COLEGIO DE MONTALBAN
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EASEDOCU: DOCUMENT REQUESTS MANAGEMENT SYSTEM OF COLEGIO DE MONTALBAN (CDM)

A System Project Presented to the

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CHAPTER 1

THE PROJECT AND ITS BACKGROUND

This chapter introduced the project, including its context, purpose, and description. It also outlined the main and specific objectives of the project development, as well as its scope and delimitations. Additionally, the chapter included a technical background that explained the various diagrams used in the project.

Introduction

In today's academic environment, the demand for efficient document request processing is growing, especially as student populations increase and the need for timely access to records becomes essential. At Colegio de Montalban (CDM), students often face challenges when requesting important documents such as transcripts, certificates, and other academic records. This traditional, manual process can be cumbersome, involving long wait times, inefficiencies, and frequent delays. When cutoff times are missed, students must return another day, leading to frustration and an overall disruption in the student experience. As the volume of document requests grows, managing them manually becomes increasingly difficult, often resulting in errors, delays, and the misallocation of resources.

In response to these challenges, EaseDocu: Document Request Management System (DRMS) was developed. That enables students to request, track, and retrieve documents like certificates and transcripts with ease. By reducing manual intervention and leveraging automation, EaseDocu enhances workflow efficiency, improves accuracy, and ensures that compliance and data security requirements are met. Designed specifically for educational

institutions at Colegio de Montalban (CDM), this system helps to reduce administrative workload and improve response times, delivering a better user experience for both students and admins. This chapter presents the objectives, scope, and significance of implementing EaseDocu at Colegio de Montalban (CDM). Through this system it aims to enhance productivity, streamline document handling processes, and provide timely, accurate responses to student requests. By offering an automated platform, EaseDocu empowers students and administrators with greater control and visibility over document management, ensuring smoother, faster, and more secure access to essential academic records.

Background of the study

Managing document requests efficiently is a critical need for organizations, particularly those handling large volumes of paperwork and client transactions. Traditional manual processes often lead to delays, errors, and inefficiencies, highlighting the importance of developing streamlined solutions. Previous research has explored the use of digital systems to improve document handling, automation, and user accessibility, but challenges remain in achieving seamless integration and user-friendly interfaces.

This study focuses on the development of Easedocu, a document requests management system designed to address these issues. The research is conducted within the context of modern organizational needs for digital transformation, aiming to provide a reliable, efficient, and accessible tool for managing document requests effectively.

Easedocu is a document requests management system designed specifically for school registrars to address the challenges of handling student-related document requests. These documents often include transcripts, certificates, diplomas, and other academic records. The system serves as a centralized platform where students can request documents, track their progress, and receive them efficiently. By automating the manual processes typically involved in

these transactions, Easedocu reduces errors, minimizes delays, and ensures secure and organized document management within the registrar's office.

The registrar's office is crucial for maintaining and providing accurate academic records. However, traditional methods of handling document requests—such as paper-based processes or email submissions—can be time-consuming, prone to errors, and stressful for both staff and students. This study is important because it explores how Easedocu can streamline these processes, reduce administrative burdens, and improve the experience for students and staff alike. Implementing a system like Easedocu ensures timely and accurate delivery of documents, enhancing the registrar's office's operational efficiency. Specifically, at Colegio de Montalban (CDM), where student enrollment has grown significantly, traditional methods are becoming increasingly unsustainable. By adopting Easedocu, CDM can address its unique challenges, such as high volumes of requests and the need for enhanced data security, while providing better service to its stakeholders.

Previous research highlights the benefits of automated document management systems, including improved processing speeds, reduced human error, and enhanced data security. Studies emphasize the importance of user-friendly systems for academic institutions, focusing on features like real-time tracking, automated notifications, and secure storage. However, there is limited research on systems tailored specifically for school registrars to handle document requests, creating a gap that Easedocu aims to address. This study contributes to the existing literature by evaluating the application of Easedocu at Colegio de Montalban, providing insights into its potential to enhance registrar operations and improve user satisfaction.

This study focuses on the application of Easedocu within school registrar offices, specifically at Colegio de Montalban. It evaluates the system's effectiveness in handling student document requests, including its impact on processing time, accuracy, and user satisfaction. The research examines how features such as automated approvals, real-time tracking, and secure

access contribute to the efficient management of academic records.

The context of this study is the registrar's office in schools, which plays a critical role in managing and providing academic documents to students. Traditional methods often result in inefficiencies, especially as the volume of requests increases. At Colegio de Montalban (CDM), these challenges are compounded by the institution's growth and the increasing demand for timely and accurate document delivery. This study is set against the backdrop of schools adopting digital solutions to meet demands for efficiency, transparency, and security. Easedocu is explored as a modern system designed to meet these needs, optimizing document request workflows and improving the overall experience for students and staff at CDM.

Objectives of the study

The project developers aim to create a Document Request Management System (DRMS) named EaseDocu, designed to streamline the document request process while improving tracking and performance management for both students and registrar staff.

The specific objectives of the project are as follows:

1. In the web application, the project developers have designed an online form that allows students to request specific official documents easily and conveniently, ensuring a straightforward and accessible process.
2. In the system project, admins can assign specific appointment dates to students for document pickup, ensuring a smoother and more organized process while reducing crowding.
3. The interactive system includes real-time updates and notifications to inform students about the status of their requests, such as 'Processing' or 'Ready for Pickup,' improving transparency and communication.

4. The online platform is designed to be responsive, ensuring accessibility across different screen devices.
5. The document requests management system includes a "Report a Problem" feature with chat support for both students and administrators.

Significance of the study

The significance of this study lies in its potential to transform how school registrar offices manage document requests, offering a more efficient and student-friendly solution. EaseDocu delivers substantial benefits to its users and contributes to the advancement of institutional practices.

To Students. With EaseDocu, students can request academic documents such as transcripts, certificates, and diplomas more quickly and conveniently. The system's real-time tracking feature enhances transparency and eliminates uncertainty, ensuring students receive their documents promptly, especially for time-sensitive needs like job applications or further studies.

To Registrar Staff. For registrar staff, the system reduces workloads by automating repetitive tasks such as data entry and document verification. This not only improves efficiency but also minimizes human errors, ensuring the accuracy of academic records while enhancing data security.

School administrators. Administrators benefit from improved oversight and streamlined management processes. EaseDocu provides centralized insights into document requests, supporting informed decision-making and aligning with modern administrative practices to enhance institutional trust and reliability

Scope and delimitations

The EaseDocu: Document Request Management System (DRMS) is designed to streamline the process of requesting, tracking, and retrieving academic documents at Colegio de Montalban (CDM).

The EaseDocu: Document Request Management System (DRMS) is designed to enhance the efficiency of document processing at Colegio de Montalban (CDM). It provides a streamlined, automated platform for requesting, tracking, and retrieving academic records, including transcripts, certificates, and diplomas. The system's core functions include online document request submission, real-time status tracking, and document retrieval. It also offers administrative tools for managing and processing requests, reducing manual effort and improving workflow efficiency. The primary users of EaseDocu are CDM students and administrative staff, with secondary users including faculty and other stakeholders involved in verifying and approving certain records. Technologically, the system integrates with existing student information systems to ensure accurate data management and is accessible via web browsers. Additionally, EaseDocu prioritizes data security and compliance by implementing robust authentication and access control measures, adhering to relevant privacy regulations to protect user information.

The EaseDocu system is specifically designed for Colegio de Montalban (CDM) and may not function effectively in other institutions without significant customization. Its scope is limited to handling standard academic documents such as transcripts, diplomas, and certificates, excluding non-academic or special-purpose records. Additionally, the system is not intended for hard copy document handling, focusing solely on online transactions. It is accessible only to currently enrolled students and authorized staff, with alumni and external stakeholders required to use alternative channels for document requests. While the system automates most processes, certain tasks-such as physical document printing, manual validation, and handling exceptional cases-still require human intervention.

Operational framework

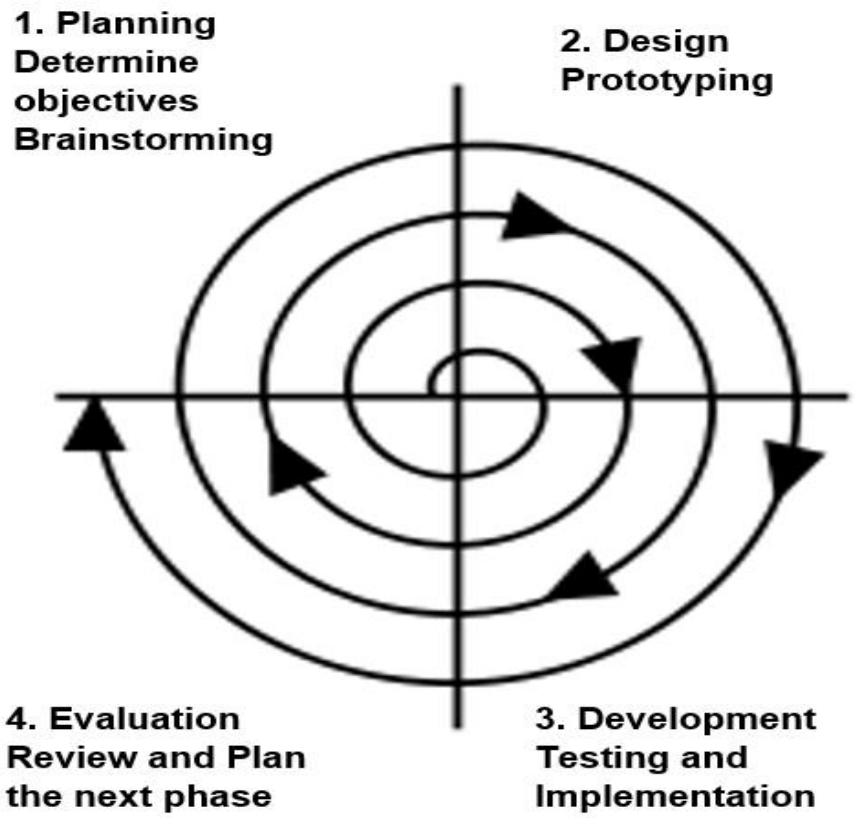

Figure 1

An Operational Framework illustrating the development of EaseDocu: Document Requests Management System

The project developers have adopted the Spiral Model as the EaseDocu: Document Request Management System development framework due to its iterative nature and emphasis on risk management. This model effectively supports projects requiring flexibility and continuous refinement, visualizing iterative cycles of planning, design, development, and evaluation. Each phase builds upon the previous one, fostering continuous improvement and adaptability, essential for developing a user-friendly, efficient document management solution.

In the first phase, the primary goal was to identify and gather detailed requirements for EaseDocu. This involved understanding the needs of various users, such as students, faculty, and administrative staff, who rely on timely and accurate document processing. Through collaborative brainstorming sessions, the team defined the project scope, set clear objectives, and identified potential constraints. These sessions were critical for pinpointing essential features such as secure document requests, real-time request status tracking, and student-friendly interfaces. A feasibility study was conducted to evaluate the project's technical, operational, and economic viability, ensuring that the proposed solution meets user expectations and institutional objectives.

Once objectives were clearly defined, the design phase began, focusing on creating prototypes in Figma that visualize the system's core functionalities. Prototyping was a pivotal activity, allowing the developers to build preliminary versions of EaseDocu's user interface and workflows. These prototypes served as interactive models, enabling early feedback from users to refine and enhance the design. Key design elements included the system’s architecture, database schema for document storage, and security protocols to ensure data privacy and integrity. Through iterative refinement, these designs evolved to address user needs, setting a strong foundation for the subsequent development phase.

During the development phase, the system was constructed based on the detailed designs from the previous phase. This process started by implementing essential features like user authentication, document requests, approval workflows, and automated notifications. Testing was deeply integrated into this phase, with continuous integration and automated testing ensuring that every feature met quality standards before being merged into the main system. The incremental deployment of the system allowed for feedback and quick resolution of issues, ensuring that the system was built efficiently and aligned with user expectations.

The final phase involved thorough evaluation and validation of the system against the initial requirements and user expectations. Comprehensive testing was conducted to assess EaseDocu's usability, performance, and security. Users, including project developers and students, reviewed the system's features and provided feedback on areas for improvement. This feedback was used to develop a plan for the next spiral cycle, focusing on refining existing features, resolving any issues, and incorporating additional requirements. This continuous feedback loop ensured that EaseDocu evolved iteratively, delivering a robust and user-centric solution that streamlines document request processes. By leveraging the Spiral Model, the development team ensured that EaseDocu is adaptable, efficient, and responsive to the dynamic needs of its users, setting a new standard for document request management.

Conceptual framework

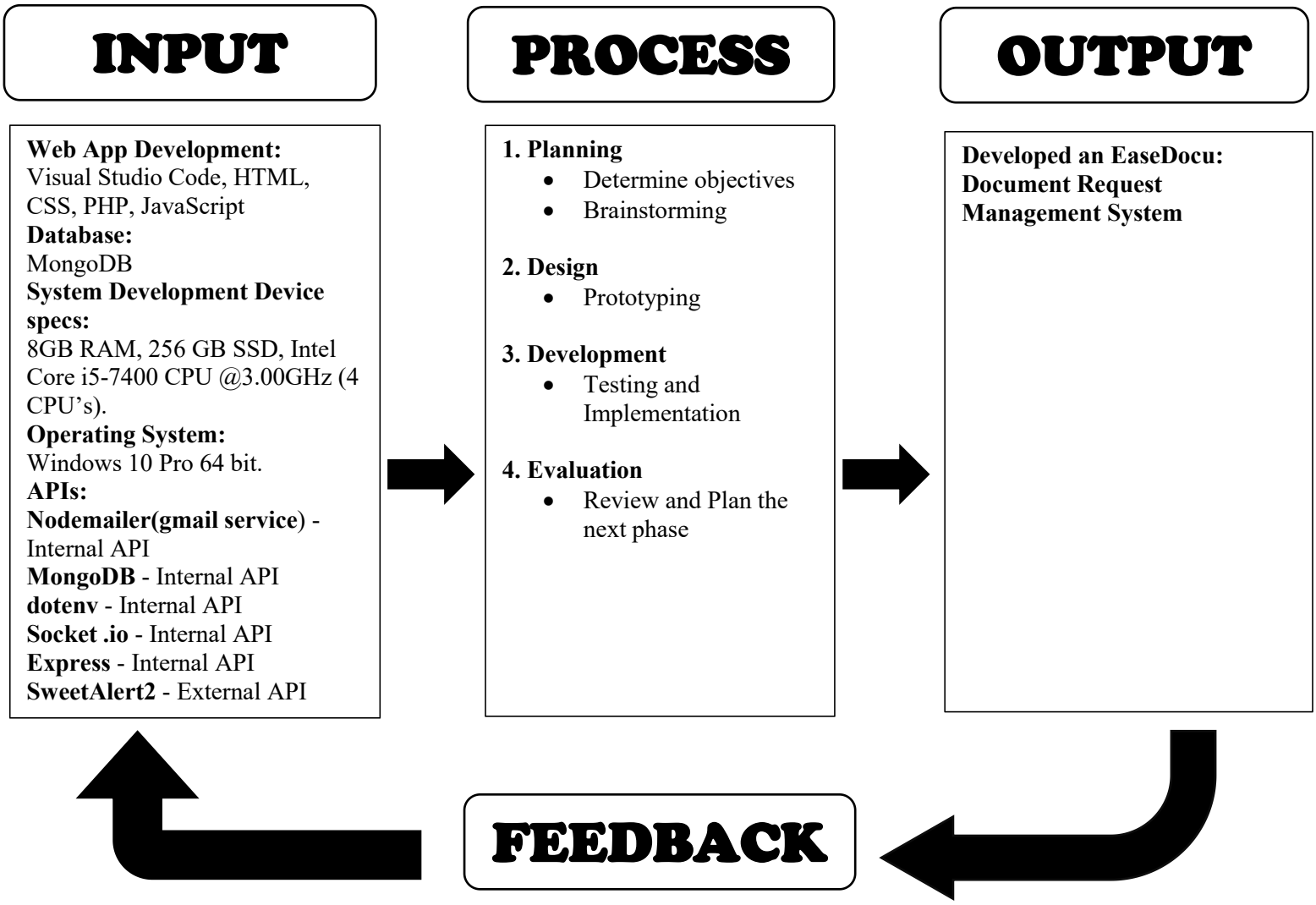

Figure 2

A Conceptual Framework Showing the Development of EaseDocu: Document Requests Management System

The conceptual framework for developing EaseDocu: Document Request Management System contains input, process, and output. The input phase includes the five natures of the system, which are programming languages, scripting languages, databases, devices, and operating systems. In Web application development, project developers used Visual Studio Code as the tool for developing the admin main system and for optimizing performance with specific software configurations, simplifying setup, language transitions, NoSQL database integration, and effectively handling heavy workloads. HTML, CSS, PHP, and JavaScript are the languages that the project developers used for developing the admin main system. Project developers used MongoDB as the database for the main system. The specs of the hardware device used are 8GB RAM, 256GB SSD, and an Intel Core i5-7400 CPU @ 3.00GHz (4 CPUs). The operating system was Windows 10 Pro 64-bit. APIs used include Nodemailer (Gmail service), MongoDB, dotenv, Socket.io, Express, and SweetAlert2.

In the second phase of the process, project developers follow the spiral method and its four phases. In the planning phases, the project developers determine the objectives and conduct brainstorming sessions to gather detailed information for the document request. In the design phase, the project developers create prototypes in Figma that visualize the system's functionalities. The development phase involves the actual construction of the system, where thorough testing and implementation ensure that each feature is built correctly and integrated seamlessly. Finally, in the evaluation phase, the completed work is reviewed, and feedback is gathered to plan the next iteration, ensuring continuous improvement and adaptation. This structured approach credits the project developers for the meticulous planning, innovative design, rigorous development, and proactive evaluation, ultimately resulting in a robust and user-centric document request management system.

Upon successful completion of the process phase, the result was EaseDocu: Document Request Management System, designed to provide an advanced, student-friendly, and efficient platform for managing document requests. The system aims to streamline the traditionally time-consuming process of requesting, approving, and issuing documents, making it more accessible and organized. Its objectives include optimizing resource utilization and improving operational efficiency across institutions by minimizing delays and errors in document handling. EaseDocu serves as a transformative solution, replacing manual processes with a seamless, digital workflow for both staff and users.

CHAPTER 2

REVIEW OF RELATED LITERATURE, STUDIES, AND SYSTEMS

In this chapter, the project developers conducted a comprehensive review of both local and foreign literature, studies, and systems. The purpose of this review was to gain a thorough understanding of existing research and academic works that are relevant to the area of study.

Review of related literature

Cause of Easedocu: Document Requests Management System

Traditional document management and request processes in local institutions, such as schools and government offices, are often plagued by inefficiencies, delays, and security issues. These manual methods make it challenging to retrieve, monitor, and manage records, leading to long wait times and dissatisfied users. Studies have shown that these systems are further strained by growing populations, limited storage capacities, and the inability to adapt during crises like natural disasters. For instance, Typhoon Haiyan exposed the vulnerability of paper-based storage systems in Leyte Normal University, prompting calls for robust digital solutions. Similarly, inefficient workflows in barangays and schools hinder service delivery, emphasizing the need for streamlined, accessible, and secure document management systems.

Easedocu addresses these challenges by providing an automated platform for managing document requests and record-keeping processes in local institutions. The system digitizes workflows, enabling users to request, track, and receive documents efficiently while maintaining secure storage and retrieval mechanisms. By integrating advanced features such as real-time tracking, automated notifications, and robust encryption, Easedocu ensures both user convenience and data security. It reduces the workload of administrators and minimizes errors associated with

manual processes, ultimately enhancing service delivery and operational efficiency in local communities.

According to Bacud and Siddayao (2016), this research investigates the efficacy of an Online Request System for the Issuance of School Academic Records for Maila Rosario College. It is a digital platform designed to streamline the process of requesting and obtaining academic records for students, alumni, and administrative staff. This system aims to replace traditional, manual processes with an efficient, user-friendly, and secure online solution. Key features of the system include user authentication, request submission, real-time status tracking, secure document delivery, and integration with existing school databases. The platform offers a simplified interface for users to submit requests for transcripts, certificates, and other academic documents. Upon submission, users can track the progress of their requests in real time, receiving notifications at each stage of processing. The system ensures the security and privacy of sensitive information through robust encryption and authentication protocols. Administrators benefit from an organized and automated workflow, reducing the workload associated with processing and managing requests.

The system also generates reports and analytics, providing valuable insights into request patterns and processing times. Integration with the school's existing database ensures the accuracy and consistency of academic records. It revealed that manual transactions have a greater number of challenges compared to the Online Request System. Subsequent assessment of the Online Request System further showed that it has a significant degree of compliance with the ISO 25010 Software Quality Standards. The Online Request System is indeed valuable and vital in facilitating the expeditious issuing, requesting, monitoring, and tracking of documents. The research reflects that the Online Request System is considered effective with respect to the result of the post-test and evaluation using the ISO 25010 Software Quality Standards and can be a profound basis for its possible adaptation and implementation in Maila Rosario College. Overall,

the Online Request System for the Issuance of School Academic Records enhances the efficiency, accessibility, and security of academic record management, benefiting both users and administrative staff.

According to Veluya (2015), this study aimed to design a queueing system to reduce the waiting time for students at Southern Luzon State University's (SLSU) main campus in Lucban, Quezon, during enrollment in the Cashier's section, Land Bank of the Philippines (Lucban branch), Posting section, and Registrar's office. Over a 14-day observation period, the researcher analyzed the time between student arrivals (inter-arrival time) and the time it takes for servers to assist each student (service time) at various windows or posts. Using a queueing model, the data revealed efficiency patterns in different areas. For example, the fastest inter-arrival and service times in the Cashier's section occurred in section 1 for 3rd-year students, while the slowest inter-arrival time was observed in section 4 for the same year level. In the Land Bank, the shortest times were noted for 1st- and 5th-year students. The Posting section showed the quickest inter-arrival times for 1st-year students in sections 1 and 2, while the fastest service time was for 2nd-year students in section 1. In the Registrar's office, the quickest times occurred in office 4 for 1st- and 5th-year students, while the slowest times were recorded for 4th-year students in office 4 and 5th-year students in office.

The study found that arrival patterns followed a Poisson distribution, while service times aligned with an Exponential distribution. To optimize the process, the proposed system recommends assigning at least two servers for the Posting section and the Land Bank, five to six servers for the Cashier's section, and four to five servers for the Registrar's office. This arrangement could reduce student waiting times to as little as 3 minutes and 30 seconds across all year levels.

According to Jayoma, Moyon, and Morales (2020), the Department of Social Welfare and Development (DSWD) Caraga faces significant challenges in managing their records using

traditional methods. As with many organizations, the DSWD handles a variety of records that serve multiple purposes, such as historical, demographic, sociological, medical, and scientific research. Efficient record management is essential for ensuring that these documents can be used for future decision-making and organizational analysis. However, the department's conventional system makes it difficult to retrieve and track records effectively.

To address these challenges, DSWD Caraga is transitioning to a digital record management system. The proposed solution involves automating the classification and management of records using the open-source Python-Tesseract (PyTesseract) library, which is a wrapper for Google's Tesseract-OCR Engine. The process begins by scanning paper-based documents into a digital format, after which the text is recognized and extracted using PyTesseract. This system is integrated with Django and MySQL, which facilitates easier classification, indexing, and archiving of records. The goal is to ensure the secure storage, easy retrieval, and preservation of important documents, in compliance with existing records management rules and regulations. By digitizing and automating the records management process, DSWD Caraga can improve efficiency and make the retrieval of records more convenient for their records officer.

According to Las Johansen (2017), the traditional method of storing documents has proven to be inefficient, particularly in the face of natural disasters. This was exemplified when Typhoon Haiyan struck in 2013 and devastated the archive and storage area of the Office of the Registrar at Leyte Normal University. To address the challenges faced by the office, the researcher conducted a study to identify the issues and coping strategies employed by the staff. Through interviews, focus group discussions, and observations, several problems were uncovered, including limited storage space, difficulty in document retrieval and monitoring, and misclassification of records.

To solve these issues, the researcher applied the Systems Development Life Cycle's Sashimi model to design an Electronic Document Archive and Management System (EDAMS). The goal of EDAMS is to enhance the efficiency, security, and accessibility of documents, thereby improving job satisfaction and overall organizational performance at the university's registrar office.

According to Mikaela et al. (2019), barangays, as the smallest and most essential units of government, play a critical role in delivering services to the community. However, the growing population has led to a decline in the quality of service, particularly in the management of records and documents. To address these challenges, the researchers proposed an integrated Document Management System (DMS) for Barangay Paligui in Apalit, Pampanga, following a detailed site investigation and surveys.

The system, developed using Kanban Agile Methodology, is designed to provide a centralized platform for document management that can be accessed by barangay officials via desktop computers and mobile devices. It uses OwnCloud as the infrastructure for securely storing, sharing, and managing files, with a customized user interface created using HTML, CSS, JavaScript, and PHP. After evaluating the system, the barangay officials found it to be both useful and suitable for implementation, demonstrating its potential to improve the efficiency of document management in the local government.

According to Las Johansen (2017), traditional data storage methods have proven to be ineffective in managing documents, particularly in terms of security, retrieval, and monitoring. Numerous studies suggest that this approach can lead to low job satisfaction among clients. Leyte Normal University’s Office of the Registrar faced such challenges when Typhoon Haiyan (locally known as Yolanda) struck in November 2013. The typhoon caused severe damage to the archive and storage area of the Registrar’s office, scattering and deteriorating many important documents.

This disaster highlighted the need for a more reliable solution to manage records.

To address these issues, the researcher conducted a case study using thematic analysis to identify the challenges and coping strategies of the Registrar's office staff. In-depth interviews, focus group discussions, and observations were conducted with seven participants to gather insights. The study utilized the Systems Development Life Cycle's Sashimi model to guide the development of a new software solution. The findings revealed several problems, including limited storage space, difficulty in document retrieval and monitoring, reliance on logbooks, and issues with misclassification of records. These insights served as the foundation for creating the Electronic Document Archive and Management System (EDAMS), designed to improve document organization, retrieval, and overall management.

The reviewed studies highlight the significant challenges posed by traditional document management systems, such as inefficiency, prolonged processing times, and difficulties in tracking and retrieving records. From schools to government offices, manual methods have shown to be inadequate in meeting the demands of modern workflows, especially in the face of population growth and unforeseen disasters. Various researchers underscore the value of digital solutions like online request systems, queueing models, and electronic document archives in addressing these issues. These systems have been proven to streamline processes, enhance accessibility, and improve security, while aligning with recognized software quality standards like ISO 25010.

The insights from the literature affirm the pressing need for innovative and adaptable solutions like Easedocu. By leveraging automation and integration, Easedocu is poised to address the inefficiencies of traditional methods, ensuring faster, more reliable service delivery. The emphasis on user-friendly interfaces, secure storage, and real-time tracking demonstrates the potential of digital transformation to significantly improve the management of document requests in local institutions.

Impact of Easedocu: Document Requests Management System

The implementation of document management systems, such as Easedocu, has demonstrated significant positive impacts on efficiency, productivity, and service quality in local institutions. Studies highlight how these systems streamline workflows, enhance data accessibility, and provide secure solutions for tracking and managing records. For instance, technology-aided platforms in schools and government offices have effectively reduced processing times and improved user satisfaction. Features such as automated tracking, secure storage, and real-time notifications allow both users and administrators to handle document requests with greater ease and transparency. These systems also align with established quality standards, ensuring their reliability and functionality across diverse applications.

Easedocu, as a document request management system, builds on these proven benefits by addressing common challenges in traditional, manual processes. By integrating advanced features like automated notifications, centralized databases, and secure user access, Easedocu enhances the quality of public service delivery. Its impact extends to reducing errors, improving monitoring systems, and ensuring compliance with modern standards of efficiency and security. As a tool tailored for local institutions, Easedocu not only modernizes document handling but also fosters greater accountability and responsiveness, ultimately benefiting both administrative staff and end-users.

According to Lingaya (2019), the creation and validation of a document tracking system were focused on enhancing efficiency in Philippine Higher Education Institutions. The system was specifically designed to assist state universities and colleges in managing documents more effectively by enabling users to monitor, record, and track the status and location of in-process documents. Development adhered to the Software Development Process, encompassing stages such as gathering user requirements, designing and implementing the system, validating its functionality, and refining it based on feedback. The system underwent evaluation by 40 office

staff members from Tarlac Agricultural University, who tested its user interface and functionality in the context of their regular tasks. Furthermore, five IT experts reviewed the system in terms of user interface, functionality, database design, and security. Results indicated high effectiveness, with office staff awarding it an average rating of 4.54 for ease of use, reliability, document tracking capability, and report generation. IT experts also provided a strong average score of 4.58, emphasizing its excellent visual design, functionality, navigation, and secure user access. Overall, the system demonstrated robust performance in managing and securing document processes.

According to Riño and Daing (2022), this study aimed to identify the challenges in managing student records and determine the characteristics of a Student Record Management System for 140 public secondary school teachers in Marilao South District, Schools Division of Bulacan. Utilizing a descriptive research design, the study gathered quantitative data through a validated researcher-made questionnaire.

The findings revealed that among the respondents, 48.57% were aged 30-39, 57.14% were female, and 39.28% had completed an undergraduate degree. Regarding service length, 46.42% had served for 6-15 years, and 37.14% held the rank of Teacher I. On challenges faced, entering data had an average rating of 4.27, described as "Highly Agree," indicating significant difficulty. Saving student information had a slightly lower average of 4.15, described as "Agree." When assessing the characteristics of an ideal student information management system, teachers rated it with an average of 2.83, also "Agree." For system usefulness and functionality, teachers perceived it moderately, with a high average rating of 4.62, described as "Agree.

The study further found no significant differences in the challenges or the assessment of system characteristics when respondents were grouped based on their demographic profiles. These findings highlight the pressing need for a robust and user-friendly Student Record Management System tailored to the specific challenges faced by educators.

According to Wong (2023), School Forms are critical documents in public school operations, encompassing student and institutional records that provide essential data for evaluating student performance and institutional effectiveness over an academic year. Managed under the Office of the Registrar and guided by DepEd Order No. 54, s.2016, these forms are subject to standard processes for requests and releases of learners' Permanent Records and Report Cards nationwide.

The study employed a descriptive research design to analyze prevailing conditions, practices, and the effectiveness of technology-aided document management systems in schools. Respondents included designated registrars, school heads, selected teachers, and parents, categorized into two groups: the implementing group (registrars and school heads) and the stakeholders' group (learners and parents). Sampling was not applied for the implementing group due to their direct involvement in providing critical data.

The findings revealed that the Technology-Aided Document Management System (TADMS) of the Registrar's Office was highly effective in enhancing student services, with a grand mean of 3.67, interpreted as "Very Effective." The assessment of both respondent groups also demonstrated that the practices under TADMS were "Very Observable," with a grand mean of 3.64. Statistical analysis indicated significant differences in the assessments of the two respondent groups, with computed t-values exceeding tabular values in both effectiveness ($t = 4.3675$) and assessment variables ($t = 6.6303$).Recommendations included maintaining effective practices for efficient student services, applying robust record-keeping protocols in TADMS, and ensuring regular monitoring and evaluation to promptly address issues. These practices emphasize the importance of systematic record management for the Registrar's Office to uphold service quality and compliance with established guidelines.

According to Belleza et al. (2020), the primary goal of a Document Management System (DMS) and Document Tracking System (DTS) is to enhance productivity by streamlining the

process of locating and managing files, thereby expediting transactions and improving daily work efficiency. A document management system automates the organization, capturing, tracking, approval, storage, access, and completion of tasks related to business files and documents. When cloud-based, it provides a secure online repository where documents can be searched and retrieved easily.

The tracking system complements this by offering a flexible solution for organizations that need to monitor documents and materials assigned to specific individuals or locations. Integrating such systems with other departments enhances workflow speed and service quality. DMS uses a computer system and software to manage electronic documents and images of paper-based information, often captured via document scanners.

The reviewed studies collectively emphasize the transformative impact of document management and tracking systems in addressing inefficiencies and challenges associated with traditional, manual methods. These systems, such as Document Tracking Systems (DTS) and Technology-Aided Document Management Systems (TADMS), demonstrate their effectiveness in enhancing operational efficiency, streamlining workflows, and ensuring the secure storage and retrieval of critical records. Various researchers highlight features like real-time tracking, user-friendly interfaces, secure databases, and automation, which significantly reduce processing times and improve service quality. The findings from both educational and organizational contexts reveal that these systems are well-received by users for their reliability, ease of use, and ability to handle large volumes of records efficiently, as evidenced by high evaluation scores across multiple studies.

The literature underscores the need for localized and adaptable solutions, such as Easedocu, to address specific challenges faced by local institutions. By adopting these advanced systems, organizations can enhance transparency, improve accountability, and foster better service delivery. Ultimately, the transition from manual to automated processes marks a crucial

step toward modernizing document management, meeting user expectations, and ensuring compliance with institutional standards and guidelines.

Strategy of Easedocu: Document Requests Management System

The strategy behind the development of the Easedocu Document Requests Management System draws from numerous studies that highlight the inefficiencies and challenges associated with manual document management. The research consistently identifies key issues such as data security, document retrieval delays, storage limitations, and errors in document tracking. These problems, commonly observed across various educational institutions and government organizations, call for more efficient and secure solutions. Easedocu's design integrates these lessons by offering a centralized, user-friendly, and automated system for managing document requests, tracking status, and ensuring timely delivery. This system adopts an Agile development methodology to ensure adaptability and scalability, focusing on ease of use, security, and real-time updates. Through these features, Easedocu aims to eliminate the common obstacles identified in previous research, particularly those related to the loss or mismanagement of sensitive documents and the administrative burden of manual processing.

Furthermore, the Easedocu system aligns with the growing trend of digitization, as evidenced by the successful implementation of similar online request systems in both higher education and government sectors. By streamlining the document request process, Easedocu enhances the speed and accuracy of document transactions, making it an essential tool for local institutions. The system's design prioritizes user authentication, data security, and integration with existing databases, ensuring that documents remain both accessible and protected. Additionally, the ability to track the status of requests in real time helps both administrators and users stay informed throughout the process, reducing uncertainty and improving overall service quality. Through these strategic features, Easedocu aims to improve operational efficiency, reduce human error, and provide a more convenient solution for document management at local institutions.

According to Caluza, L. (2017), the traditional way of storing data has affected how documents are managed, particularly in terms of security, retrieval, and monitoring. Many studies indicate that this method can lead to low job satisfaction among clients. Leyte Normal University's Office of the Registrar faced similar challenges. In November 2013, the university was hit by Typhoon Haiyan, also known locally as Yolanda, which caused significant damage to the Registrar's storage area, scattering and ruining many documents. This experience highlighted the need for a practical solution. The researcher conducted a detailed case study using thematic analysis to identify issues and coping strategies through in-depth interviews, focus group discussions, and observations involving seven participants. Additionally, the researcher applied the Sashimi model from the Systems Development Life Cycle to develop the software. The findings revealed various problems, including limited storage space, difficulties in retrieving and monitoring documents, reliance on logbooks, and misclassification of records. Ultimately, these results informed the creation of the electronic document archive and management system (EDAMS).

According to Abang et al. (2014), at the start of an institution, the manual requisition of documents and credentials can be quick, easy, and necessary. However, as the institution grows, this process becomes cumbersome. In a busy institution, it is crucial that each student's request is handled quickly and efficiently. In today's technological world, there are more efficient ways to stay organized and maintain productivity. Given the ongoing pandemic, implementing a system for online requisition of credentials is a smarter solution. The goal of the system is to facilitate online requests for student credentials in a Higher Education Institution (HEI) in the Philippines, with the City College of Tagaytay (CCT) being the case study. The development of the system followed an Agile software methodology. After its initial implementation at CCT, the system proved to be more convenient and safer for students to request their credentials. The significance of the system was particularly emphasized during the pandemic, and additional features will be

incorporated in the future to meet the requirements of other HEIs.

According to Bacud and Siddayao (2024), this research examines the effectiveness of an Online Request System designed for the issuance of school academic records at Maila Rosario College. The system is a digital platform created to simplify the process of requesting and obtaining academic documents for students, alumni, and administrative staff. Its goal is to replace the traditional, manual methods with an efficient, user-friendly, and secure online solution.

The system incorporates several key features, including user authentication, request submission, real-time status tracking, secure document delivery, and integration with the school's existing database. Users can easily submit requests for transcripts, certificates, and other academic documents through a simplified interface.

After submitting their requests, they can track their progress in real-time, receiving notifications as the request moves through different stages. The platform ensures the security and privacy of sensitive data by using robust encryption and authentication protocols.

For administrators, the system offers an organized and automated workflow, easing the burden of processing and managing requests. It also generates reports and analytics, offering valuable insights into request trends and processing times. By integrating with the school's database, the system ensures the accuracy and consistency of academic records.

The research found that manual transactions involved more challenges compared to the Online Request System. Further evaluation revealed that the system complies significantly with the ISO 25010 Software Quality Standards. The study concludes that the Online Request System is essential for facilitating quicker and more efficient document requests, monitoring, and tracking. The findings highlight that the system meets the ISO 25010 Software Quality Standards and could serve as a strong foundation for its potential adaptation and implementation at Maila Rosario College. Ultimately, the system enhances the efficiency, accessibility, and security of academic record management, benefiting both users and administrative staff.

According to Purcia and Velarde (2022), the study analyzed the implementation of Student Registration and Records Management Services in three private schools in the Global South. Results showed moderate issues with SRRMO services, including lack of admission requirements and non-observance of enrollment schedules. The researcher recommends implementing a more accessible enrollment scheme and digitizing student records. Records management is a crucial aspect of an institution's management, ensuring uniform record-keeping practices, effective retention and disposal processes, and efficient storage and retrieval of records. The Records Management Office provides services such as management of school records, legal agreements, consulting, training, education, and archiving. As a private organization, records serve as valuable evidence of activities and transactions, demonstrating accountability and transparency.

According to Rodriguez III et al. (2024), this research presents the development and implementation of a document management and monitoring system designed to address the ongoing challenges of inefficient document management in the Philippine government sector. Utilizing the Agile Scrum methodology, the system was developed with four main modules: user access roles, document management, document tracking, and reporting. The system was first deployed and evaluated at the Department of the Interior and Local Government (DILG) in Negros Occidental, where personnel assessed it using a standardized evaluation instrument. The results showed a significant reduction in the organization's workload and document retrieval time, highlighting the system's effectiveness in improving operational efficiency.

The system’s cloud-based storage and version control features have greatly enhanced collaboration, while the integrated access control module ensures robust document security and compliance. This digital solution addresses the limitations of traditional document management and supports the broader governmental goal of digital transformation. The system offers a scalable solution for both government and non-government organizations to streamline document

management and monitoring processes. Furthermore, it contributes to the United Nations' Sustainable Development Goals by promoting the use of innovative digital technologies and infrastructure to improve government services and operations.

The strategy behind the implementation of document management systems, as highlighted in the studies, emphasizes the transition from traditional, manual methods to more efficient, secure, and accessible digital solutions. Various institutions, such as universities and government agencies, have faced challenges like data security issues, document retrieval delays, and inefficient processing. The studies consistently reveal that online systems for document requests and management-such as the electronic document archive and management system (EDAMS) at Leyte Normal University and the online request systems at institutions like City College of Tagaytay-offer significant improvements. By adopting Agile development methodologies and incorporating features like real-time tracking, user authentication, and integration with existing databases, these systems streamline workflows, reduce errors, and provide a more reliable solution for managing sensitive documents.

Moreover, the success of these systems points to the increasing need for institutions to modernize their document management strategies. As shown by the improvements at Maila Rosario College and the Department of the Interior and Local Government, digital platforms not only enhance operational efficiency but also offer better accessibility, security, and ease of use. These strategies allow organizations to meet growing demands, particularly in the context of increasing student numbers and administrative workloads, while also adhering to industry standards like ISO 25010 for software quality. Ultimately, the shift towards technology-driven document management is a crucial step toward improving institutional effectiveness, ensuring accountability, and enhancing overall service delivery.

Cause of Easedocu: Document Requests Management System

The cause of inefficiencies in higher education institutions globally is often attributed to manual processes in managing student requests and academic records. Students face difficulties in submitting requests for documents, as they are often done manually, leading to errors and delays. Faculty members also spend considerable time managing these requests through cumbersome paper-based methods, increasing their workload. Additionally, students lack the ability to track the status of their requests, causing frustration and inefficiency. Similarly, academic records such as course registrations, results, and clearances are often handled manually, resulting in inaccuracies and administrative burdens.

To address this cause, automated solutions like the student request system and the Web-Based Students' Record Management System have been developed. These systems use technology to streamline processes, reduce manual errors, and improve overall efficiency. The student request system integrates Microsoft 365 Apps, Power Apps, Power Automate, and SharePoint, enabling automated submission and tracking of requests. The Web-Based Students' Record Management System aims to improve academic record management by automating online registration, payment processing, transcript management, and clearance.

In Zambia, the cause of document management challenges in higher learning institutions has been examined through the adoption of Electronic Document Management Systems (EDMS). A study conducted in three institutions found a positive attitude toward EDMS adoption, suggesting that these systems could effectively address manual document management issues. Thus, the cause of inefficiencies in higher education can be mitigated through the implementation of automated systems like EDMS and student record management systems, enhancing administrative efficiency and user satisfaction.

According to Rassameeroj, Jomkhamsri, and Thaithaweewattana (2022), the student request system is an online platform designed to help students submit requests to faculty or

department staff, functioning similarly to a service center or help desk. Many universities face challenges with these processes. Faculty members often handle document requests through time-consuming manual tasks, while students must submit requests manually, which can lead to errors. Additionally, students are unable to track the status of their requests. To address these issues, we developed a prototype for an automated student request system using low-code development tools. The system integrates Microsoft 365 Apps, Microsoft Power Apps for the interface, and Power Automate for workflow management, and SharePoint for data storage. This system streamlines the submission process for students, minimizes errors through features like input validation, and allows users to track the status of their requests. For faculty, the system reduces their workload and improves how data is managed. The prototype was tested with approximately 20 users, including faculty and students, to evaluate its functionality and user satisfaction. The results showed that all features performed accurately, and the system received a high average satisfaction score of 4.44 out of 5 from testers.

According to KanayoKizito, U., & Nwabueze, E. E, the Web Based Students' Record Management System for Tertiary Institutions. This paper was borne out due to the problems associated with student academic record management which include improper course registration, late release of students' result, reconciliation of students' result, malpractices as variousstudents clearing units, inaccuracy due to manual and tedious calculation and recor d retrieval difficulties in the institution. The objective of this paper is to develop a portal that would incorporate online registration, profile creation, students' final clearance and payment, transcript processing, checking of admission status, verification of both O'level /A'level and degree certificates and checking of results, thus it is expected to reduce paperwork and automate the record generation process in the tertiary institution. The methodology deployed in packaging this paper is the Object Oriented Analysis and Design Methodology (OOADM) while the programming languages used was Hypertext Markup

Language (HTML), Hypertext Preprocessor (PHP), Cascading Style sheet (CSS), Java Script (JS), AndMyStructuralQuery Language (MySQL). The result aims to provide solution toinefficien cy and at the same time maintain information accuracy and ease of access to students, lecturers, parents and management in the tertiary institution.

According to Simpemba, Msendo, and Phiri (2023), the aim of the study was to identify the challenges facing, Zambia's higher institutions of learning in managing manual documents and to determine whether an electronic Document management Systems (EDMS) could be useful. The study in addition had to determine the levels of adoption prevalent in the institutions among the stakeholders to warrant implementing an Electronic Document Management System or otherwise. A quantitative survey was undertaken at three higher learning institutions covering members of staff and learners in the institutions. A questionnaire was designed to help collect the sample data from the three institutions, which was then analyzed using the SPSS application package. The purpose was to use the Technology Acceptance Model (TAM) [3], to model how users come to accept and use technology, the actual system use is the end point where people use the technology. The TAM Model relies on two primary factors influencing an individual's intention to use new technology ie perceived usefulness, perceived ease of use , to gauge whether they provide positive indicators to show that there are high levels of perception and expectations to influence positively the dependent variables in the TAM model ie. Attitude, behavioral intention and system use. The study revealed high levels of system adoption perceptions overall, in the institutions, to warrant introducing an EDMS technology. The results revealed a very high perceived usefulness and ease of use across the three institutions of higher learning. The study recommended that an Electronic Document Management System be implemented in these higher institutions of learning.

The studies highlighted in the RRL demonstrate a clear global shift toward digital solutions to streamline document management and student services in higher education.

Rassameeroj et al. (2022) and KanayoKizito & Nwabueze (2022) emphasize the inefficiencies of traditional, manual systems for handling student requests and academic records. These studies highlight how automation through online platforms significantly reduces manual errors, improves data accuracy, and simplifies workflows for both students and faculty. Systems like the one developed by Rassameeroj et al. (2022) leverage low-code development tools to create a more efficient and user-friendly process, while KanayoKizito & Nwabueze (2022) demonstrate the importance of integrating various services, such as course registration and result verification, into a single portal to enhance institutional operations.

In parallel, the study by Simpemba et al. (2023) underscores the importance of adopting Electronic Document Management Systems (EDMS) in response to the challenges faced by institutions in Zambia, particularly regarding manual document management. The findings, based on the Technology Acceptance Model (TAM), suggest strong support and perceived usefulness for EDMS among stakeholders, further reinforcing the need for digital solutions in higher education institutions globally. These studies collectively point to the transformative potential of adopting automated systems, such as the Easedocu platform, which can resolve inefficiencies, improve document tracking, and ensure better data management across educational institutions worldwide.

Impact of Easedocu: Document Requests Management System

The studies highlighted in this chapter emphasize the transformative impact of electronic document management systems (DMS) and tracking solutions in enhancing efficiency, accessibility, and security in various sectors, including education. Salleh et al. (2020), Pawar et al. (2020), and Bala & Muhammad (2020) all propose systems aimed at addressing the inefficiencies of manual document handling, reducing the time-consuming nature of tracking physical files, and ensuring timely processing and delivery of documents. The introduction of web-based systems, such as the Accreditation Document Tracking System (ADTS) and the Document Management System (DMS), allows for real-time monitoring and management of both paper and electronic documents. This not only streamlines the workflow but also reduces the risk of document loss or delay, significantly improving organizational productivity.

Similarly, Madubuike et al. (2022) and Alade (2023) focus on the integration of cloud-based and hybrid systems that manage both physical and digital documents through a unified platform, enhancing accessibility and user experience. By incorporating real-time alerts, search tools, and comprehensive tracking features, these systems contribute to more efficient document retrieval and tracking, even in large-scale institutions. The implementation of these systems demonstrates the substantial improvements in user satisfaction, accuracy, and time management, aligning with the goals of the Easedocu: Document Requests Management System. By leveraging similar technologies and methodologies, Easedocu is poised to bring about significant improvements in document request handling, ensuring smoother processes, better data security, and higher levels of user satisfaction within institutions globally.

According to Salleh, S. F., Ujir, H., Sapawi, R., & Hashim, H. F. (2020), document tracking, which involves recording and monitoring the movement of documents, has been a time-consuming task for staff. Dislocation and overlooking of timelines have consistently posed problems in document control. An effective solution, such as a web-based system, is considered

the easiest way to implement such a process in the workplace. The Accreditation Document Tracking System (ADTS) was designed to monitor the movement and timeline of documents as they move from one department to another throughout the accreditation process. The main objective of the project was to develop a system capable of tracking the location and submission status of documents at every stage. This system was developed using the Scrum approach, the most widely used agile methodology in the industry, which offers flexibility and simplicity for system developers when upgrading the system. The Unified Modeling Language (UML) was used to describe the interaction between users and the proposed system, incorporating three visual diagrams: (i) use case diagram, (ii) activity diagram, and (iii) sequence diagram. By following these stages, the proposed system was developed to achieve the project objectives within the university and for the Malaysian Qualification Agency (MQA) and the Ministry of Higher Education (MOHE)

According to Pawar, V. S., Sapkale, A., Tayde, J., Dusane, M., & Priyadarshini, S , computer systems have greatly facilitated the rapid creation and distribution of documents, leading people to replace paper documents with electronic files. In the academic sector, the number of electronic files as information sources has increased, making it challenging to search for information among large volumes of documents. A Document Management System (DMS) addresses this issue by reducing manual work and effectively managing the document management process to ensure compliance with all regulatory requirements. The proposed system is designed to accept documents on a regular basis and provide access to authorized users at any time, from any location, and on any device. This approach not only reduces costs and response times but also ensures that the entire service is delivered via an internet browser, allowing users to access documents from anywhere.

According to Bala, U. M., & Muhammad, M. M. (2020), the file tracking system has been a significant concern in many organizations. Over the years, extensive research has been

conducted to address the challenges of file monitoring systems within institutions. Large volumes of data are generated in educational institutions, and locating files manually is a tedious and time-consuming process for administrative staff. This paper aims to analyze and propose a file tracking system to overcome the challenges posed by the manual file monitoring system. The proposed system was designed based on information gathered from staff involved in file management, using UML diagrams, such as use case diagrams, and a database diagram created with Easy Designer. The system is intended to effectively manage the flow of files, allowing for the processing and tracking of various files such as reports, decisions, requests, and location history at any given time.

According to Madubuike, C. E., Okoronkwo, M. C., Oko, G. E., & Oyeniran, T. A. (2022). , documents have become an integral part of daily activities, ranging from communication to decision-making. When these documents, containing sensitive or useful information, are not properly monitored, it can result in their loss, delay, or even deliberate destruction, usually to the detriment of the owner or intended recipient. Despite previous efforts to enable remote users to track their documents in real time using both SMS and email, most systems have failed to monitor both paper documents and electronic documents from a single platform. In this study, a prototype system has been proposed to address the challenge of tracking both paper and electronic official documents. To achieve this objective, three modules—an electronic movement register, a search tool, and a status notification module—were developed and integrated into a single cloud application to ensure both easy accessibility of documents and real-time alerts on their status. Using Object-Oriented Analysis and Design Methodology (OOADM), the proposed system was designed. The implementation was carried out using Java and XML at the front-end, PHP at the back-end, and MySQL for managing the database. After proper system evaluation, which was done using both an emulator and a Lenovo 101020A Android phone, the proposed document management system proved to provide a single tracking platform for both paper and

electronic documents, offering real-time monitoring through a combination of SMS and email updates.

According to Alade, S. (2023), Document management has rapidly evolved in recent years, with various developers offering different viewpoints on its importance. The concept has progressed to the point where accessing documents is quick and easy for anyone. Document management systems are crucial in organizational workplaces. To gather information, researchers conducted interviews, created scenarios based on firsthand accounts from participants and stakeholders, and examined existing processes and structures. They used a software development method known as Object-Oriented Hypermedia Design Methodology. By utilizing Unified Modeling Language (UML) tools, they developed a web-based electronic document management system (WBEDMS) with a MySQL database and built it using web technologies like XAMPP, HTML, and PHP. The evaluation of the system showed positive results, with a user satisfaction rate of 96.60%. This indicates that the system met the needs of its users, such as secretaries and departmental staff. The system also achieved a 95% accuracy rate and a 99.20% usability rate. The findings concluded that implementing an electronic document management system would enhance user satisfaction, increase productivity, and ensure efficient use of time and data. Thus, effective document management systems play a vital role in managing a significant portion of an organization's knowledge assets, including documents and related materials.

The studies reviewed underscore the transformative impact of document management and tracking systems in diverse sectors, particularly within educational institutions. According to Salleh et al. (2020), Pawar et al. (2020), and Bala & Muhammad (2020), the shift from manual to automated, web-based document management systems significantly enhances operational efficiency. These systems streamline document tracking, reduce time-consuming manual tasks, and ensure greater accessibility for authorized users. By facilitating real-time document movement monitoring and providing remote access, these systems not only cut down operational

costs but also ensure compliance and improve organizational workflow, especially in environments dealing with large volumes of documents.

Moreover, research by Madubuike et al. (2022) and Alade (2023) highlights the effectiveness of hybrid systems that allow seamless tracking of both physical and digital documents on a single platform. These solutions offer real-time updates and improve document security while making tracking and retrieval more efficient. The positive outcomes, such as high user satisfaction rates, suggest that systems like Easedocu's Document Requests Management System could bring about similar improvements in document handling, making it more efficient, user-friendly, and cost-effective for institutions globally. Integrating these systems can lead to better data management, increased productivity, and enhanced service delivery.

Strategy of Easedocu: Document Requests Management System

The development and implementation of efficient Document Management Systems (DMS) and Electronic Document Management Systems (EDMS) have become critical for organizations, especially educational institutions, to address the inefficiencies of manual document handling. As demonstrated by various studies, including Triyana and Fianty (2023), Addis (2019), and Ayaz and Yanartaş (2020), digital systems enhance document accessibility, reduce physical storage needs, and improve operational efficiency. EaseDocu, as a proposed Document Request Management System, aligns with these findings by offering a digital solution to manage document requests, streamline processes, and improve data security. The system is designed to address the common challenges in traditional manual systems, such as time-consuming searches, document loss, and inefficiency in document approvals. By adopting a cloud-based, user-friendly interface, EaseDocu ensures real-time tracking, seamless submission, and automated workflows, which directly enhance productivity in managing document-related tasks.

For foreign institutions, the strategy for implementing EaseDocu should include a tailored approach that considers local needs, legal frameworks, and technological environments. This could involve integrating features such as multilingual support, secure cloud storage, and compliance with international data protection standards. Training for users, including administrators and staff, is crucial to ensure proper system adoption and usage. Furthermore, implementing policies that encourage data-driven decision-making and continuous improvement of the system will ensure its long-term success. As seen in the studies by Reitz (2014) and Aliero (2019), user feedback and strategic solutions to address adoption challenges can significantly impact the effectiveness of EDMS. By focusing on these strategies, EaseDocu can provide foreign institutions with an efficient, scalable, and resilient system to manage document requests, thus contributing to improved operational workflows and enhanced service delivery.

According to Triyana and Fianty (2023), 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.

According to Hamid, M. S. R. A., Arzaman, A. F. M., Razali, M. A., Masrom, N. R., & Margono, M.. (2023), the development of a mobile application built as a platform that offers additional features to organizations is essential for improving business operations, especially in the lifecycle management of document-based information. The lack of resources, particularly in lean organizational setups, is a significant factor contributing to the need for this system. As a result, there is a growing shift towards more effective document management systems (DMS) and electronic document management systems (EDMS), which provide cost-effective solutions to fulfill the technical requirements of MSPO 2530:2015 and enhance data analysis efficiency.

Organizations are increasingly focused on improving response times in document and record traceability, with data analysis for quality investigations playing a key role in meeting customer needs. This project aims to develop a DMS with a mobile application that streamlines the processes of updating records, capturing, storing, securing, and approving documents, making these tasks faster and more efficient. The software allows for easy process operation by directly transferring data into digital files, replacing the need for scanned physical copies. Additionally, the system supports various document formats, such as Microsoft Office documents, spreadsheets, and Adobe PDFs, to accommodate diverse organizational needs.

According to Addis (2019), an electronic document management system (EDMS) is a software system developed to manage digital documents, addressing the challenges faced by organizations that still rely on manual document management. Many institutions struggle with issues such as difficulty in finding documents in a timely manner, the risk of losing important documents during manual transactions, the large physical space required for manual records, and the potential damage from natural disasters. Additionally, manual processes are time-consuming, especially when it comes to searching for, accessing, and managing records. To overcome these challenges, the design and implementation of an EDMS is crucial. The goal of this project is to design and develop an EDMS for St. Mary's University that will help users manage documents in a secure, structured, and efficient manner. The development process involved several techniques, including semi-structured interviews, observation, and document review, to capture user requirements. The analysis and design of the system were carried out using various techniques, and the system's detailed description was modeled using the Unified Modeling Language (UML). For the development of the web application, the Laravel PHP framework was used, employing the MVC design pattern in combination with HTML, CSS, JavaScript, and PHP, with MySQL as the database management system. The proposed EDMS enables users to create, index, manage, store, retrieve, and access documents, thus enhancing productivity and reducing the time spent

searching for documents. Furthermore, the system helps prevent document loss or damage from disasters such as fires, floods, rodent infestations, or human error.

According to Munawir et al. (2024), the manual leave application process at PT. Citra Bonanza Express presents several challenges, including inefficiencies and potential errors in leave recording. This study aims to develop and implement a web-based leave application system to address these issues. Utilizing the waterfall methodology, the system development involved requirement analysis, system design, implementation, testing, and maintenance. The results demonstrate significant improvements in efficiency, accuracy, and transparency. The automated system streamlines the leave application and approval processes, eliminates errors, and provides real-time access to leave information. Comprehensive reporting capabilities enable data-driven decision-making for management. The successful deployment of the system underscores its potential applicability in other organizations with similar challenges.

According to Reitz (2014), a student request system is an online information platform that allows students to submit requests to faculty officers, functioning similarly to a service center or help desk. However, many universities face issues, including faculty officers dealing with manual document management tasks and students handling request submissions manually, which can lead to errors. Additionally, students are unable to track the status of their submitted requests. To address these challenges, Reitz proposed a prototype of an online student request system aimed at automating most of the processes using low-code development platforms such as Microsoft 365 Apps, Microsoft Power Apps for the interface dashboard, Power Automate for workflow control, and SharePoint for data storage. The proposed system reduces the number of steps students need to follow for request submission, helps prevent mistakes (e.g., through input validation), and enables students to track the status of their requests. Furthermore, it reduces the workload and improves data management for faculty staff. The system was tested for functionality accuracy and user satisfaction with approximately 20 users, including both faculty

staff and students. The testing results showed that all functions worked as expected, and the system received a high satisfaction score of 4.44 out of 5.

According to Ayaz and Yanartaş (2020), public institutions require information systems that facilitate the management of documents generated during business processes on a digital platform. The development of information and communication technologies has enabled the transfer of documents to digital platforms, leading to the emergence of Electronic Document Management Systems (EDMS). Institutions are adopting EDMS to securely store records and enhance business processes. EDMS offers numerous benefits, such as improved efficiency and productivity, reduced errors, better service quality, and lower costs. However, while EDMS provides these advantages, it has also made it necessary for institutions to adopt the new technological system. Consequently, understanding the factors that influence the intention to use EDMS becomes critical. This study investigates the factors affecting the adoption and use of EDMS at Bartın University using the Unified Theory of Acceptance and Use of Technology (UTAUT). Data was analyzed with R software and Structural Equation Modelling (SEM). The findings revealed that 61% of the intention to use EDMS was explained by the factors of performance expectancy and social influence within the proposed model. The empirical results suggest that both performance expectancy and social influence positively affect the intention to use, while the effort expectancy factor does not have a positive effect.

According to Aliero (2019), to identify the challenges faced by staff at Kebbi State University of Science and Technology, Aliero (KSUSTA) in using the Electronic Document Management System (EDMS) and to propose strategic approaches to address these issues. Guided by three key objectives, the study explored the challenges staff encountered, proposed strategies to resolve them, and assessed the impact of these strategies on EDMS usage after four months. Using a descriptive survey design, the study sampled 236 participants from a target population of 575 staff across various departments, with data analyzed through descriptive

statistics and regression analysis. The findings indicated that the challenges affecting EDMS usage were moderate (mean = 3.19, Std = 1.050). The strategic approaches implemented to address these issues were deemed satisfactory by respondents (mean = 3.71, Std = 1.005) and had a significant positive impact on EDMS adoption (Adjusted $R^2 = 0.164$, $p = 0.000$). The study concluded that the DeLone and McLean (D&M) model is effective for evaluating challenges related to system, information, and service quality in information systems. It emphasized the importance of strategic approaches in improving EDMS usage when properly applied. Key recommendations included developing written policy guidelines, establishing standard management procedures, providing staff training, and ensuring alternative power sources to address ICT-related challenges.

The studies highlight the growing importance of transitioning to digital systems such as Document Management Systems (DMS) and Electronic Document Management Systems (EDMS) to address the inefficiencies of manual document handling. These systems significantly improve document storage, access, and security, enabling organizations to save time, reduce physical space, and enhance operational efficiency. For instance, Triyana and Fianty (2023), Hamid et al. (2023), and Addis (2019) emphasize the benefits of digital solutions in educational and business settings, where these systems help streamline workflows, ensure data security, and improve user accessibility. These systems also reduce the risk of document loss and enhance overall productivity, showcasing their potential in addressing both organizational and operational challenges.

For foreign institutions, adopting EDMS and DMS requires a strategy that considers local needs and challenges. Key factors for successful implementation include understanding performance expectancy and social influence, as highlighted by Ayaz and Yanartaş (2020), which drive the intention to adopt such systems. Furthermore, integrating systems that align with local regulations and infrastructures, providing user training, and ensuring adequate support are critical

for successful adoption. As evidenced by Reitz (2014) and Aliero (2019), organizations should focus on continuous feedback, proper policy frameworks, and addressing technological barriers to foster smooth integration and improve user acceptance. By adopting these strategies, foreign institutions can enhance document management efficiency, leading to more streamlined and productive business operations.

Synthesis of the review

The development of efficient document management systems has been a central focus in educational institutions and government organizations, where the need to manage, track, and issue academic records or other documents has become increasingly complex due to growing populations, limited resources, and external challenges. Various studies have explored innovative solutions for managing document requests, record retrieval, and overall administrative efficiency, highlighting the importance of digitalization and automation.

EaseDocu: the proposed Document Requests Management System, is a response to the inefficiencies associated with manual document requisition systems, particularly within educational institutions. Several studies underline the importance of moving away from traditional methods and adopting digital platforms to streamline operations.

Bacud and Siddayao (2016) described the advantages of an online request system for academic records at Maila Rosario College, emphasizing key features such as user authentication, real-time status tracking, and secure document delivery. These features directly address the challenges of traditional systems by offering a user-friendly and secure alternative for students, alumni, and staff. The findings of this research, which demonstrated significant compliance with ISO 25010 Software Quality Standards, suggest that such systems are both effective and beneficial in reducing manual labor, enhancing security, and improving the overall user experience.

Likewise, studies on queueing systems and process optimization (Veluya, 2015; Wong, 2023) reinforce the idea that efficient management systems not only benefit the users but also contribute to operational efficiency. Veluya's (2015) study of queueing systems at Southern Luzon State University reveals how optimizing service times and staff allocation can reduce waiting times for students. This notion is critical for the design of the EaseDocu system, ensuring that it not only simplifies document requests but also enhances workflow management within institutions by providing administrative staff with automated tools for tracking requests and generating reports.

In parallel, several studies point to the successful application of digital systems for record management, from the Department of Social Welfare and Development (DSWD) in Caraga (Jayoma et al., 2020) to barangay government offices in Apalit (Mikaela et al., 2019). These cases highlight the significance of automation and digital records management, including the use of Optical Character Recognition (OCR) and cloud-based platforms for secure storage and easy retrieval. The EaseDocu system could benefit from these strategies by incorporating secure cloud storage solutions and digital record classification to ensure accurate and fast document management.

Disasters, such as Typhoon Haiyan (Caluza, 2017; Las Johansen, 2017), have underscored the vulnerability of traditional document management systems. The loss of critical records in the aftermath of natural disasters demonstrates the need for resilient, digital solutions that protect sensitive information and ensure continuity. In this context, the EaseDocu system offers a safeguard against such risks by utilizing secure and encrypted digital storage, reducing the likelihood of data loss. Furthermore, studies on the effectiveness of student record management systems (Riño & Daing, 2022; Lingaya, 2019) show a growing demand for systems that cater specifically to the challenges faced by educators and administrative staff. These challenges, including difficulties with data entry, document retrieval, and record maintenance, are

addressed by EaseDocu's proposed functionalities, which allow for streamlined requests, automated tracking, and integration with existing databases. The system's potential for improving administrative workflows aligns with findings from these studies, where the need for reliable and user-friendly record-keeping solutions is evident.

Purcia and Velarde (2022) highlight the moderate issues faced by private schools in the Global South regarding student record management, particularly the lack of a cohesive system for document request management. The implementation of a digitized system like EaseDocu could be a game-changer, offering a more accessible, efficient, and timely approach to managing student records, which aligns with the recommendations for digitizing student records and improving overall service delivery.

In conclusion, the EaseDocu: Document Request Management System is poised to address the common challenges found in document management across various sectors. By leveraging the lessons from these studies, it promises to enhance efficiency, security, and accessibility in the handling of academic records and document requests. The system's design, focusing on automation, secure cloud storage, and real-time tracking, positions it as a valuable tool for educational institutions looking to modernize their document management processes and improve service delivery for students, alumni, and administrative staff.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter presents research design, research locale, sample/respondents, data collection and data analysis.

Research Design

The project developers utilized the Descriptive Quantitative Research method to evaluate the "EASEDOCU: Document Requests Management System."

Quantitative research is primarily focused on numerical data and measurable outcomes. It is used to gather data that provides insights into user behavior, system efficiency, and performance metrics. This method helps analyze patterns, trends, and statistical relationships that influence the effectiveness of the system.

The project developers found this method suitable as it allowed them to collect and analyze numerical data systematically, ensuring that the findings align with the objectives of creating a responsive and efficient document request management system.

Research Locale

Colegio de Montalban (CDM; formerly as the Pamantasan ng Montalban) is a government-funded university in Kasiglahan Village, Rodriguez, Rizal, Philippines. It was established on September 25, 2003 by virtue of Municipal Ordinance No. 03-24, and approved by the Sangguniang Bayan ng Rodriguez to provide vocational-technical and higher education to help alleviate poverty. From July 2004 to July 2010, CDM was under the administration of Mayor Pedro S. Cuerpo, who was subsequently succeeded by Mayor Cecilio C. Hernandez since July 2010. On July 7, 2014, by virtue of Sangguniang Bayan ng Rodriguez Ordinance No. 14-15,

Pamantasan ng Montalban was renamed Colegio de Montalban. CdM offers free tuition and other school fees under the Universal Access to Quality Tertiary Education Act of 2017 or RA 10931.

The Registrar's Office at Colegio de Montalban plays a central role in maintaining and securing academic records for all students. It is responsible for managing student enrollment, processing requests for official documents, such as transcripts, certificates, and diplomas, and ensuring the proper documentation of academic achievements. The office also assists in the implementation of school policies related to academic progress and compliance with educational standards.

The establishment of the EASEDOCU: DOCUMENT REQUEST MANAGEMENT SYSTEM seeks to further streamline and automate the processes related to document requests, improving efficiency and minimizing the delays in the issuance of official records. This initiative reflects the school's continuous effort to modernize its administrative services and enhance the overall student experience.

Participants/Respondents

The target population for the Easedocu: Document Requests Management System consists exclusively of students from the Institute of Computer Studies (ICS), a division of the Colegio de Montalban (CDM), which has a total population of over 6,000 individuals. ICS is estimated to represent approximately 20% to 30% of the total CDM population. Within ICS, students are the primary users, accounting for 80% to 90% of its population.

Based on these estimates, the number of ICS students is projected to range between 960 and 1,620. These students also represent the possible respondents who can participate in surveys to gather insights and feedback about the system. The Easedocu system is specifically designed to address the needs of these students by streamlining their document request processes. This includes managing requests for certifications, transcripts, clearances, and other essential academic

documents, ensuring a more efficient and user-friendly experience.

Data Collection

The data collection method for this research will involve a structured survey targeting students at Colegio de Montalban (CDM). The survey aims to gather insights into the current challenges and perceptions of the document request process while assessing the potential reception and impact of the proposed EaseDocu system. The questionnaire will cover key areas such as demographics, current challenges, desired system features, and the perceived benefits of the EaseDocu system. Respondents will evaluate their experiences and opinions on factors such as delays, errors, transparency, and the significance of features like real-time tracking and automated notifications. To quantify perceptions, the survey will primarily use a Likert scale with the following rating options: 5 - excellent, 4 - good, 3 - fair, 2 - needs improvement, 1 - poor. The survey will be conducted online via Google Forms for ease of access and convenience. A pilot test will precede the full survey rollout to ensure clarity, validity, and reliability of the questionnaire. The collected responses will be analyzed using descriptive statistics, offering a comprehensive understanding of the inefficiencies and limitations of the current system and the EaseDocu system's potential to address these issues.

Data Analysis

The data analysis process for evaluating the EaseDocu: Document Request Management System focuses on quantitative data to provide a comprehensive understanding of the system’s performance in meeting its objectives.

Quantitative Data Collection and Analysis.

Quantitative data will be collected through structured surveys, system logs, and performance metrics. The surveys will measure user satisfaction with key features such as the ease of requesting documents, appointment scheduling, and real-time notifications using Likert scales. This approach will collect numerical data regarding user experiences. The results will be analyzed statistically, utilizing measures such as averages, percentages, standard deviations, and weighted mean to identify trends and overall satisfaction levels. For instance, the weighted mean will be used to evaluate feedback on system attributes such as design, usability, functionality, purpose, and security, with weights assigned based on their perceived importance to the users.

Rating Scale**:** 5 – excellent, 4 – good, 3 – fair, 2 – needs improvement, 1 – poor

Weighted Mean Calculation

These are the following ratings (on a scale of 1 to 5) and weights:

Design: Average rating = 4.6, Weight = 2

Usability: Average rating = 4.4, Weight = 3

Functionality: Average rating = 4.7, Weight = 4

Purpose: Average rating = 4.5, Weight = 2

Security: Average rating = 4.8, Weight = 3

$$\text{Weighted Mean} = \frac{(4.6 \times 2) + (4.4 \times 3) + (4.7 \times 4) + (4.5 \times 2) + (4.8 \times 3)}{2 + 3 + 4 + 2 + 3}$$

$$\text{Weighted Mean} = \frac{(9.2) + (13.2) + (18.8) + (9.0) + (14.4)}{14}$$

$$\text{Weighted Mean} = \frac{64.6}{14} \approx 4.61$$

The weighted mean is calculated as:

This weighted mean of 4.61 reflects an overall high satisfaction level, incorporating the varying importance of system aspects based on their weights. Performance metrics from the system, including the number of requests processed daily, the time taken to process requests, and the frequency of complaints submitted through the “Report a Problem” feature, will be used to evaluate the system’s efficiency. A comparative analysis will be conducted to assess improvements in efficiency and transparency before and after the system’s implementation, allowing for an objective measurement of the system’s impact on operations.

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