similar systems to improve efficiency and effectiveness (Angala, et. al, 2023).

## **Implementation of a Document Management System in the Academic Affairs Office of Bohol Island State University – Main Campus**

The study conducted by D. A. Tormon and colleagues (2022) focused on the development and implementation of a Document Management System (DMS) tailored for the Academic Affairs Office of Bohol Island State University (BISU) – Main Campus. The system was developed in response to the inefficiencies and risks associated with manual handling of academic documents, including delays in processing, misfiling, and data loss. The researchers used PHP, MySQL, and Bootstrap in designing a web-based system that allows for secure uploading, tracking, and retrieval of academic-related documents such as memos, curriculum documents, and academic policies. Evaluation results from users using the ISO 9126 quality model showed high scores in terms of usability, functionality, reliability, and efficiency. The implementation of the DMS significantly reduced processing time, improved document traceability, and enhanced data security within the Academic Affairs Office, showcasing the importance of digital solutions in streamlining academic administrative processes in Philippine higher education institutions (Tormon et al., 2022).

## **Foreign Studies**

### **Design and Implementation of a Web-based Document Management System**

One area that has seen rapid growth and differing perspectives from many developers in recent years is document management. This idea has advanced beyond some of the steps where developers have made it simple for anyone to access papers in a matter of seconds. It is impossible to overstate the importance of document management systems as a necessity in the workplace environment of an organization. Interviews, scenario creation using participants' and stakeholders'

first-hand accounts, and examination of current procedures and structures were all used to collect data. The development approach followed a software development methodology called Object-Oriented Hypermedia Design Methodology. With the help of Unified Modeling Language (UML) tools, a web-based electronic document management system (WBEDMS) was created. Its database was created using MySQL, and the system was constructed using web technologies including XAMPP, HTML, and PHP Programming language. The results of the system evaluation showed a successful outcome. After using the system that was created, respondents' satisfaction with it was 96.60%. This shows that the document system was regarded as adequate and excellent enough to achieve or meet the specified requirement when users (secretaries and departmental personnel) used it. Result showed that the system developed yielded an accuracy of 95% and usability of 99.20%. The report came to the conclusion that a suggested electronic document management system would improve user happiness, boost productivity, and guarantee time and data efficiency. It follows that well-known document management systems undoubtedly assist in holding and managing a substantial portion of the knowledge assets, which include documents and other associated items, of Organizations. (Aladé, Samuel, 2023).

## **A WEB-BASED DOCUMENT MANAGEMENT SYSTEM FOR THE EXTENSION OFFICE**

The extension and community relations unit of the university serves as the link between the academe and the communities. It is the unit that ensures that quality extension programs and projects are delivered in a timely manner to community stakeholders who are underserved and underprivileged. As the pandemic had shifted various operations and processes online, the study aims to design and develop an online management system to cater project proposal submission, approval, report

generation, and document storage. The online management system is expected to streamline transactions while reducing unnecessary exposure to COVID and cater to the need to keep important extension-related documents accessible and convenient. The design elements include ease of use, accessibility, and the ability to produce downloadable and printable documents for ease of submission to external agencies among others. (Teresa et al., 2022).

### **Optimizing Educational Institutions: Web-Based Document Management**

Documents, which consist of written or printed materials, play a crucial role in educational activities. Private schools in Tangerang still face challenges in efficiently storing, accessing, and managing educational documents. Manual document storage consumes a significant amount of time and physical space. Therefore, a technology-based solution is required to address this issue. This research aims to develop a web-based Document Management System (DMS) that allows teachers and school staff to easily manage, store, and access educational documents digitally. The software development method employed is the Waterfall model, involving a series of stages ranging from needs analysis to testing and implementation. The outcome is a web based DMS application accessible to teachers in the school. This application enables teachers to view, upload, edit, and download teaching materials effortlessly. Additionally, teachers can manage their teaching schedules and user access rights. The usability of DMS has been tested through User Acceptance Testing (UAT), and users have provided positive feedback on the application. This web based DMS effectively addresses the issues related to document storage in schools, enhancing the efficient management of educational documents, reducing dependence on physical documents, and increasing productivity in the learning

process. Consequently, this DMS holds great potential as a valuable tool in the educational context of the school. (Triyana, Muhammad & Fianty, Melissa 2023).

### **Implementation of Cloud-Based Document Management Systems in Healthcare**

The healthcare industry has embraced cloud-based document management systems (CDMS) to streamline patient records, improve data security, and enhance interoperability among medical institutions. A study conducted by Zhang et al. (2023) examines the adoption of CDMS in major hospitals across Europe and Asia, highlighting improvements in document retrieval efficiency, data redundancy prevention, and compliance with healthcare regulations. The research finds that cloud-based DMS reduces document retrieval time by 75% and improves overall patient data security. The study emphasizes the importance of secure authentication, compliance with HIPAA and GDPR, and the role of artificial intelligence in categorizing and managing medical records efficiently (Zhang et al., 2023).

### **Artificial Intelligence in Document Management Systems:**

A New Paradigm Recent advancement in artificial intelligence (AI) have significantly impacted document management systems, enabling automated categorization, intelligent search capabilities, and predictive analytics. A study by Kumar & Patel (2024) explores the integration of AI-powered DMS in multinational corporations, showcasing how machine learning algorithms enhance document classification, metadata extraction, and decision-making processes. Findings indicate that AI-driven document management reduces manual document processing time by 80%, improves accuracy in document retrieval, and increases overall organizational efficiency. The research suggests that the future of DMS lies in further integration with AI, blockchain for enhanced security, and edge computing for real-time document processing (Kumar & Patel, 2024).

## Synthesis

The literature collectively affirms the growing importance and widespread implementation of **Web-Based Document Management Systems (WDMS)** across various sectors particularly in academic institutions driven by the need for improved document storage, retrieval, accessibility, and security. These systems address the inefficiencies and risks associated with traditional paper-based methods, such as delayed processing, misfiling, and data loss (Estrera et al., 2022; Tormon et al., 2022; Alade, 2023).

In the **Philippine context**, educational institutions such as USTP, BISU, and ISPSC have successfully deployed web-based document systems tailored to their operational needs. These systems notably improved document organization, retrieval efficiency, reporting, and cross-campus collaboration, especially in managing capstone projects, research outputs, and administrative files (Estrera et al., 2022; Angala et al., 2023; Tormon et al., 2022). User evaluations across these studies reflect high satisfaction ratings emphasizing system usability, reliability, and overall quality. The implementation of such systems directly addresses pressing institutional challenges, such as growing student populations and decentralization due to multiple campuses.

Globally, WDMS implementations also show strong success. In **Nigeria**, systems developed using methodologies like OOHDMD and technologies such as PHP, MySQL, and NetBeans demonstrated excellent user satisfaction and operational performance (Alade, 2023). In **Indonesia**, a Waterfall-based DMS for private schools improved teacher access to educational materials and streamlined daily workflows (Triyana & Fianty, 2023). The **adoption of cloud-based DMS** in healthcare institutions across Europe and Asia underscores the systems' scalability, enhanced data security, and regulatory compliance benefits (Zhang et al., 2023).

The literature also identifies an emerging trend: the **integration of Artificial Intelligence (AI) and Machine Learning (ML)** in document systems. These advancements enable intelligent categorization, predictive analytics, and automated metadata extraction, further reducing manual workload and enhancing decision-making capabilities (Kumar & Patel, 2024). Such innovations present exciting opportunities for academic institutions, particularly in managing large volumes of student theses, research reports, and administrative documents.

Despite the documented benefits, challenges persist. Issues such as initial infrastructure costs, user resistance, and internet connectivity especially in rural or underfunded areas—remain barriers to successful implementation. Additionally, consistent user training and institutional support are critical to maximizing system efficiency and long-term sustainability.

In conclusion, the literature supports the **significant potential of a Web-Based Document Management and Repository System for Capstone Projects and Theses**. By learning from successful implementations and aligning with modern development practices and technologies, such a system can improve academic workflows, secure research outputs, and ensure more organized, accessible, and efficient document handling in educational institutions.

### **System technical background**

The researchers have used a Web-Based Document Management System for Cavite State University – Bacoor Campus Extension Services wherein the Campus extension coordinator, Department extension coordinator, and Extension facilitator can access it through their both computer and cellular phone. The Web-Based Document Management System for Cavite State University – Bacoor Campus is a system for extension services for easy and convenient access by the Campus extension coordinator, Department extension coordinator, and Extension facilitator

without using the traditional process. These are some of the technical terms that are being used in our system PyCharm, Python, and HTML is the technology being used in our system.

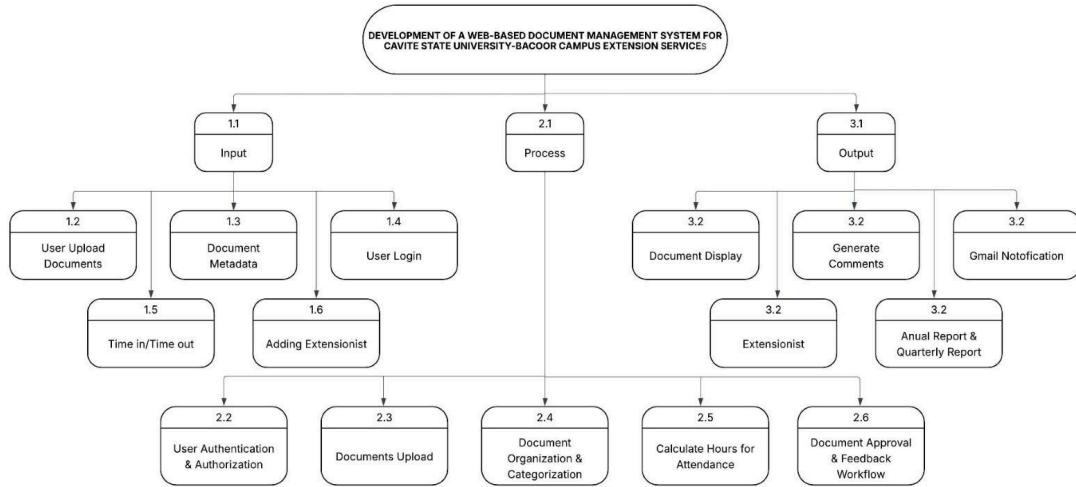
Some extension services in universities are still using the traditional process of manually handing over documents and it can cause problems like slow to pass documents and it's tiring that's why The Web-Based Document Management System is a solution for this kind of situation.

## **METHODOLOGY**

This chapter includes the design of the software, systems, products, or process, system development, system testing and evaluation, data analysis and implementation plan of the study.

### **Design of Software, Systems, Product and/or Processes**

The development of a web-based document management system for Cavite State University-Bacoor City Campus Extension Services aims to improve the submission and management of documents online. This system offers key features such as document processing, a chat box, attendance tracking, comment, and notifications. Figure 2 illustrates the hierarchical input-process-output diagram of the system, showing how each component supports the overall workflow.



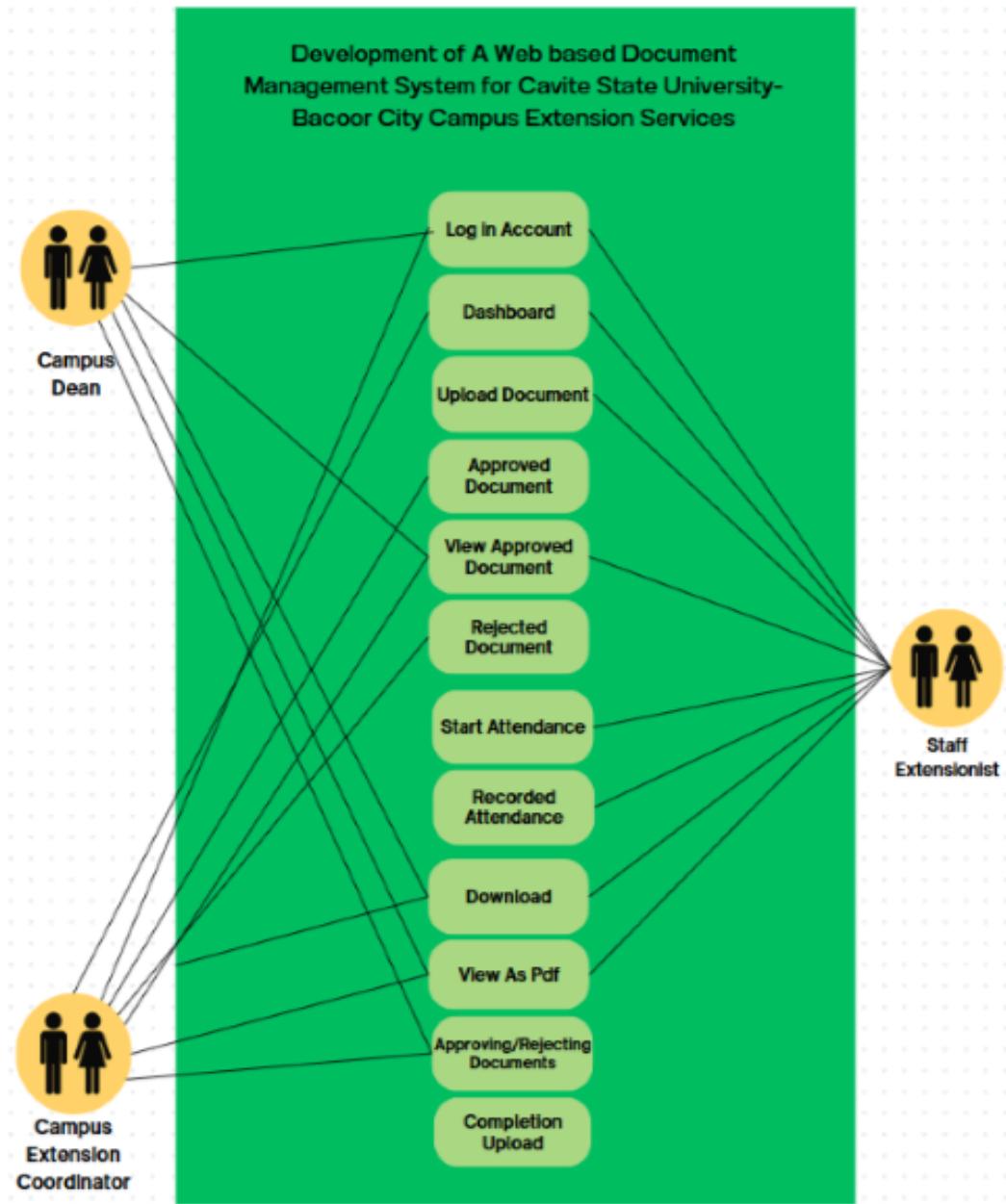
**Figure #2 HIPO diagram of the Document Management System**

This figure of the HIPO Diagram presents details of the design of a web-based document management system (DMS) specifically for Cavite State University's Bacoor Campus Extension Services. The system is structured into three primary phases: Input, Process, and Output. The Input phase begins with user login and document uploads, accompanied by the recording of relevant metadata such as titles, authors, and keywords. Time tracking monitors user activity, and the system also allows for the addition of new extension service personnel. The Process phase involves user authentication and authorization to ensure secure access. Uploaded documents undergo organization and categorization for efficient retrieval. The system calculates attendance hours based on login and logout times, likely for extension service staff. A workflow for document approval and feedback is also integrated. Finally, the Output phase delivers the processed information. This includes the display of documents, the generation of comments, and email notifications via Gmail. The system also produces reports, including annual and quarterly summaries, and provides specific output related to extension service personnel. In essence, the figure illustrates a complete cycle of document management, from initial upload and

processing to final reporting and communication, all tailored to the specific needs of the university's extension services.



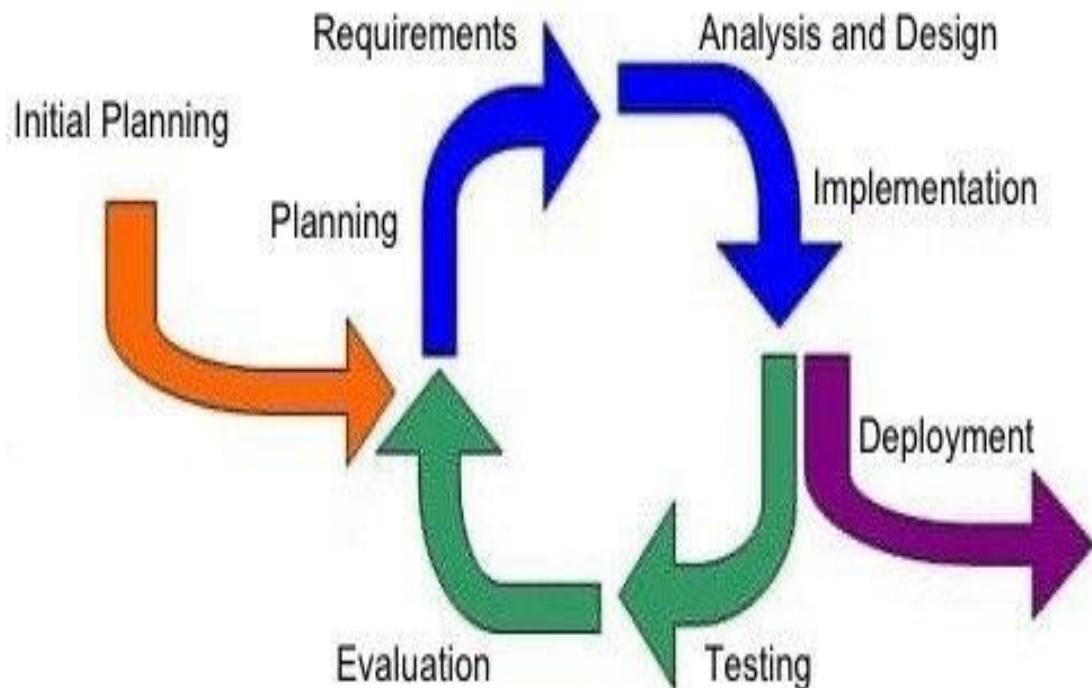
**Figure #3 Use Case Diagram of the Development of a Web-based Document Management System for Cavite State University-Bacoor City Campus Extension Services**



**Figure #4 Use Case Diagram of the Development of a Web-based Document Management System for Cavite State University-Bacoor City Campus Extension Services**

Figure 3 and 4 shows the Use Case Diagram for the Web-Based Document Management System developed for Cavite State University - Bacoor City Campus Extension Services. It shows two main users: the Campus Extension Coordinator and the Department Extension Coordinator. Both can manage documents, track attendance, and approve / reject submissions. The Campus

Extension Coordinator has extra privileges to add and manage extensionists. The system streamlines document handling, approval processes, and attendance management for approved efficiency.



**Figure #5 Iterative Methodology**

## Planning

In this phase where the main goals, challenges, and necessary features of the project are identified through an interview.

In this phase the researchers interviewed Ms. Diana Mae M. Belarmino, MMPA, Staff (See Appendix 3), Campus Research and Extension Services to identify challenges in managing documents and gather suggestions for system improvements. The discussion included adding a private comment feature for paper

revisions, a meeting attendance tracker for departments and extensionists, and the generation of annual and quarterly reports in PDF format.

An additional interview with Ms. Alvina Ramallosa, Department Coordinator (See Appendix 6) focused on further system features, such as integrating a chat box, visualizing attendance data through graphs (both individual and per department), and displaying photos and videos on the system's homepage.

## **Requirements**

In the requirements stage is where all the gathered data from interview is collected.

In this phase, the researchers chose Python as the programming language and began developing the system by addressing the main concerns, such as the manual recording of participants, document management such as forms and checklist per activity, and attendance tracking. The initial development focused on the backend of the system before adding additional features.

## **Analysis and Design**

Analysis and Design is the phase where the system's functionality and structure are planned and visualized. This involves creating a prototype to demonstrate how the system will work and flow, while also discussing and ensuring the design aligns with the client's work theme and requirements.

In this phase, the researchers developed a prototype, including a HIPO diagram (See Appendices 7) to illustrate the system's processes. They also created wireframes to present the system's design, ensuring it aligns with the client's work theme.

## **Implementation**

Implementation is the phase where the planned system is created and put into use. During this stage, the design and prototype are turned into a working system using software and a database to make sure it functions properly.

In this phase, the researchers start developing the system by coding and establishing its design and flow. The researchers use HTML5 and CSS for the front-end design, Python Django for the back end, and Visual Studio code as the development environment. This process is based on the prototype they created, turning it into a fully working system.

## **Testing**

Testing Phase is the stage where the system is evaluated for functionality, usability, and performance to ensure it meets the requirements and works as intended.

During this phase, the researchers aim to thoroughly test the system in collaboration with various departments and the campus coordinator. The primary objective is to evaluate the system's usability, making sure it is user-friendly and easy to navigate for all intended users. In addition, they will carefully monitor the system's performance to ensure that no technical errors or malfunctions occur during its operation. This phase also involves assessing the overall effectiveness of the system in addressing the specific issues and needs it was originally designed to solve, ensuring it meets its intended purpose.

## **Evaluation**

Evaluation phase is the stage where the system is assessed to determine if it meets the projects goals and client expectations, and feedback is gathered for possible improvements.

In this phase, the researchers plan to evaluate the system after testing to determine if it meets the client's expectations and to gather feedback for further improvements, based on the ISO 25010 standards for software quality evaluation.

## **Deployment**

Deployment Phase is the stage where the system is officially launched and made available to users after final revisions and testing.

In this phase, the researchers will deploy the system once the revisions from the evaluation phase have been completed, officially launching it and making it available to the client.

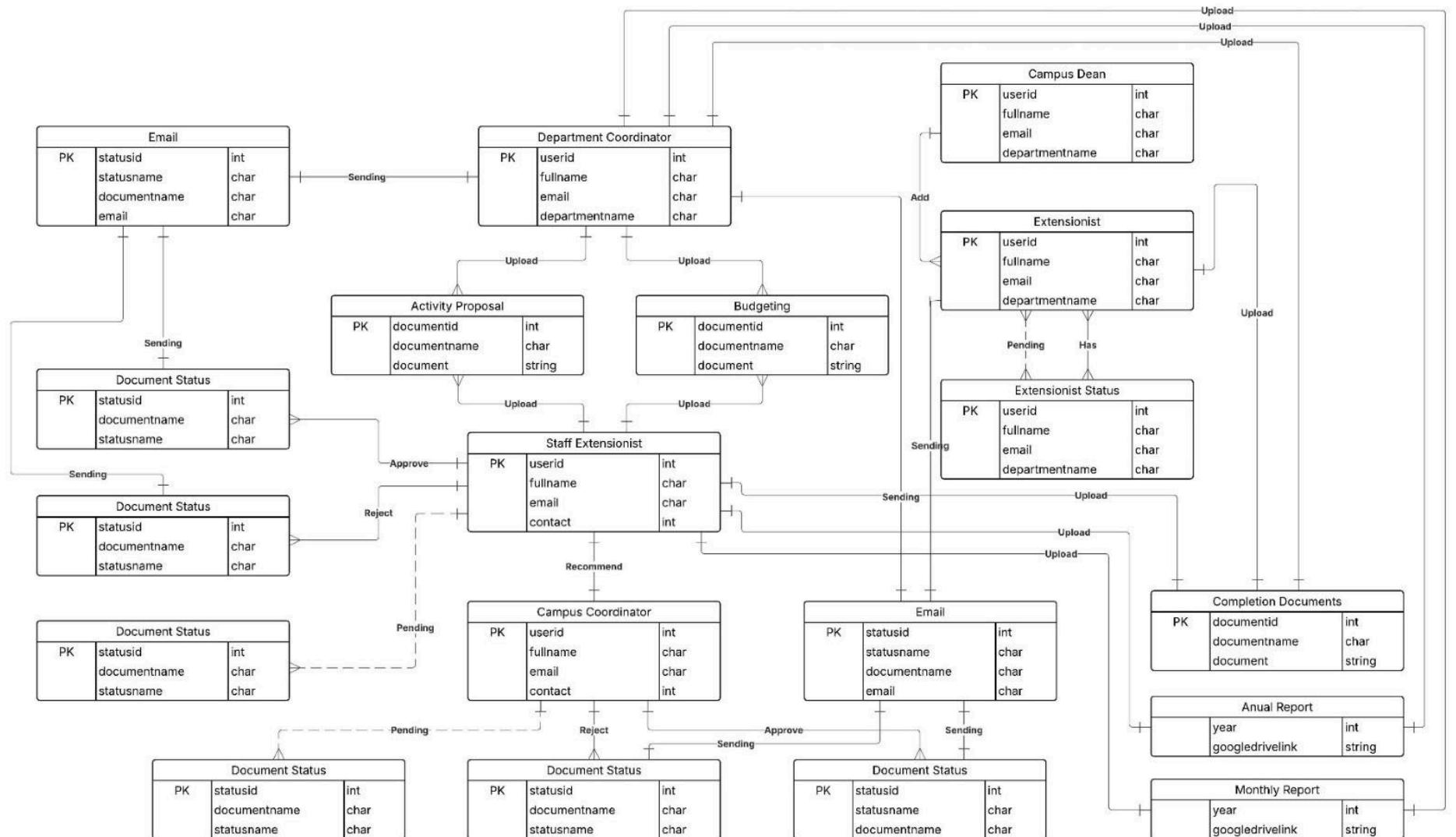
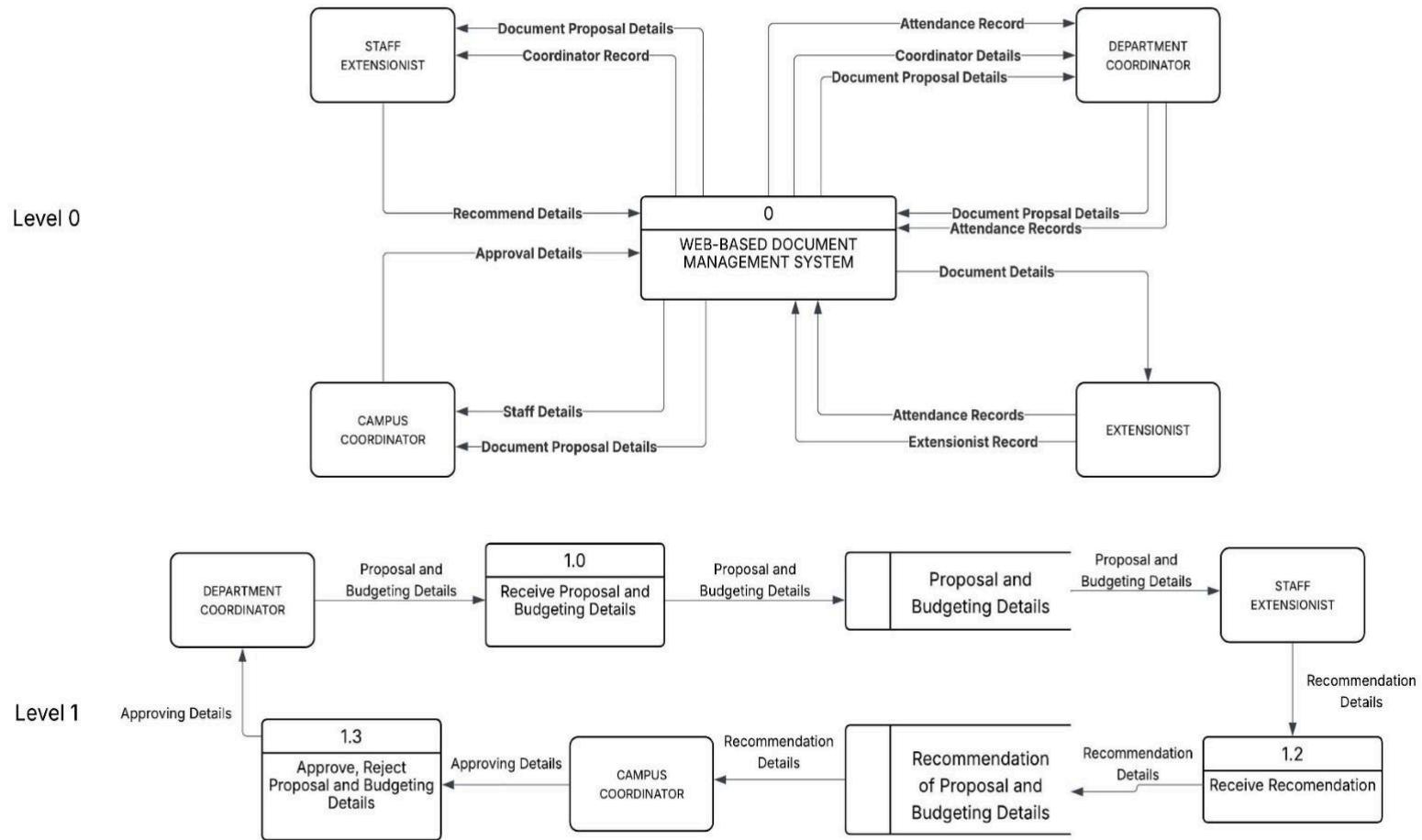
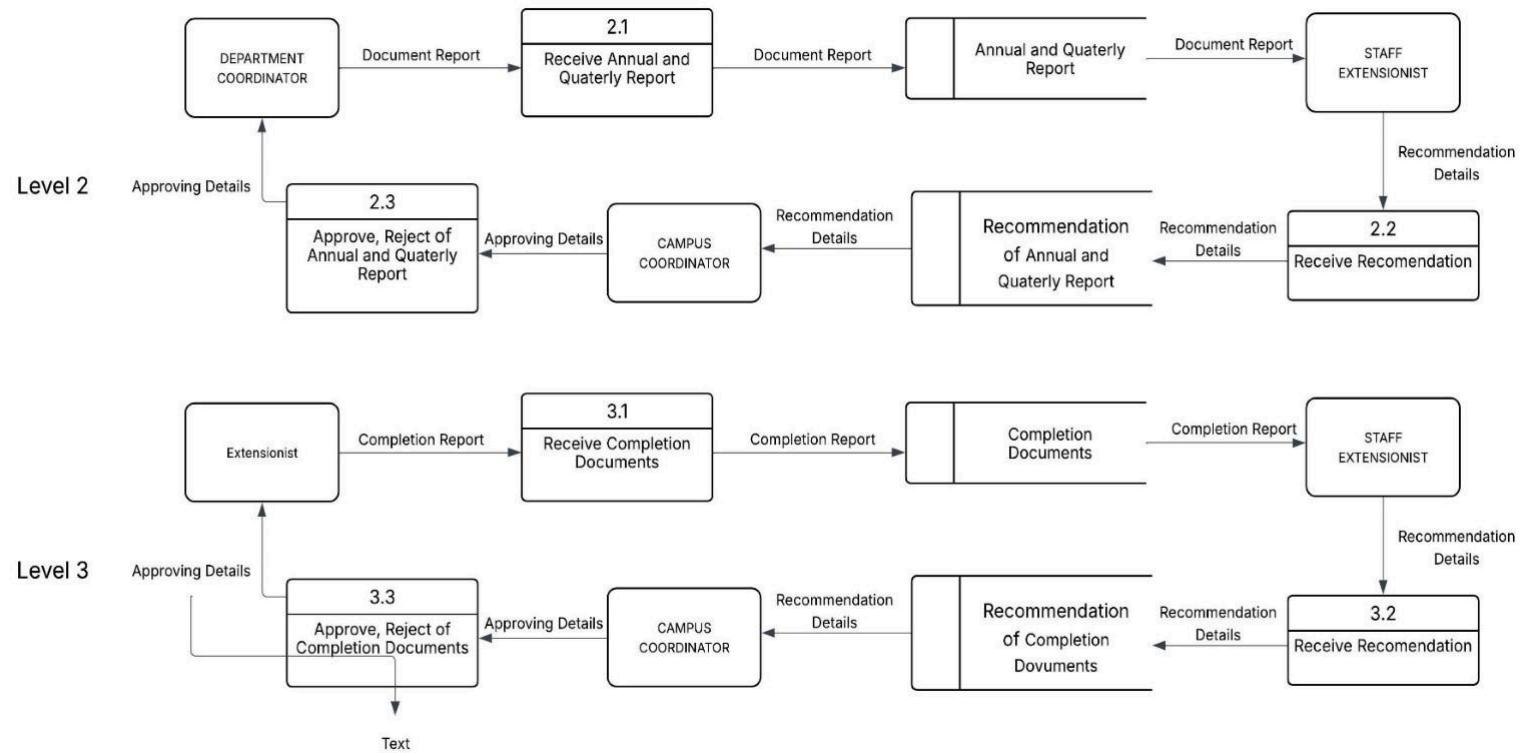


Figure #6 Entity Relationship (ER) Diagram

The Entity-Relationship Diagram (ERD), a visual representation of a database schema. It details the structure of a database system likely designed to manage staff extension requests, budgeting processes, and associated documentation. The diagram showcases several key entities, each representing a table within the database, and the relationships between these entities. These entities include budgeting status, which tracks the various stages of budget requests budgeting itself, holding details of individual budget requests such as user ID, email, and department; staff extensionist, containing information about staff members requesting extensions; campus coordinator, detailing campus coordinators responsible for reviewing requests; activity proposal, storing information

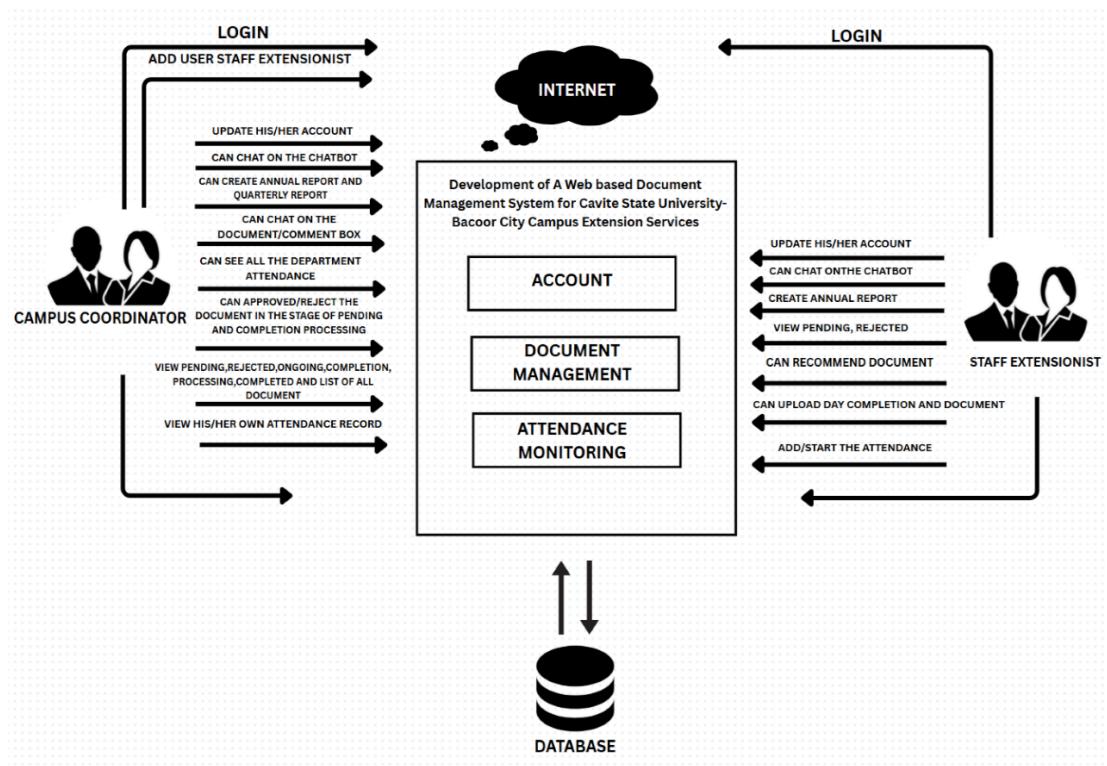


**Figure #7. data flow diagram of the document management system for CVSU – Bacoor Campus extension services**

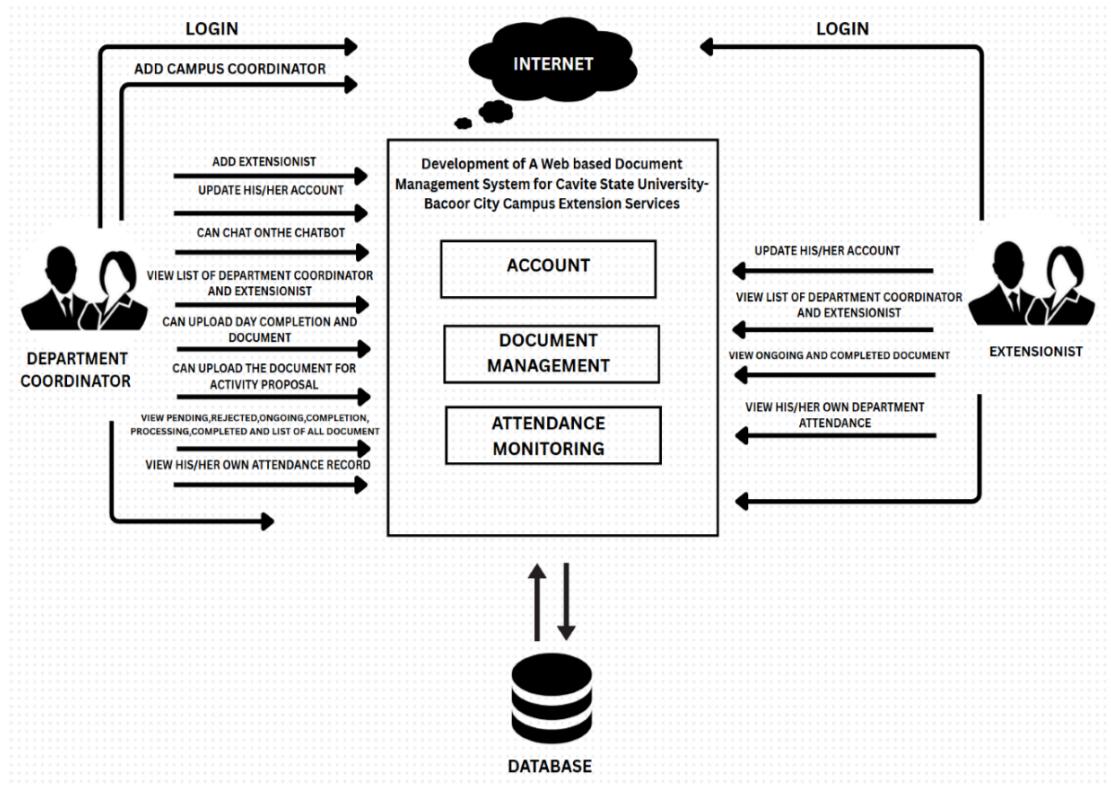


**Figure #8. data flow diagram** of the document management system for CVSU – Bacoor Campus extension services

Figure 7 presents the data flow diagram for uploading documents. This data flow diagram depicts the process and information exchange among various roles involved in managing extensionists. The process originates with the Staff Extensionist, who submits both activity proposals and associated budgeting information. This information is then routed to the Department Coordinator for review. The Department Coordinator's assessment encompasses not only the proposal and budget details but also other relevant documents, ensuring a comprehensive evaluation. Upon approval by the Department Coordinator, the information proceeds to the Campus Coordinator for final authorization or rejection.



**Figure #9 System Architecture for user Campus Coordinator and Staff Extensionist**



**Figure #10 System Architecture for Department Coordinator and Extensionist**

**Account.** This module enables the admin to log in to their account, while the users can create and log in to their own accounts. Additionally, this module functions as a gateway for users to ensure the security and management of their accounts

**Document Management.** The Document Management Module is designed to handle the organized storage, access, and control of various user-uploaded files within the system. Although the original diagram provides limited detail, this component typically enables users to upload, view, categorize, and manage different document types such as PDFs, Word files, and images. Uploaded documents are

linked to the user's account and stored with essential metadata such as upload date, file name, and assigned category. The module may also include functionality for setting document visibility levels, allowing users or administrators to control who can access specific files.

Once a document is uploaded, its initial status is set to "Pending." During this stage, users are allowed to modify the document if issues are found. If the document meets the requirements, the Staff Extensionist recommends it to the Campus Coordinator for final approval of the activity proposal. Once approved, the document status transitions to "Ongoing."

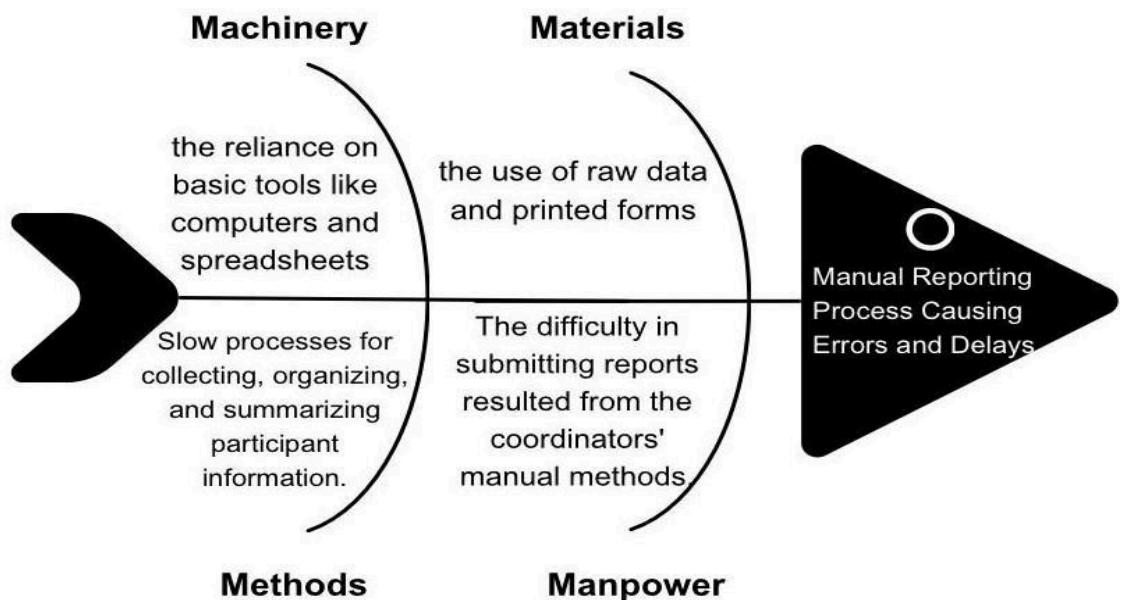
In the Ongoing stage, several activities take place: attendance is monitored, additional supporting documents can be uploaded, Staff Extensionist and Campus Coordinator can leave comments, and a chatbox feature facilitates real-time communication between involved parties.

Upon completion of the activity, the Department Coordinator submits the final documentation, initiating the "Completion Processing" stage. Here, the Staff Extensionist reviews the submission and, if everything is in order, recommends it again to the Campus Coordinator for final approval. Once approved, the document status becomes "Completed."

This structured and role-based workflow ensures a clear process for document validation, approval, and completion, while supporting collaboration and accountability across all stages of the extension activity lifecycle.

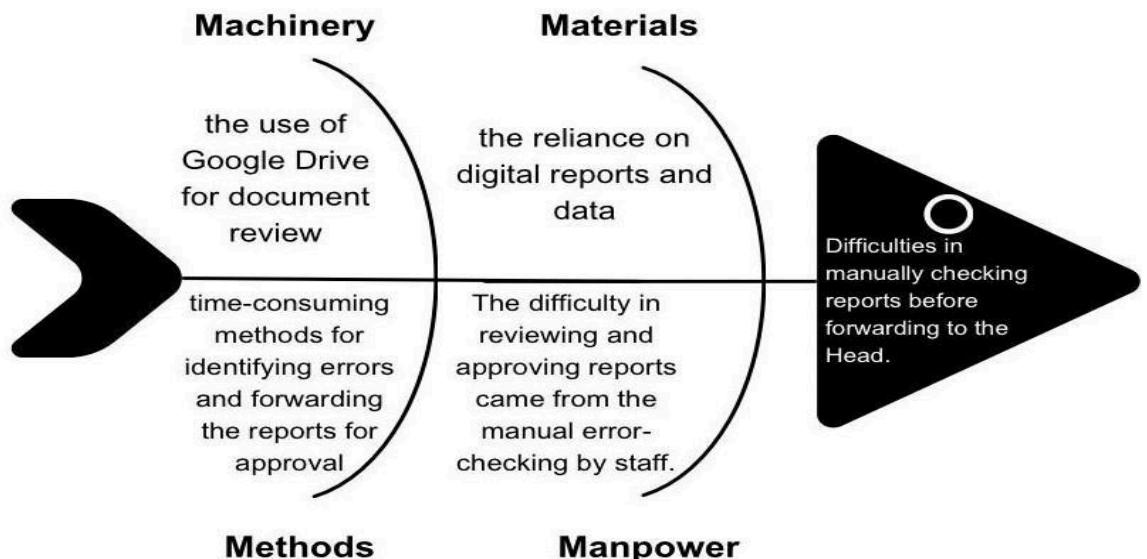
**Attendance Monitoring.** This module records user attendance through check-in and check-out functions. Each time a user logs attendance, the system captures the timestamp and archives it in a historical log. This data can be compiled into reports

that display attendance trends across different time intervals, such as daily, weekly, or monthly. These insights allow administrators to identify patterns like tardiness or absenteeism. Optional features like notifications can be integrated to prompt users or flag irregularities.



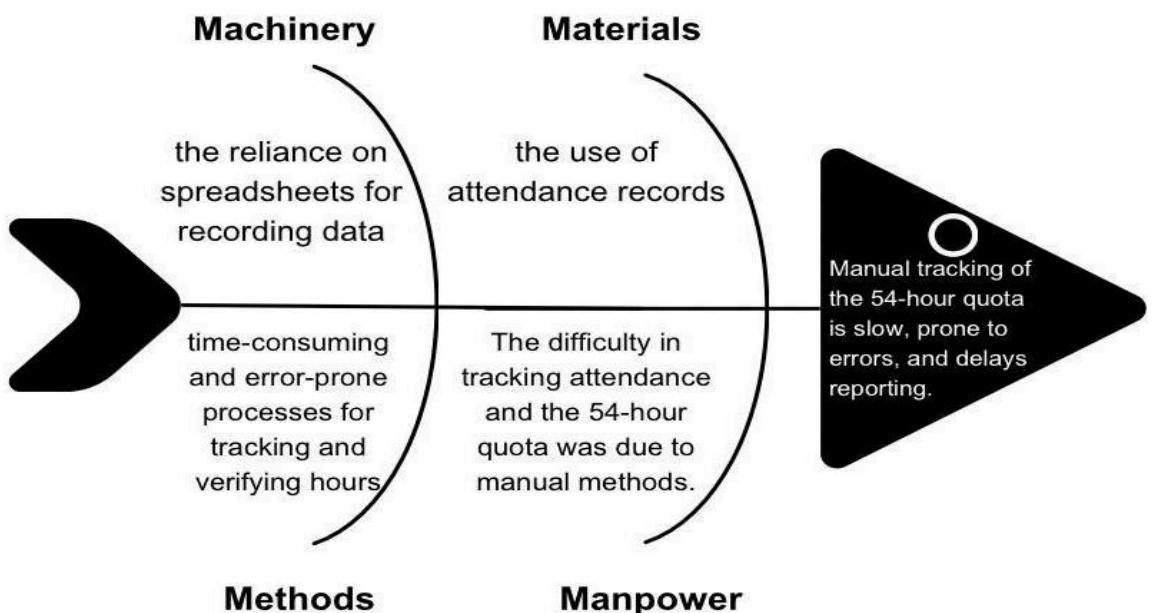
**Figure #11** Fishbone diagram of the system for problem 1

This figure illustrates the challenges related to the use of manual reporting methods. These traditional processes are prone to human errors and can cause significant delays in the handling and submission of important information, ultimately affecting overall efficiency and accuracy.



**Figure #12** Fishbone diagram of the system for problem 2

The figure shows that manual checking and error identification have slowed down the review and approval process of digital reports, resulting in inefficiencies and longer processing times for document completion.



**Figure #13** Fishbone diagram of the system for problem 3

The figure shows that tracking attendance and monitoring the 54-hour quota was inefficient due to the reliance on manual methods and the use of spreadsheets, which often led to errors and difficulty in maintaining accurate records.

## APPENDICES



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January 10, 2025

Ms. Diana Mae M. Belarmino, MMPA  
Staff Campus Extension Services  
CVSU-Bacoor

Dear Ma'am,

Greetings! We are the 3rd year students of Bachelor of Science in Information Technology currently working on our research study entitled Development of a Web-Based Document Management System for Cavite State University-Bacoor City Campus Extension Services. The study aims to develop a web-based document management system for the Extension Services of Cavite State University-Bacoor City Campus to improve document organization and access.

To construct a better thesis proposal, the researchers will be managing a pre-interview, and the suitable participants for the pre-interview will be the Ms. Diana Mae M. Belarmino, MMPA from Cavite State University-Bacoor Campus. Their responses will be an incredible help for us to be able to construct quality interview questions for actual study.

In lieu of this, may we ask your permission to conduct the said interview via phone call or through online operations. Your approval of this request is very much appreciated.

We hope you will approve our request. We thank you in advance.

Respectfully yours,

DENNIEL M. ESTIRA

LOUISE GABRIELLE D. QUIOYO

ROSE ANNE PAPA

JADE P. TAGUBA

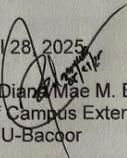
Noted by

DONNALYN B. MONTALLANA, MIT  
Subject Instructor

ALVINA E. RAMALLOSA  
Department Research Coordinator



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April 28, 2025  


Ms. Diana Mae M. Belarmino, MMPA  
Staff Campus Extension Services  
CVSU-Bacoor

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**LOUISE GABRIELLE D. QUIYOYO**

**ROSE ANNE PAPA**

**JADE P. TAGUBA**

Noted by

**STEFFANIE M. BATON, MIT.**  
Subject Instructor

**ALVINA E. RAMALLOSA**  
Department Research Coordinator

## **Client - Transcribed Interview**

### **First Interview**

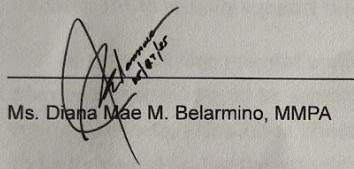
Based on the interview, several key insights were gathered regarding the current challenges and requirements for an effective document management system within the Extension Services. The most pressing issue identified is the recurring delay in the submission of documents each quarter. This not only hampers the workflow but also affects the overall efficiency of the team. The interviewee emphasized the need for a centralized system that would enable timely submissions, allow real-time tracking of who has submitted documents, and facilitate communication through notifications and comments. Regarding editing and access, the preference is to avoid setting a strict limit on document changes to allow for ongoing revisions and the maintenance of a history log for transparency and accountability.

The system is expected to accommodate four main user types: the Head Coordinator for Extension, the staff Member, the Extension Coordinators of each department, and the Department Chairpersons. A significant enhancement proposed is the integration of attendance and feedback features. These would help streamline processes by recording check-in and check-out times digitally, thus minimizing manual paperwork. While it was suggested that attendance records should be unified in a single report, the system should clearly identify the department of each participant. This setup acknowledges that although meeting attendees are limited in number, coordinators can still manage attendance, with departments handling their internal meetings independently.

Hierarchically, the Head Extension Coordinator holds the top position within the unit, followed by the coordinators of each department. However, to improve accessibility and collaboration, it is recommended that other faculty members also be granted access to the system. When it comes to document preparation, the responsibility typically falls to Madam Janice and the staff member, especially when they are organizing a program. If another group takes the lead, the onus of preparing documents shifts to them. Therefore, the system must include functionalities for

marking documents as “Approved” or “Declined,” along with automatic notifications to inform submitters of their document status.

Finally, an additional yet important feature suggested was the inclusion of a comment section where users can highlight errors and provide feedback. This would foster better communication and continuous improvement of documentation. Overall, the insights highlight a strong need for a comprehensive, user-friendly system that enhances coordination, accountability, and transparency across all levels of the Extension Unit.



Ms. Diana Mae M. Belarmino, MMPA

#### **Second Interview**

During the interview, researchers engaged in a detailed discussion aimed at clarifying the system's process for managing activity proposals and related documentation. Initially, there was confusion regarding the system's panel structure, as the participants had assumed it involved only one panel, which turned out to be incorrect. Researchers sought to verify the correctness of the system's process, highlighting that after an activity proposal is submitted, it remains pending until reviewed by another user. Once checked, the proposal is recommended to Ma'am Janice for approval, after which the budgeting process commences. Based for ma'am alvina elaborated that proposals, budget plans, and plans of activities are separate documents but share the same timeline, and thus must be submitted simultaneously. Templates were introduced to streamline communication and data input, such as a notification system that alerts extensionists and departments about upcoming meetings and attendance records. Enhancements to the system were also discussed, including a chatbox with mention features for real-time Gmail notifications, and the integration of attendance tracking to support meeting logistics.

The conversation also covered quarterly reports, with emphasis on automating the input process to reduce manual workload. Researchers referenced a sample template for upcoming activities, designed to allow easy data entry by multiple users including extensionists, department coordinators, staff coordinator, and campus managers. Researches was mentioned as requesting a specific template for the quarterly report, which aligns with existing reporting forms that simply require date inputs and titles for each training or activity. Ma'am Janice clarified that while some data could be auto-filled, editable fields must remain for manual updates. The interview also addressed uploading media such as pictures and videos per department to visually support the documentation of extension services.

In terms of documentation, it was agreed that the proposal, financial plan, and plan of activities should be submitted together at the start, while documents such as training reports, attendance sheets, evaluations, and certificates of appearance are to be uploaded during the activity's implementation. The certificate of appearance, in particular, must be handled by department coordinators as proof of actual participation. To avoid miscommunication, Researchers emphasized the importance of assigning clear slot names for each document type to improve system navigation and usability. Lastly, they acknowledged previous missteps in understanding the process and highlighted the need to realign with the procedures explained by Ma'am Donna and Ma'am Alvina.

Ma'am Janice informally while the participants were en route to a location in Molino 2 and Mambo, revolved around the school's ongoing activities, attendance monitoring, and documentation practices. Researchers discuss a question regarding the widespread participation of the school in a particular activity, inquiring if Ma'am Janice and their team were responsible for uploading related videos. Ma'am Janice affirmed their involvement and confirmed that they were still part of the group handling those responsibilities.

Researchers' concerns about how attendance was being tracked and whether Ma'am Janice group was included in the tally. Ma'am Janice clarified that they were

indeed still included in the official attendance. Researchers mentioned a system that visually represented attendance data using pie charts and bar graphs, showing not only the number of attendees and absentees across a quarter but also detailing hours consumed per extension or classroom.

Researchers acknowledged this system and emphasized the importance of continuing their work to meet the operational needs of their assignments. When asked if the graphs needed to be printed or if there was a template available, Ma'am Janice explained that another team member, referred to as Ma'am Jack, was awaiting approval and that she intended to provide her with a template. They also discussed the importance of documenting the time allocated to activities by coordinators, as this would help in visualizing their engagement and performance.

The conversation transitioned to technical aspects, such as the readiness of printable versions of these charts and templates, and the desire to have versions that could be easily attached to reports, even in PDF format. There was an emphasis on the utility of such formats for sharing and record-keeping. Ma'am Janice noted that while they didn't have a formal template with a styled document format, they could prepare a working version suitable for their needs.

Additionally, they discussed integrating demographic data into reports, such as the number of single mothers or 4Ps beneficiaries in a given barangay. Researchers mentioned a template that included auto-print features to streamline this process. Ma'am Janice responded that these figures were already being included in training reports and that they would develop their own template to incorporate both faculty data and beneficiary statistics. They stressed the goal of enhancing system visualization while ensuring everything remained printable and easy to distribute.

The conversation concluded with researchers committing to creating and reviewing the template for updates, to which Ma'am Janice agreed and expressed willingness to contribute additional information as needed.

\_\_\_\_\_  
Ms. Diana Mae M. Belarmino, MMPA



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April 11, 2025

Alvina E. Ramallosa  
Department Coordinator  
CVSU-Bacoor

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ROSE ANNE PAPA

JADE P. TAGUBA

Noted by

STEFFANIE M. BATON, MIT.  
Subject Instructor

ALVINA E. RAMALLOSA  
Department Research Coordinator

## **Client - Transcribed Interview**

### **Interview**

Based on the interview with Ms. Alvina Ramallosa, the Department Coordinator, several new features were suggested to enhance the system. One recommendation is the addition of a chat box to allow easier communication when there are changes in documents, making coordination between departments more efficient.

Another suggestion is to include a feature that generates a training report, which can be downloaded as a PDF file. Alongside this, a tracking system for attendance was proposed to monitor if departments meet the required 54 training hours for the quarter. This attendance report should also be available for PDF download.

Lastly, the display of photos and videos on the system's homepage was recommended to highlight recent events and activities, adding a more engaging and updated feel to the platform.

---

Ms. Alvina Ramallosa

## **Appendix #. Gantt Chart**

## **Appendix Table #. Gantt Chart**



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## **DEPARTMENT OF COMPUTER STUDIES**

## **GANTT CHART**

Name of Researcher(s) : DENNIEL M. ESTIRA, LOUISE GABRIELLE D.  
QUIYOYO, ROSE ANNE PAPA, JADE P. TAGUBA  
Program : BACHELOR OF SCIENCE IN INFORMATION  
TECHNOLOGY  
Title of Study : DEVELOPMENT OF A WEB-BASED DOCUMENT  
MANAGEMENT SYSTEM FOR CAVITE STATE  
UNIVERSITY-BACOOR CITY CAMPUS EXTENSION  
SERVICES

