



Eastern Visayas State University – Ormoc Campus Theses/Capstone Project Manuscript Archiving
System

A Capstone Project Proposal
Presented to the
Faculty of Bachelor of Science in Information Technology
Computer Studies Department
Eastern Visayas State University – Ormoc City Campus

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

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ABSTRACT

The rapid increase of digital information across various sectors has created an urgent demand for efficient archiving system to preserve and manage data systematically. Small to large academic institutions handle multiple manuscripts every year, this includes Eastern Visayas State University – Ormoc Campus specifically the Computer Studies Department. The department is still relying on physical copies of these manuscripts, thus needing more physical space for these physical copies. The need for a digital archiving system is imperative for EVSU-OC, as they continue to rely on traditional method of preserving these academic papers.

The transition to a modern archiving system is essential to streamline document management processes, enhance accessibility for future reference, and ensure long-time preservation of invaluable academic resources. With this, we have developed an innovative solution to significantly enhance document management and preservation at our institution. This archiving system will transform the traditional way of submitting physical copies of final manuscripts into digital ones. Which is easier, less time consuming, and easy accessibility of manuscripts for future reference. Old manuscripts are also accessible in this system.

1.0 CAPSTONE PROJECT DESCRIPTION

In the age of digitalization and infobesity, educational institutions face a growing challenge of effectively managing and preserving their intellectual assets. Eastern Visayas State University – Ormoc Campus, as a leading educational institution, is not an exception to this problem. Due to the large number of academic theses and capstone project manuscripts, the need for a comprehensive archiving system has become more critical than ever.

The EASTERN VISAYAS STATE UNIVERSITY – ORMOC CAMPUS WEB-BASED THESIS/CAPSTONE PROJECT MANUSCRIPTS ARCHIVING SYSTEM is a capstone project proposal aimed at providing a complete web-based platform for preserving, managing, and retrieving theses and capstone projects at the Eastern Visayas State University (EVSU) Ormoc Campus. The system will be designed to expedite the entire process of preserving, searching, and accessing these academic works, while also offering a user-friendly interface for both students and professors.

1.1 OVERVIEW OF THE CURRENT STATE TECHNOLOGY / BACKGROUND OF THE STUDY

Digital archiving system is software for managing documents and data that are stored digitally. Over the years, EVSU-OC has gained a reputation for nurturing research and academic excellence among its students. The institution is extremely proud of the research and scholarly achievements of its graduates, which culminate in their theses and major projects. However, the current process of managing and archiving these valuable manuscripts may impose several challenges.

At present, the submission and storage of thesis and capstone project manuscripts are largely dependent on physical copies. This leads to difficulties in indexing, accessing, retrieval, and sharing of these scholarly works among students, faculties, instructors, and researchers. Furthermore, the lack of

centralized archiving system might result in instances of data loss, limited access to these scholarly works, and time-consuming administrative efforts.

The proposed EVSU-OC Web-based Thesis/Capstone Project Manuscripts Archiving System aims to meet these challenges by providing a secure, user-friendly interface, and versatile platform that manages theses and capstone project manuscripts. By digitalizing the archiving process, we envision a comprehensive solution that not only simplifies record-keeping but also encourages knowledge sharing, collaboration, and academic growth.

1.2 CAPSTONE PROJECT OBJECTIVES

1.2.1 GENERAL OBJECTIVE

- ✓ To provide a complete web-based platform for preserving, managing, and retrieving theses and capstone projects at the Eastern Visayas State University (EVSU) Ormoc Campus.

1.2.2 SPECIFIC OBJECTIVES

- ✓ To expedite the entire process of preserving, searching, and accessing these academic works, while also offering a user-friendly interface for both researchers and professors.
- ✓ To make the process of archiving theses and capstone project manuscripts as simple as possible.
- ✓ To speed up the entire process of conserving, searching, retrieval, and accessing theses and capstone project manuscripts, while offering a secured centralized database, guaranteeing a consistent experience for all users and secured information.

4.4 SCOPE AND LIMITATIONS OF THE PROJECT

The scope for this proposed project is within Eastern Visayas State University – Ormoc Campus specifically in Computer Studies Department only. The main focus of the system is to centralize the

storage, organization, and management of thesis and capstone project manuscripts, therefore making the entire process smooth, and promoting efficient retrieval and access.

While the capstone project “Eastern Visayas State University – Ormoc Campus Web-Based Thesis/Capstone Archiving System” provides an innovative approach for archiving, organizing, and retrieving academic works, several limitations must be acknowledged. Here are the following limitations:

- ✓ The project is limited only to the storing of the capstone project manuscript and academic thesis in one system.

1.4 SIGNIFICANCE OF THE CAPSTONE PROJECT

Capstone projects are generally developed to vitalize student’s critical thinking, oral communication skills, teamwork abilities, research, and problem-solving skills. It will also help students to develop them into well-rounded and well-prepared graduates. Archiving management system is important to each educational institution as well as to the field of Information Technology, as it helps store, index, classify, and manage digital scholarly papers while ensuring the integrity and maintenance throughout the lifecycle. It also makes sure that the scholarly papers are stored in an organized manner so that the students, researchers, and instructors can streamline the process of retrieving and accessing the papers.

Archiving systems enable businesses and organizations to meet legal requirements by preserving historical records and sensitive information. Moreover, they contribute to enhancing the decision-making process by providing a reliable repository of past data and trends. The archiving system is crucial to information technology because it can guarantee the longevity, accessibility, and integrity of digital information, which forms the foundation of a strong and long-lasting IT infrastructure.

2.0 RELATED LITERATURE AND STUDIES

According to Zuheng Lv & Heyuzi Shi (2020):

Archive management is one of the routine tasks of colleges and universities. The effective use of college archives is of great significance to college brand building, cultural heritage, teaching reform, scientific research and innovation. It improves the efficiency of archives staff, reduces the burden on staff, and increases the utilization rate of college archives.

According to Zhaoyan Rong (2020):

With the continuous development of society and the arrival of the information age, the mode of information resource sharing in university archives management has become the mainstream trend of development.

According to Zhang, J., Wang, Q., Pan, Y., & Liu, X. (2021):

Formulate an electronic file structure that meets their own needs and provides users with a wealth of data entry and collection methods. It will gradually become a mainstream drawing and document management system model. It will have a better development prospect.

According to Suhada S, Amali N, R Takdir, and Pakaya, G (2021):

The purpose of this study is to create an administrative information system that is capable of managing and archiving documents. The system development employed a prototype method. The development resulted in web-based information systems document archiving.

According to Zuheng L, and Jinsong W (2020).

The development of archiving system deepens the reform of the education and teaching system in colleges and universities, at the same time, the system can provide theoretical and practical guidance for solving the problems existing in colleges and universities.

According to Jaymer M.J, Elbert S.M, Edsel Matt O.M, (2020):

The Department of Social Worker and Development (DSWD) Caraga continuously generates records daily. Their records management system is conventional, giving them hard time retrieving and keeping track of the records. The Records Management System was developed to assist the DSWD records officer and its offices for fast record tracking that provide fast and efficient services. It is an application for digital archiving and indexing of documents cataloged into administrative, financial, legal, personnel records, and social services records.

According to Moon, Seonghyeon & Shin, Yoonjung & Hwang, Bon-Gang & Chi, Seokho. (2018):

Current economic, social and political situation is crucial to successfully conduct and complete overseas construction. Getting those kinds of information promptly may be a challenge for the contractors, because the useful information usually exists in an unstructured form which needs additional data pre-processing before analysis. The primary purpose of this research is to develop a prototype of a construction document management system for international contracts, which provides the user-needed information the system was as UNI-Tacit (User-Needed Information).

According to Aloklu, Jamilah (2019):

Educational institutions face the challenge of coping with large volumes of information presented as printed or paper-based and electronic data. Traditional archives adopted for depositing printed

documents have been replaced recently with digital archival and data management systems to organize and store all the possible information collected and used in universities and colleges.

According to Farry, C. (no date):

Academic archives and special collections have long been valued as experimental spaces for undergraduate research instruction, particularly at small institutions with teaching missions and a focus on undergraduate education. Moving beyond skills-based instruction, academic librarians are exploring how digital archives represent a pedagogical opportunity for innovative approaches to undergraduate instruction in the digital humanities. Archives instruction that focuses on critical engagement with digital archives can enable students to confront epistemic questions around the representation of archival records in a digital environment and what it means to organize, describe, and publish cultural materials online.

According to Das, R., Jain, K.K. and Mishra, S.K. (2018):

Archival research is a much underrated and under-utilized method of research in management studies. Yet multi-disciplinary undertakings being observed in recent times, such as in knowledge management (KM) systems, business history and social network studies, among others, indicate that there is a lot of potential to be explored and archive methods strengthen, contextualize, and broaden any research project, especially when studying businesses and organizations.

3.0 TECHNICAL BACKGROUND

The Eastern Visayas State University – Ormoc Campus Web-Based Thesis/Capstone Project Manuscripts Archiving System is a comprehensive digital platform designed to streamline the management, storage, and accessibility of thesis and capstone project manuscripts for students, faculty, and other stakeholders at the Eastern Visayas State University’s Ormoc Campus. The system must meet

all the researchers and archivers needs, starting with the process of archiving and retrieving of manuscripts from old to new one. The users must also expect a functionality in viewing the manuscript like a flipbook, where they can turn the pages left to right like an actual book.

MySQL password_hash function

In the realm of user authentication and data security, MySQL's password_hash function becomes a critical element. The password_hash function is part of the bcrypt algorithm, a widely used method for securely hashing passwords. When the admin creates an account for a staff or updates their password within the manuscript archiving system, the password entered by the admin will pass through the password_hash functions. This function takes care of hashing the password, ensuring that the actual password is never stored directly in the database.

```
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    // Retrieve form data
    $username = $_POST["username"];
    $email = $_POST["email"];
    $password = $_POST["password"];
    $confirmPassword = $_POST["confirmPassword"];
    $employee_id = $_POST["employee_id"];

    // Check if passwords match and meet the length requirement
    if ($password === $confirmPassword && strlen($password) >= 8) {
        // Hash the password
        $hashedPassword = password_hash($password, PASSWORD_BCRYPT);

        // Insert data into the database
        $sql = "INSERT INTO faculty (username, email, password, employee_id) VALUES ('$username', '$email', '$hashedPassword', '$employee_id')";

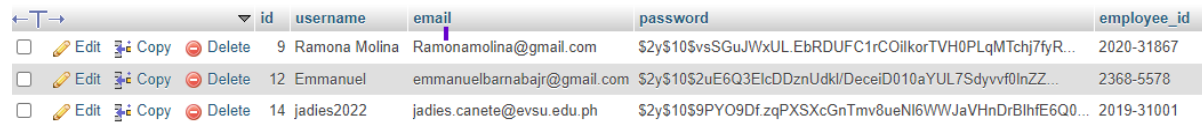
        if ($conn->query($sql) === TRUE) {
            $message = "Account Successfully Registered";
        } else {
            $message = "Error: " . $sql . "<br>" . $conn->error;
        }
    } else {
        $message = "Password mismatch or does not meet the minimum length requirement";
    }

    // Close the database connection
    $conn->close();
}
```

Figure 1. MySQL password_hash function

For instance, consider a user creating an account to access the manuscript archiving system. When they set their password, the system applies the password_hash function to convert the plain-text password

into a complex and unique hash. This hash, which is a long string of characters, is what gets stored in the MySQL database.



The image shows a screenshot of a MySQL database table. The table has five columns: 'id', 'username', 'email', 'password', and 'employee_id'. There are three rows of data. Each row has a checkbox, an 'Edit' button, a 'Copy' button, and a 'Delete' button. The 'password' column contains long, complex strings of characters, which are hashes of the passwords.

	id	username	email	password	employee_id
<input type="checkbox"/> Edit Copy Delete	9	Ramona Molina	Ramonamolina@gmail.com	\$2y\$10\$vsSGuJWxUL.EbRDUFc1rCOilkorTVH0PLqMTchj7fyR...	2020-31867
<input type="checkbox"/> Edit Copy Delete	12	Emmanuel	emmanuelbarnabajr@gmail.com	\$2y\$10\$2uE6Q3ElcDDznUdkl/DeceiD010aYUL7Sdyvvf0InZZ...	2368-5578
<input type="checkbox"/> Edit Copy Delete	14	jadies2022	jadies.canete@evsu.edu.ph	\$2y\$10\$9PYO9Df.zqPXSXcGnTmv8ueNI6WWJaVHnDrBlhfE6Q0...	2019-31001

Figure 2. MySQL database hashed passwords

Now, during the login process, when the user enters their password, the system again uses the password_hash function to hash the entered password. It then compares this hashed input with the stored hash in MySQL database.

Heyzine Flipbook Maker REST API

In our manuscript archiving system, we have implemented an innovative approach to enhance the visualization of our findings and results. To provide readers with more engaging and dynamic experience, we have incorporated Heyzine flipbook maker, a versatile tool designed to transform static PDF files into interactive, page-turning digital publication that mimic the experience of flipping through the pages of physical book.

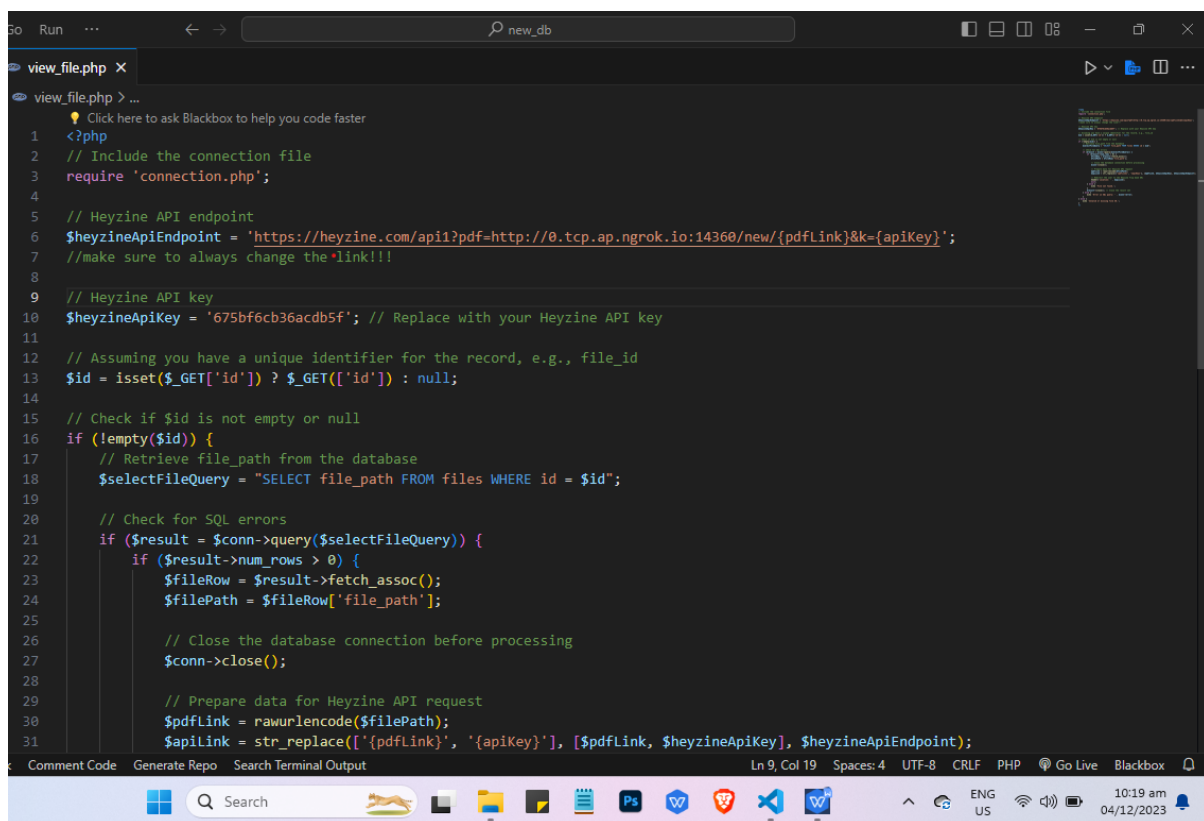
Integrating Heyzine REST API

One of the APIs Heyzine uses is REST API. REST stands for Representational State Transfer, it is an architectural style that defines a set of recommendations for designing loosely coupled applications that use the HTTP protocol for data transmission (Monus, 2022).

The integration starts with adding or calling the REST (Representational State Transfer) endpoint client or server-side, to convert the PDF and get a JSON (JavaScript Object Notation) response with the links

to flipbook, thumbnail, and PDF. The endpoint will send the response right after the conversion ends. We make sure the client has a long enough time out for large documents.

The REST architecture allows API providers to deliver data in multiple formats such as plain text, HTML, XML, YAML, and JSON, which is one of its most loved features. With the increasing popularity of REST, the lightweight and human-readable [JSON format](#) has also quickly gained traction, as it's so well suited for quick data exchange.



```
view_file.php > ...
1  <?php
2  // Include the connection file
3  require 'connection.php';
4
5  // Heyzine API endpoint
6  $heyzineApiEndpoint = 'https://heyzine.com/api1?pdf=http://0.tcp.ap.ngrok.io:14360/new/{pdfLink}&k={apiKey}';
7  //make sure to always change the link!!!
8
9  // Heyzine API key
10 $heyzineApiKey = '675bf6cb36acdb5f'; // Replace with your Heyzine API key
11
12 // Assuming you have a unique identifier for the record, e.g., file_id
13 $id = isset($_GET['id']) ? $_GET['id'] : null;
14
15 // Check if $id is not empty or null
16 if (!empty($id)) {
17     // Retrieve file_path from the database
18     $selectFileQuery = "SELECT file_path FROM files WHERE id = $id";
19
20     // Check for SQL errors
21     if ($result = $conn->query($selectFileQuery)) {
22         if ($result->num_rows > 0) {
23             $fileRow = $result->fetch_assoc();
24             $filePath = $fileRow['file_path'];
25
26             // Close the database connection before processing
27             $conn->close();
28
29             // Prepare data for Heyzine API request
30             $pdfLink = rawurlencode($filePath);
31             $apiLink = str_replace(['{pdfLink}', '{apiKey}'], [$pdfLink, $heyzineApiKey], $heyzineApiEndpoint);
```

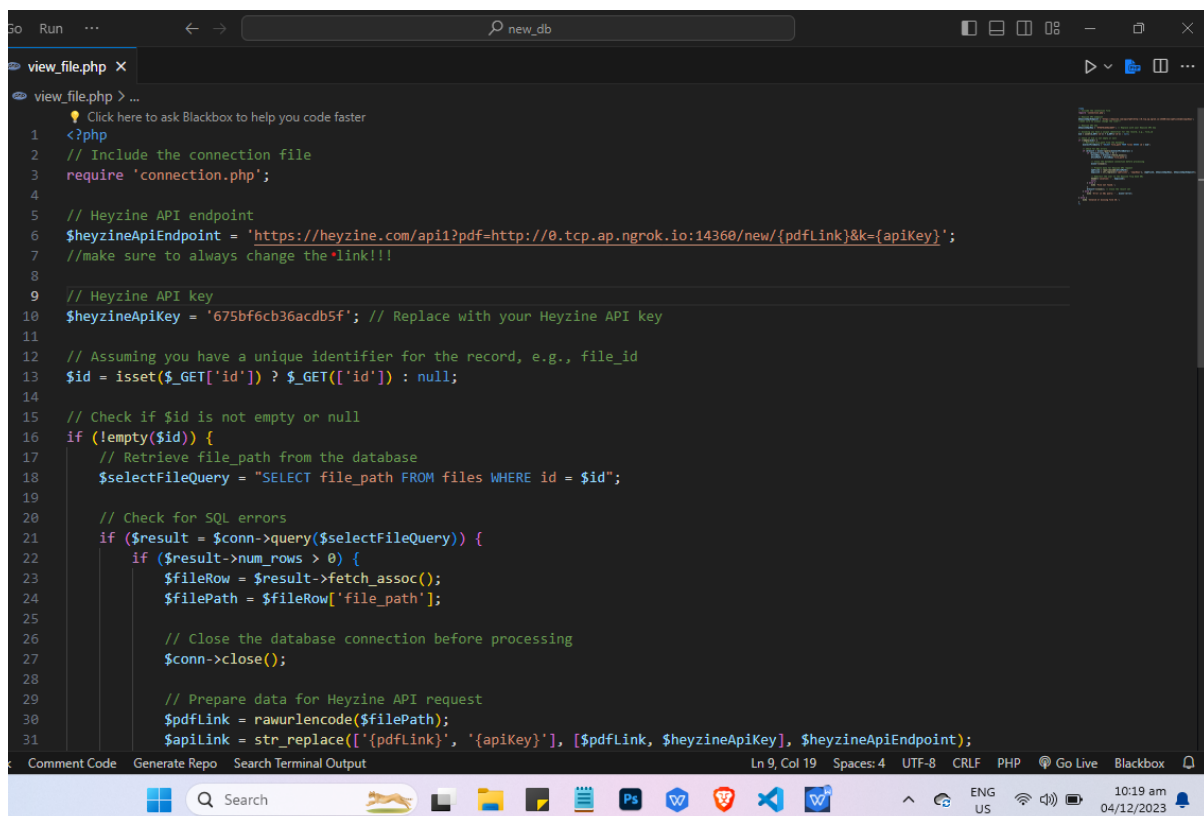
Figure 3. REST API endpoint

3.1 TECHNICALITY OF THE CAPSTONE PROJECT

Heyzine Flipbook Maker

Heyzine is a flipbook maker that lets you create stunning online magazines, catalogs, brochures, reports, restaurants menus, or any other kind of publication. Heyzine is a feature rich platform that enables the transformation of static PDF documents into interactive and visually engaging flipbooks. This integration serves to elevate the presentation of information and improve accessibility for the users.

The integration starts with adding or calling the REST (Representational State Transfer) endpoint client or server-side, to convert the PDF and get a JSON (JavaScript Object Notation) response with the links to flipbook, thumbnail, and PDF. The endpoint will send the response right after the conversion ends. We make sure the client has a long enough time out for large documents.



```
view_file.php > ...
  Click here to ask Blackbox to help you code faster
1  <?php
2  // Include the connection file
3  require 'connection.php';
4
5  // Heyzine API endpoint
6  $heyzineApiEndpoint = 'https://heyzine.com/api1?pdf=http://0.tcp.ap.ngrok.io:14360/new/{pdfLink}&k={apiKey}';
7  //make sure to always change the link!!!
8
9  // Heyzine API key
10 $heyzineApiKey = '675bf6cb36acdb5f'; // Replace with your Heyzine API key
11
12 // Assuming you have a unique identifier for the record, e.g., file_id
13 $id = isset($_GET['id']) ? $_GET['id'] : null;
14
15 // Check if $id is not empty or null
16 if (!empty($id)) {
17     // Retrieve file_path from the database
18     $selectFileQuery = "SELECT file_path FROM files WHERE id = $id";
19
20     // Check for SQL errors
21     if ($result = $conn->query($selectFileQuery)) {
22         if ($result->num_rows > 0) {
23             $fileRow = $result->fetch_assoc();
24             $filePath = $fileRow['file_path'];
25
26             // Close the database connection before processing
27             $conn->close();
28
29             // Prepare data for Heyzine API request
30             $pdfLink = rawurlencode($filePath);
31             $apiLink = str_replace(['{pdfLink}', '{apiKey}'], [$pdfLink, $heyzineApiKey], $heyzineApiEndpoint);
```

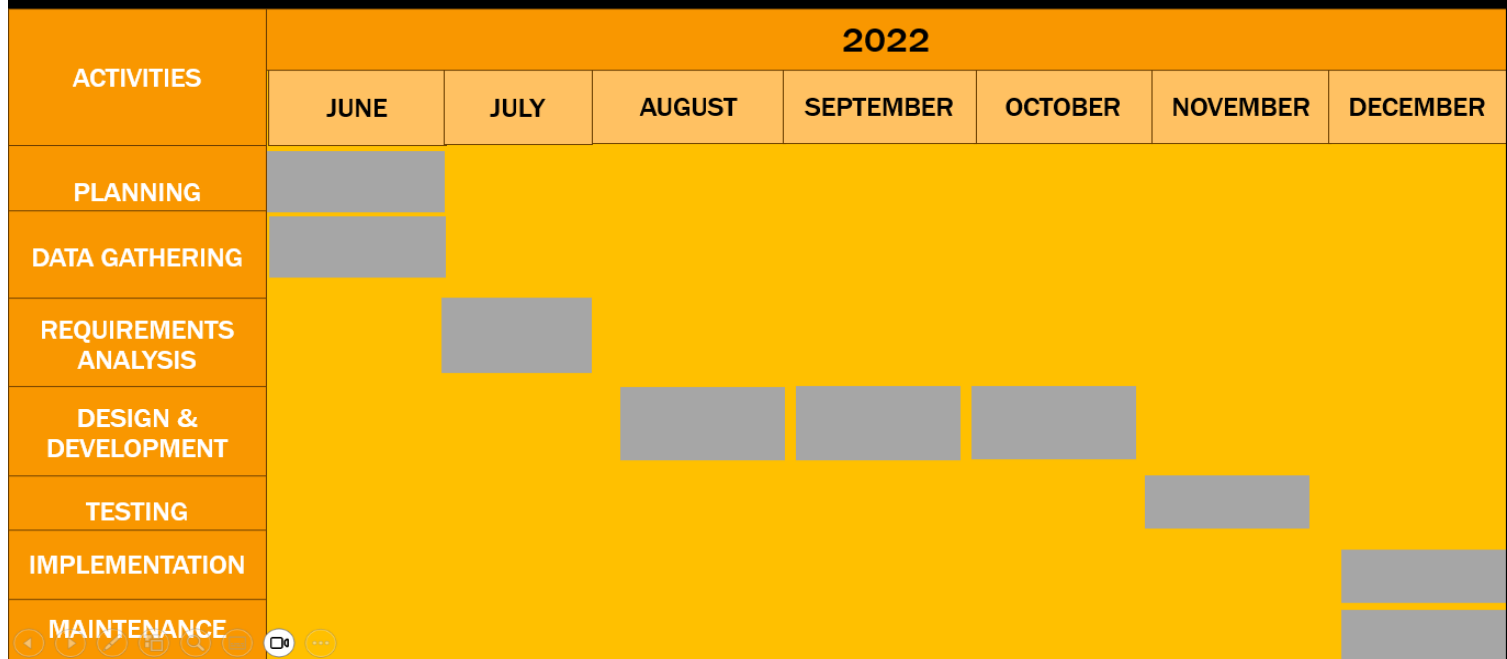
Figure 3.PDF to Flipbook REST API

3.2 DETAILS OF THE TECHNOLOGIES TO BE USED

- ✓ RDBMS (Relational Database Management System): A dependable Relational Database Management System will be used to store and manage the thesis and capstone project papers, as well as their metadata. MySQL, a popular open-source RDBMS, might be a good option. Because of its resilience, versatility, and scalability, it is perfect for managing massive amounts of data.
- ✓ Front-End Technologies: The web application's front-end, with which users will interact directly, will be built using conventional front-end technologies. The visual layout, styles, and interactive aspects of the user interface will be created using HTML, CSS, and JavaScript. This may also be explored to improve user experience and responsiveness.
- ✓ Server Hardware: Depending on the scope of the project and the anticipated number of users and documents, a dedicated computer server to host the application and database may be required. To guarantee seamless operation and data availability, server hardware should fulfill performance, storage capacity, and reliability criteria.
- ✓ Hardware: Smartphones or printer scanner that can scan images. The scanned images captured by smartphones or scanners can be converted into PDF file. Example of this printer scanners: Epson Perfection V600 Photo Scanner, Fujitsu ScanSnap iX500, Canon imageFORMULA DR-C225 II.
- ✓ Software: OPTICAL CHARACTER RECOGNITION (OCR) and PDF Conversion. After capturing images of the manuscripts, you'll need software for Optical Character Recognition (OCR) to convert the scanned images into editable text, and then you can save them as PDF files. Example: Adobe Acrobat, CamScanner for smartphones, Adobe Scan, Tiny Scanner, etc.

3.3 HOW THE PROJECT WILL WORK

HOW THE PROJECT WILL WORK



METHODOLOGY

In this paper, our proposed system has been developed based on the Software Development Life Cycle (SDLC) standards which is one of the popular approaches in developing a software. To define and present solutions for the problems identified in this study, the proposed system was developed using the Rapid Application Development model (RAD). Quantitative research method is also applied in this system since it involves the collection and analysis of numerical data from the end users.

According to kissflow.com, Rapid application development model is a software development methodology focusing on building application in a short period of time by rapidly producing prototype of end user, it is based on prototyping and quick feedback with less emphasis on specific planning. With RAD, developers may quickly iterate and update the software without having to start from scratch. This ensures that the outcome is more quality-focused and meets the needs of the end customers.

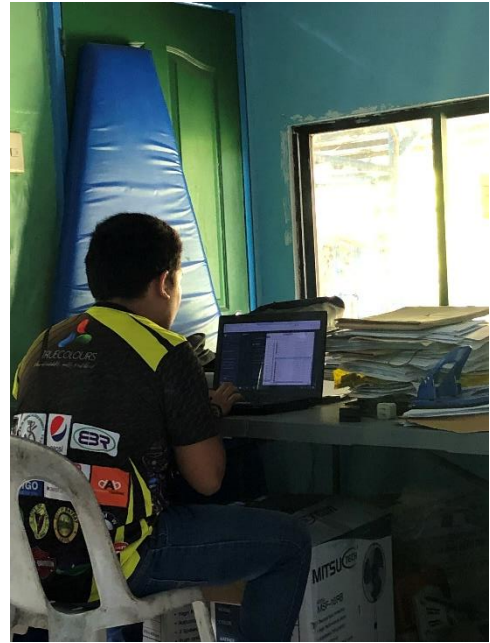
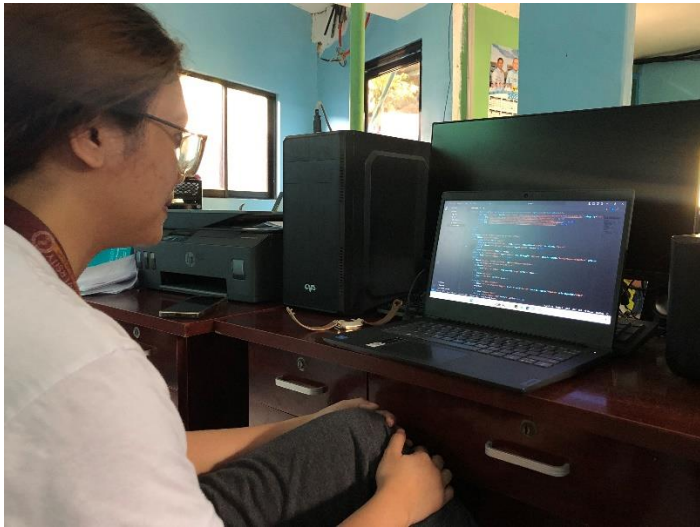
Planning and Data Gathering Stage

In this stage we plan to develop a web-based online manuscript archiving system. We gather some information about how the manuscripts especially in Computer Studies Department were stored and organized. After looking for manuscripts that were submitted in physical form, we got some idea on how to develop the system.



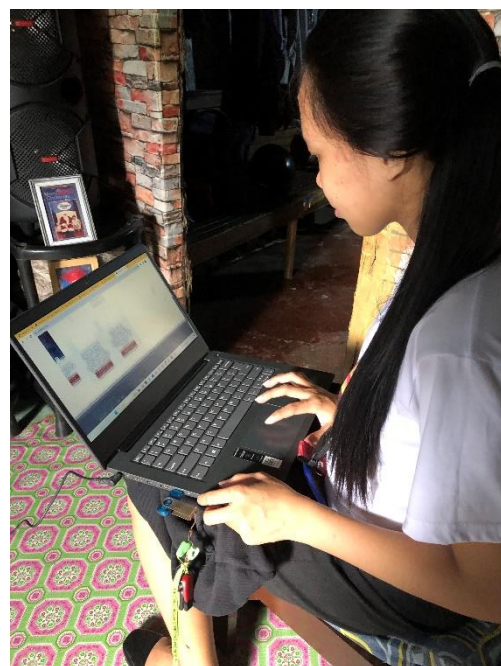
Design & Development

In this stage, we developed and designed an archiving system that will provide the needs of the researchers, instructors, staff, or the entire Computer Studies Department. It will be easy for the researchers to search and retrieve manuscripts, and for the staff or department to store and organize the manuscripts. After deciding the design and features, the programmer starts to develop the functionality of the system.

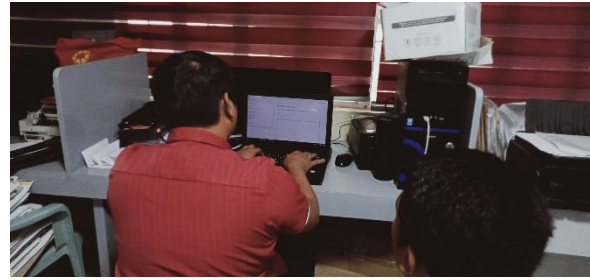


Testing and Implementation

In this stage, the system was tested by different level of users. It was tested by faculty member of the Computer Studies Department, student of EVSU-OC, and researchers outside of the EVSU-OC.



Faculty member from Computer Studies Department testing the system.



Data Analysis

This section presents the analysis of the data collected and gathered from the students of Computer Studies Department, outside of the Department, and staff in the Computer Studies Department.

Characteristics of the Respondents

Respondents	Frequency
Students of EVSU-OC specifically from Computer Studies Department	50
Students outside EVSU-OC	10
Faculty or Staff	2

Total: 10	
-----------	--

Table 1.0 Frequency of Respondents

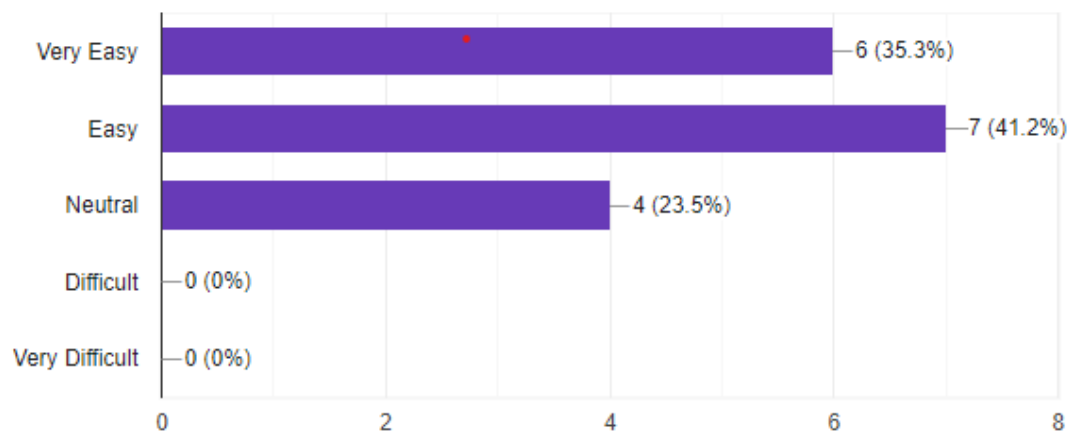
In Figure 1.0, shows the number of respondents who have answered the User-Acceptability EVSU-OC Manuscript Archiving System Survey with a total of 19 respondents. It is composed of faculty from the said department, students from the department, and students from outside the department.

Interpretation of Data

A scale of 1 to 5 is used, where 1 being the lowest and 5 being the highest.

The first survey question is, “How easy was it to learn and use the Manuscript Archiving System?”

Number of respondents: 17

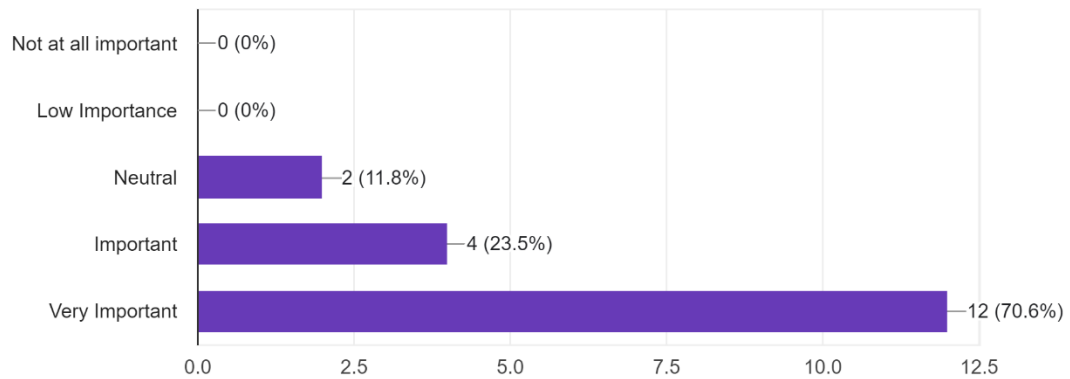


There are 7 respondents who find the manuscript archiving system easy to learn and use, 6 respondents who find the system very easy to learn and use, and 4 respondents who find the system neutral for the easiness to learn and use. Therefore, there are more users that find the system easy to learn and use.

Second question:

How important is it to you that the archiving system be secure and reliable?

17 responses



The table above shows the number of respondents who find the system very important to be secure and reliable. There were 12 respondents who responded to the second question which interpret that the users are considerate about the archiving system to be secure and reliable.

Third question:

“What do you like most about the system?”

Most of the respondents answered for the USER-INTERFACE of the system.

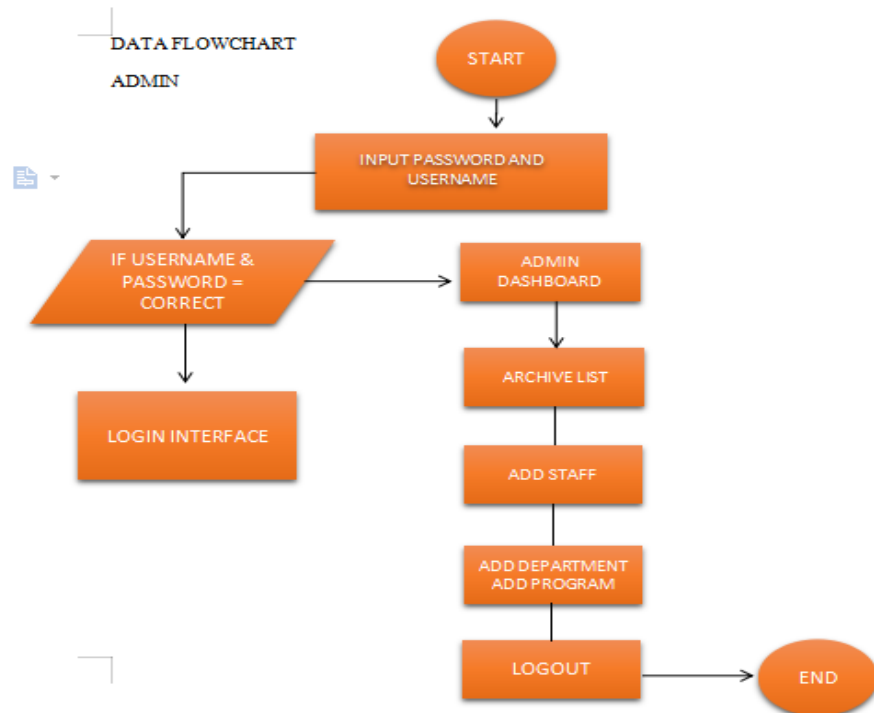
Fourth question:

“What are some specific features you find particularly useful or helpful?”

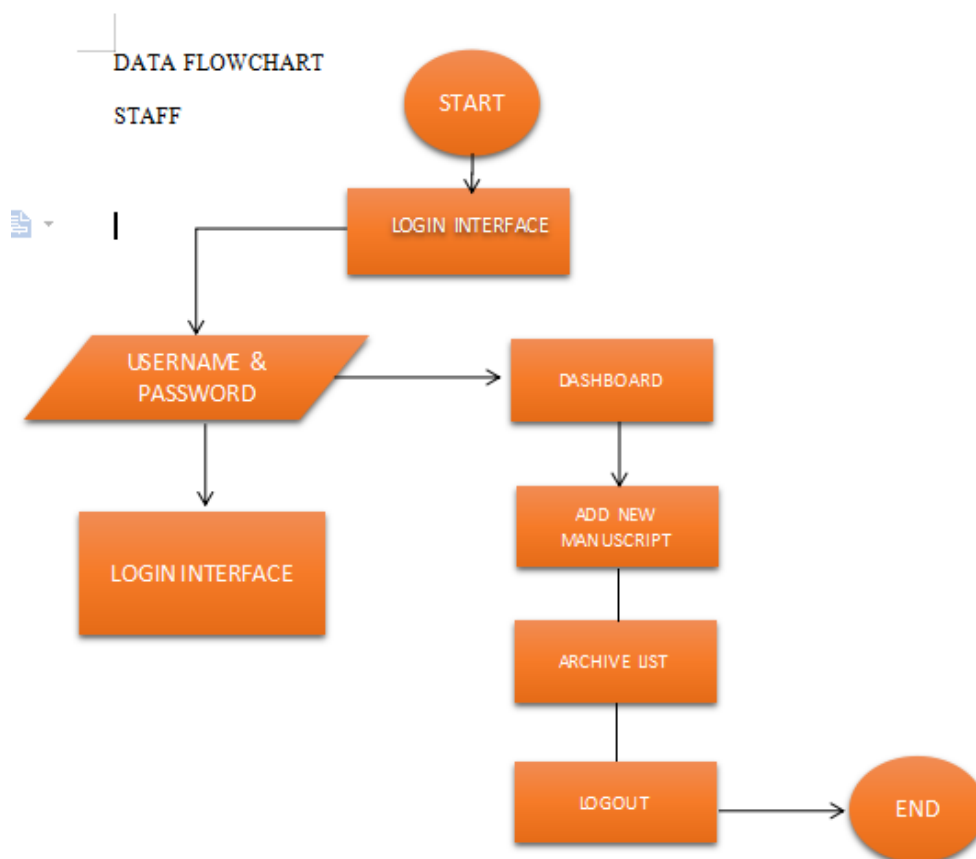
The majority of the respondents answered for SEARCH BAR where you can search for manuscripts and can view and download it.

Appendix A

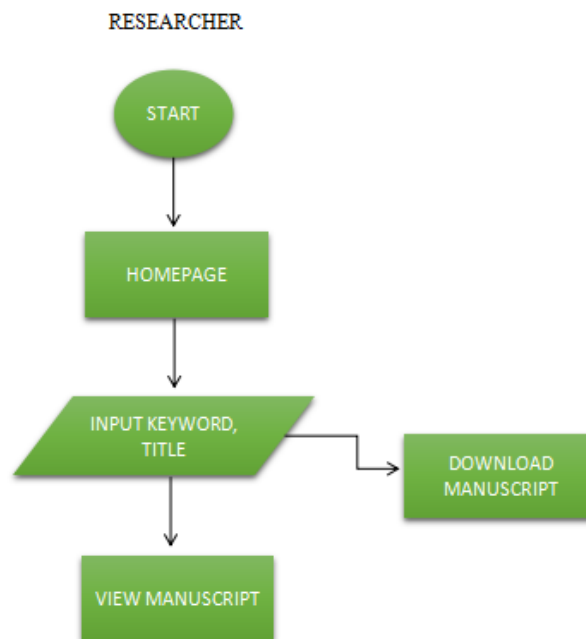
Admin Data Flow Diagram



Staff Data Flow Diagram



Researcher Data Flow Diagram



Appendix B

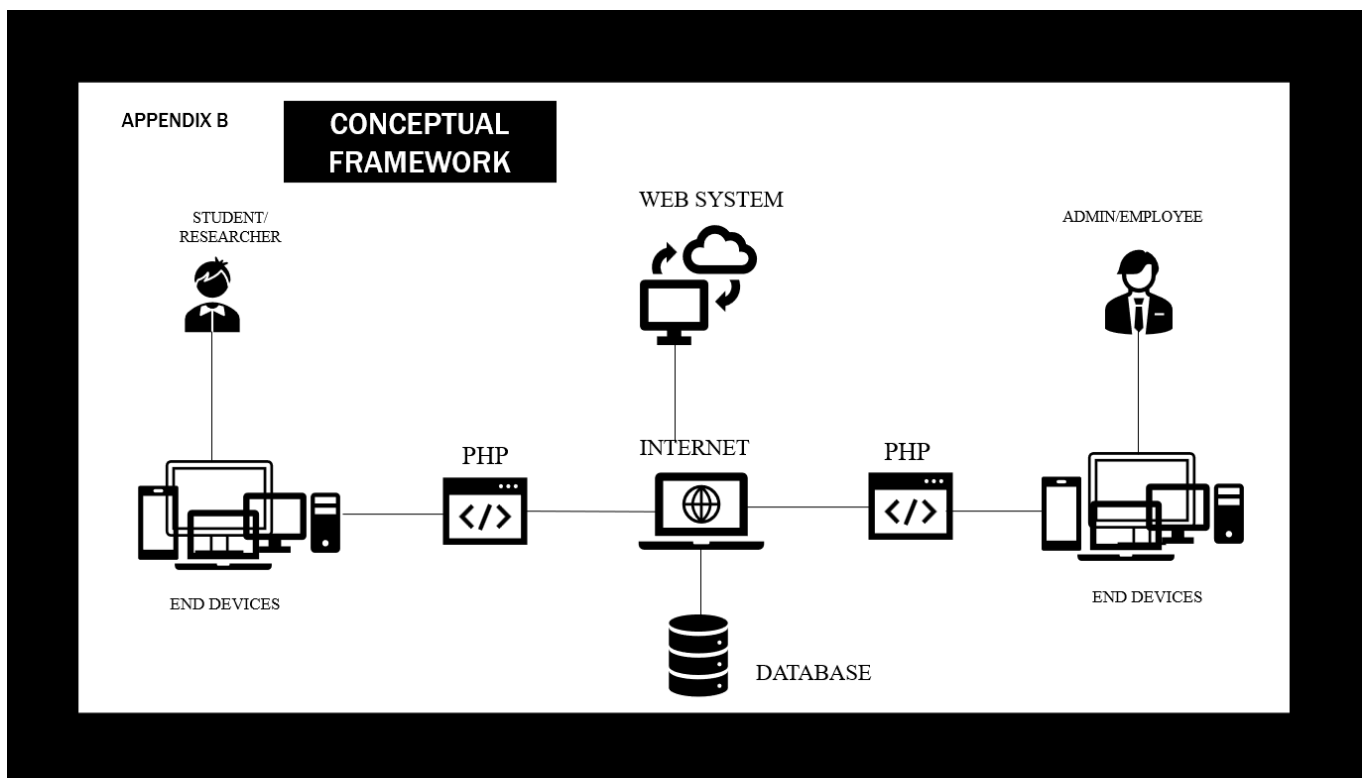


Figure 2.0 Manuscript Archiving System Conceptual Framework

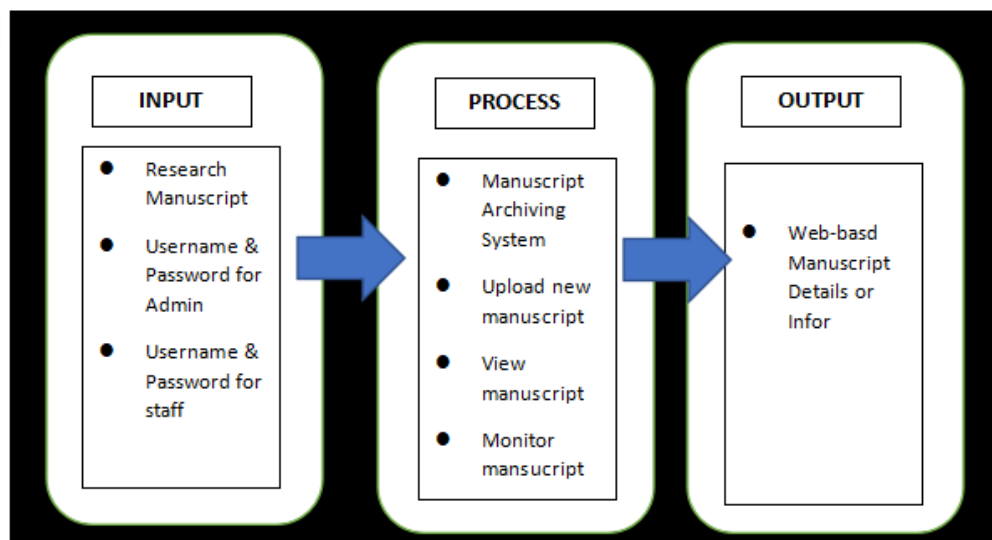


Figure 2.1 Manuscript Archiving System Conceptual Framework

Figure 2.1 Manuscript Archiving System Conceptual Framework

4.0 The <XYZ> System

The archiving system will be a web-based application that is accessible through standard web browsers designed to streamline the process of storing, managing, and accessing thesis/capstone project manuscript in EVSU-OC specifically in Computer Studies Department. This system is developed using PHP and MySQL as the back end, while JavaScript was used for the front-end along with HTML, CSS, and Bootstrap for better user interface design.

This EVSU-OC Web-based Thesis/Capstone Project Manuscript Archiving System has two modules: the Management Module and the Researcher Module. The Management Module is part of the system where the school management can manage the information and important list on the system. It can be accessed by two types of user roles, which are the Admin and Faculty user. The admin user has full access to all features and functionalities of the system Admin Panel and that includes the list of Faculty users. The faculty users have only limited access to the said system side. They can only upload manuscripts, view list of archived manuscripts, remove manuscripts, and edit manuscripts.

The Researcher module is part of the system where the researchers can explore, find references, read the archive's contents, and more. The researchers can simply explore the system's featured archived projects, view, and download the manuscript.

Functional requirements

Core archiving functions:

- ✓ The system allows the user to upload manuscript in PDF format.
- ✓ The system facilitates the creation, capture, and management of metadata associated with each manuscript, including descriptive, administrative, and technical metadata.
- ✓ The system stores digital manuscripts in a secure and reliable environment using robust encryption and access control mechanisms.

Access and Retrieval Functions:

- ✓ Allow users to browse and navigate through the archived collection using a user-friendly interface that facilitates exploration and discovery.
- ✓ The system enables users to preview manuscripts directly in the system and download them in pdf format for offline access.
- ✓ The system designs a user-friendly interface that is accessible to users with diverse technical skills and abilities.

4.1 SYSTEM OVERVIEW

The “EVSU-OC Web-based Thesis/Capstone Project Manuscript Archiving System” is an innovative web-based platform designed to modernize the archiving process of thesis/capstone project manuscript in Eastern Visayas State University – Ormoc Campus specifically in Computer Studies Department. By

default, the current system in Computer Studies Department only use the manual or the traditional submission of the manuscripts. The department needs the new digital system to store and organize these manuscripts.

This system is beneficial for both the faculty and the students, also for the researchers in current time and for the future needs. In current situation, the manuscripts are stored physically in the office. With this archiving system, the manuscripts will be stored in a digital form, which is more convenient for the students to search and access the manuscripts in an easy way and less time consuming.

These are the main features of this system:

- ✓ Electronic submission – faculty or staff that is in-charge of uploading the manuscript can upload it digitally through uploading of files function with the PDF format.
- ✓ Centralized repository – the system acts as centralized repository, securing all the data or manuscripts in a digital format that will be stored in the system for easy access.
- ✓ Downloading of manuscripts in pdf form, applicable for both researchers and uploaders.
- ✓ Viewing manuscripts like an actual book.
- ✓ Secure login and logout of users, applicable to both Admin and Staff users.
- ✓ Dashboard panel for admin and staff.
- ✓ Manage Department list, Curriculum list, and Staff list.
- ✓ Manage archives, accounts, account details and credentials, and system settings.

4.2 SYSTEM OBJECTIVES

Each of the system must met the specific requirements it stated to be able to develop it successfully and met the functionality. The main scope of this system is to organize and store the manuscripts digitally

for seamless retrieving and accessing. To achieve these objectives, the system must have the following specific requirements:

- ✓ User Registration and Authentication – the system must allow the admin to create accounts for the staff with email address, unique passwords, and username, and the role-based access control for admin, staff, and researchers.
- ✓ Manuscript and Thesis Submission – the system must allow the staff to upload the final manuscript of the students, applicable to old and new manuscripts.
- ✓ Metadata Management – the system must capture and store essential metadata (title, author, keywords, academic program or course, date of submission, etc.) associated with each manuscript.
- ✓ Advanced Search and Retrieval – the system must have the functionality to filter out keywords, authors, publication dates, academic programs, or courses, etc.
- ✓ Review and Approval Workflows- the system must only allow the administrator or staff to add, update, or delete manuscripts within the system.
- ✓ Access Controls – the system must have the functionality for different levels of access for viewing, editing, and deleting of manuscripts, department, and programs.
- ✓ User/Admin Dashboard –the system must have personalized dashboard for administrators to track the submissions, approvals, activities within the system.
- ✓ Collaboration Features – the system must allow the users to share manuscripts with different academic departments, or the entire EVSU-OC community.

4.3 SYSTEM FUNCTIONS

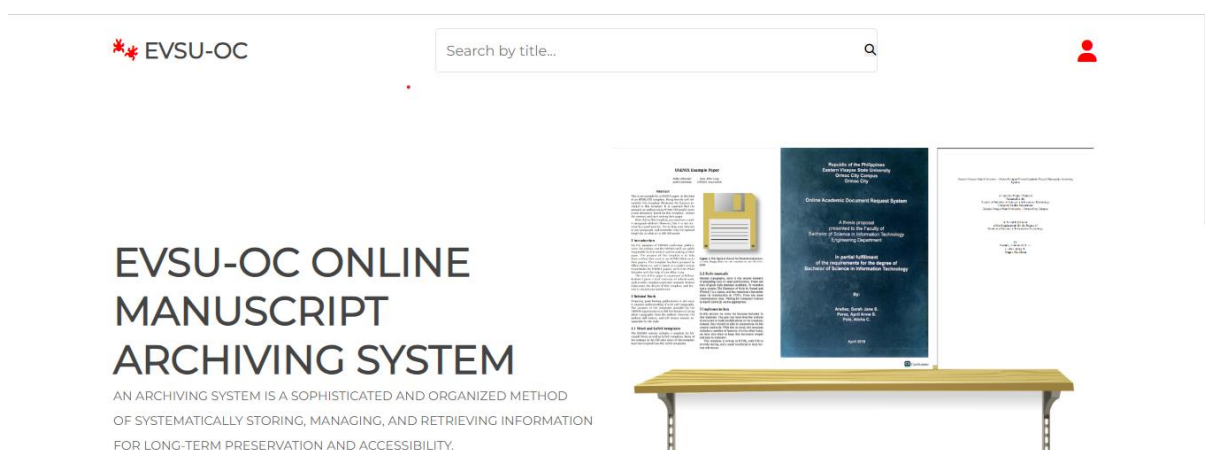
Login Form

The screenshot displays the login interface for the EVSU-OC Online Manuscript Archiving System. At the top, there is a navigation bar with the EVSU-OC logo, a search bar labeled 'Search by title...', and a user profile icon. Below the navigation bar, the main content area is divided into two columns. The left column features a large, semi-transparent text overlay that reads 'EVSU-OC ONLINE MANUSCRIPT ARCHIVING SYSTEM' and 'AN ARCHIVING SYSTEM IS A SOPHISTICATED AND ORGANIZED METHOD OF SYSTEMATICALLY STORING, MANAGING, AND RETRIEVING INFORMATION FOR LONG-TERM PRESERVATION AND ACCESSIBILITY.' The right column contains a 'Drylab News' section with a small image of a building. In the center, there are two login forms: 'ADMIN LOGIN' and 'STAFF LOGIN'. Both forms have a 'USERNAME' field, a 'PASSWORD' field, a red 'LOGIN' button, and a green 'BACK TO HOMEPAGE' link.

Figure 3.0 Admin and Staff Login Form

In figure 3.0, show the interface for staff and admin login form. A text input where staff and admin members can enter their assigned username along with password. A button to submit the entered credentials and initiate the login process. These components collectively provide a user-friendly and secure way to access the account.

Homepage



EVSU-OC ONLINE MANUSCRIPT ARCHIVING SYSTEM

AN ARCHIVING SYSTEM IS A SOPHISTICATED AND ORGANIZED METHOD
OF SYSTEMATICALLY STORING, MANAGING, AND RETRIEVING INFORMATION
FOR LONG-TERM PRESERVATION AND ACCESSIBILITY.



FEATURED PROJECTS

OLGA DIES DREAMING GONZALEZ	OLGA DIES DREAMING BY: XOCHITL GONZALEZ	OLGA DIES DREAMING BY: XOCHITL GONZALEZ	OLGA DIES DREAMING BY: XOCHITL GONZALEZ	OLGA DIES BY: XOCHITL
DOWNLOAD	DOWNLOAD	DOWNLOAD	DOWNLOAD	DOWN

WE'RE LOCATED AT

BARANGAY DON FELIPE LARRAZABAL,
ORMOC CITY, LEYTE 6541

EXTRAS

→ [PRIVACY POLICY](#)
→ [TERMS & CONDITIONS](#)

CONTACT US

+63 (53) 255-7303
EVSU.ORMOC@EVSU.EDU.PH

FOLLOW US



CREATED BY [TEAM JEMMA](#) | ALL RIGHTS RESERVED.

Figure 3.1 Homepage, Welcoming Banner, Featured Projects, Footer

In Figure 3.1, shows the homepage interface providing users with essential information and quick access to key features. It also has a search bar allowing users to search for manuscripts title or specific keywords. A welcoming banner or section displaying a brief description about the system. In featured

projects section showcasing featured publications with titles, authors, cover images, and can be downloaded. Footer containing links to important pages, privacy policy, terms of conditions, contact details, and other relevant information located in the footer section. The homepage is strategically designed to be visually appealing to the user and a user-friendly, informative, serving as a gateway to various functionalities of the system providing users with a positive and efficient experience.

Dashboard

Admin

Dashboard

Welcome to EVSU-OC Online Archiving Management System

[Add New](#)

TITLE	UPLOADER	STATUS	DEPARTMENT	CURRICULUM	ACTION
testing 1	admin	Unpublish	Computer Studies	BSIT	Edit Delete Confirm
Sample 2	admin	Unpublish	Computer Studies	BSIT	Edit Delete Confirm
Sample 3	admin	Unpublish	Computer Studies	BSIS	Edit Delete Confirm
Civil Engineering Notes	admin	Unpublish	Engineering	BSCE	Edit Delete Confirm
testing	admin	Unpublish	Computer Studies	BSIT	Edit Delete Confirm
Reflection	admin	Unpublish	Education	BEED	Edit Delete Confirm

Figure 4.0 Admin Dashboard

In figure 4.0, is the interface for dashboard that show all the functionalities of the archiving system.

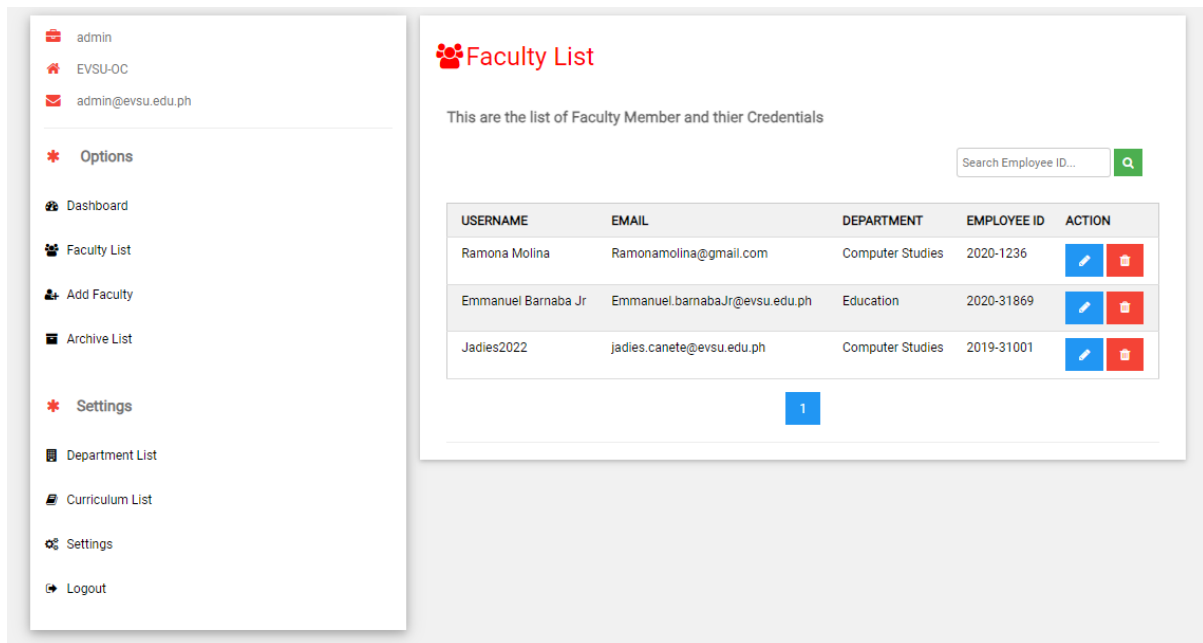


Figure 4.1 Staff List

In Figure 4.1, shows the interface for the faculty list in the dashboard. When the admin wants to view the list of faculty members and their credentials.

Add Faculty

Here you can add Faculty Members to the System

Registration Form

Username:

Email:

Department:

Computer Studies

Employee ID:

Password (at least 8 characters):

Confirm Password:

Register

Figure 4.2. Registration Form for adding New Staff

In Figure 4.2, the administrator can add new faculty members by clicking 'Add Faculty' and completing the registration form. After the registration process, the newly added faculty members will appear in the faculty list.

The screenshot displays a web application interface for managing faculty. On the left is a sidebar menu with options like 'admin', 'EVSU-OC', 'Options', 'Dashboard', 'Faculty List', 'Add Faculty', 'Archive List', 'Settings', 'Department List', 'Curriculum List', and 'Logout'. The main content area is titled 'Faculty List' and contains a search bar and a table of faculty members. The table has columns for USERNAME, EMAIL, DEPARTMENT, EMPLOYEE ID, and ACTION. Each row in the table has two icons in the ACTION column: a blue pencil for editing and a red trash can for deleting. These icons are circled in red in the image. Below the table is a pagination control showing '1'.











USERNAME	EMAIL	DEPARTMENT	EMPLOYEE ID	ACTION
Ramona Molina	Ramonamolina@gmail.com	Computer Studies	2020-1236	 
Emmanuel Barnaba Jr	Emmanuel.barnaba.Jr@evsu.edu.ph	Education	2020-31869	 
Jadies2022	jadies.canete@evsu.edu.ph	Computer Studies	2019-31001	 
Elena	maelena.niegas@evsu.edu.ph	Computer Studies	2020-31948	 
Niegas	lollygag1221@gmail.com	Computer Studies	202031947	 

Figure 4.3. Faculty List

When admin wishes to change the account information or wants to delete account of the faculty members click the action edit or delete.

admin

EVSU-OC

admin@evsu.edu.ph

Options

Dashboard

Faculty List

Add Faculty

Archive List

Settings

Department List

Curriculum List

Settings

Logout

Update Employee

Here you can update Employee account to the system

Username:

Niegas

Email:

lollygag1221@gmail.com

Department:

Computer Studies

employee_id:

202031947

Update

Figure 4.4 Update Staff Details

In Figure 4.4, it shows the function for the admin to update or edit the staff information.

admin

EVSU-OC

admin@evsu.edu.ph

Options

Dashboard

Faculty List

Add Faculty

Archive List

Settings

Department List

Curriculum List

Settings

Logout

Archive List

This are the Publish Manuscript store in the system

Search Title...

TITLE	STATUS	DEPARTMENT	CURRICULUM	ACTION
Sample 1	Published	Computer Studies	BSIT	<div></div> <div></div>
Sample 1	Published	Computer Studies	BSIS	<div></div> <div></div>
Education	Published	Education	BEED	<div></div> <div></div>
Narrative Report	Published	Computer Studies	BSIT	<div></div> <div></div>

1

Figure 4.5. Archive List

Elena

EVSU-OC

Options

Dashboard

Archive List

Logout

Update File

Here are more details about the paper and you can also edit some information

Title:

Manuscript

Description:

The rapid increase of digital information across various sectors has created an urgent demand for efficient archiving systems to preserve and manage data systematically. Small to large academic institutions handle multiple manuscripts, this includes Eastern Visayas State University – Ormoc Campus specifically the Computer Studies Department, which is still relying on physical copies of these manuscripts, thus needing more physical space for these copies. The need for a digital archiving system is imperative for EVSU-OC, as they continue to rely on tradition preserving these academic papers.

The transition to a modern archiving system is essential to streamline document management processes, enhance accessibility for future reference, and ensure long-time preservation of invaluable academic resources. With this developed an innovative solution to significantly enhance document management and preservation at our institution, this archiving system will transform the traditional way of submitting physical copies of final manuscripts into digital is easier, less time consuming, and easy accessibility of manuscripts for future reference. Old manuscripts are accessible in this system.

Uploader:

Elena

Email:

maelena.niegas@evsu.edu.ph

Year:

2023

Department:

Computer Studies

Curriculum:

BSIT

Status:

Unpublish

View

Update

In the 'Archive List,' you can view the published manuscripts stored in the system. It also provides options to either view or edit the description of each paper.

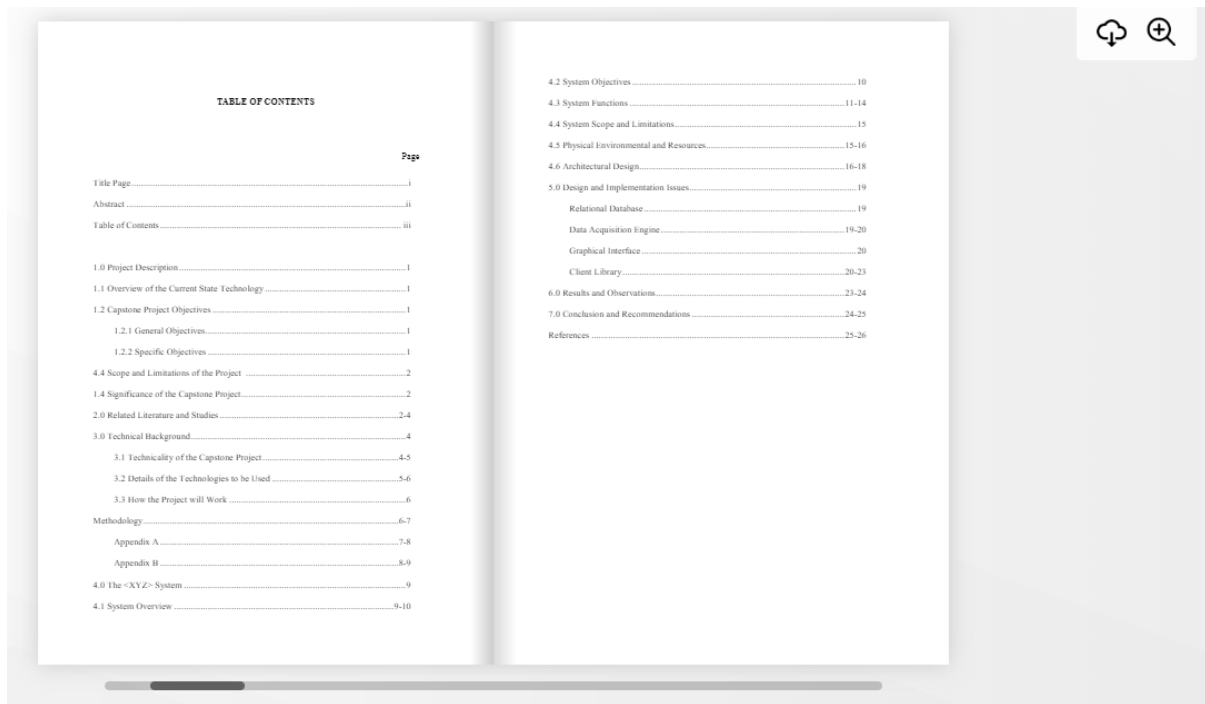


Figure 5.1 Flipbook Animation

	Page
Title Page.....	i
Abstract	ii
Table of Contents.....	iii
1.0 Project Description	1
1.1 Overview of the Current State Technology	1
1.2 Capstone Project Objectives	1
1.2.1 General Objectives.....	1
1.2.2 Specific Objectives	1
4.4 Scope and Limitations of the Project	2
1.4 Significance of the Capstone Project.....	2
2.0 Related Literature and Studies	2-4
3.0 Technical Background.....	4
3.1 Technicality of the Capstone Project.....	4-5
3.2 Details of the Technologies to be Used	5-6
3.3 How the Project will Work	6
Methodology.....	6-7
Appendix A.....	7-8
Appendix B	8-9
4.0 The <XYZ> System	9
4.1 System Overview	9-10
4.2 System Objectives	10
4.3 System Functions	11-14
4.4 System Scope and Limitations.....	15
4.5 Physical Environmental and Resources.....	15-16
4.6 Architectural Design.....	16-18
5.0 Design and Implementation Issues.....	19
Relational Database	19
Data Acquisition Engine	19-20
Graphical Interface	20
Client Library	20-23
6.0 Results and Observations.....	23-24
7.0 Conclusion and Recommendations	24-25
References	25-26

Figure 5.1.1

In figure 5.1, is the interface when viewing the manuscript, it has a realistic animation that simulate the tactile sensation of flipping the book. Figure 5.1.1, users can zoom in to view content more closely and pan across pages for a detailed examination of text and images, enhancing readability and exploration.

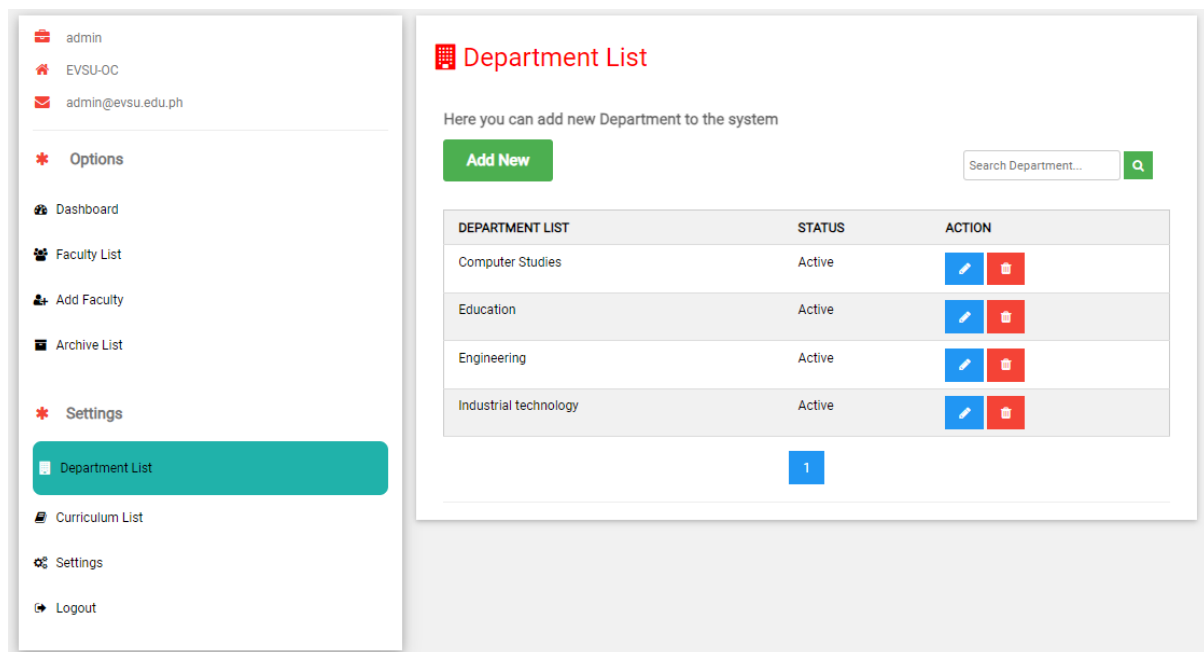


Figure 5.1.2 Department List

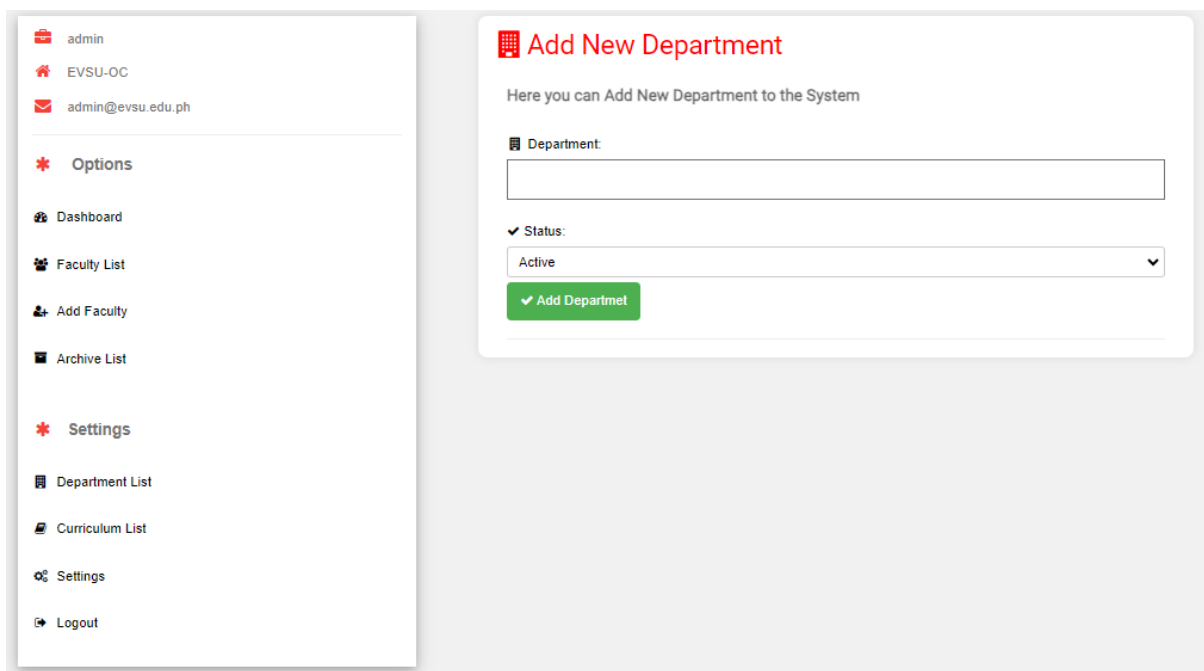


Figure 5.2.1 Add New Department

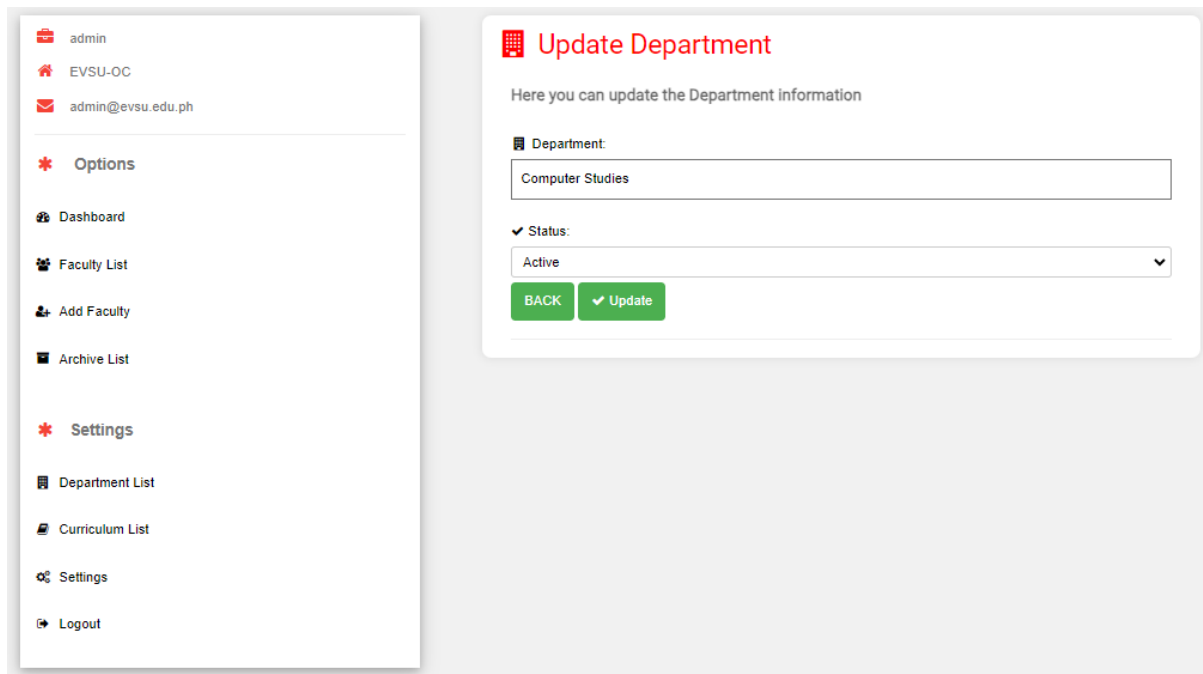


Figure 5.2.2 Update Department List

This is the interface for the 'Department List.' This list serves as a reference tool, providing an organized overview of various functional courses. In Figure 5.2.1, by clicking the 'Add New' button, you can add a new department name to the system. In Figure 5.2.2, if one of the listed departments is no longer active, the admin can change or update the status to 'Active' or 'Inactive’.

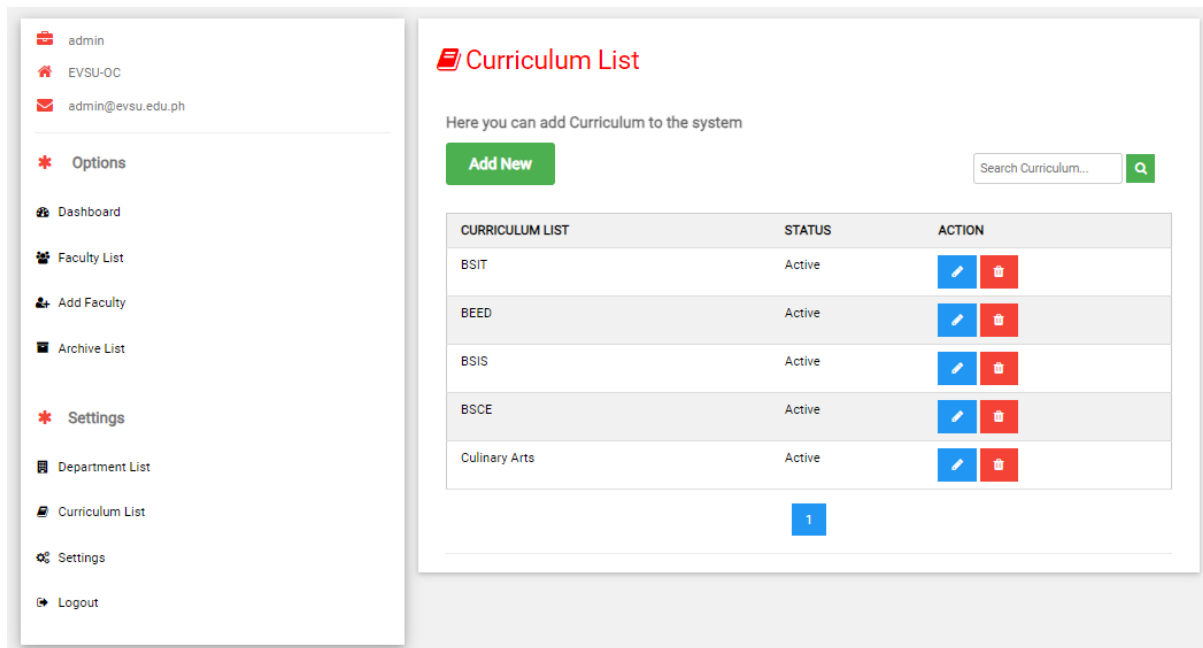


Figure 5.2.3 Curriculum List

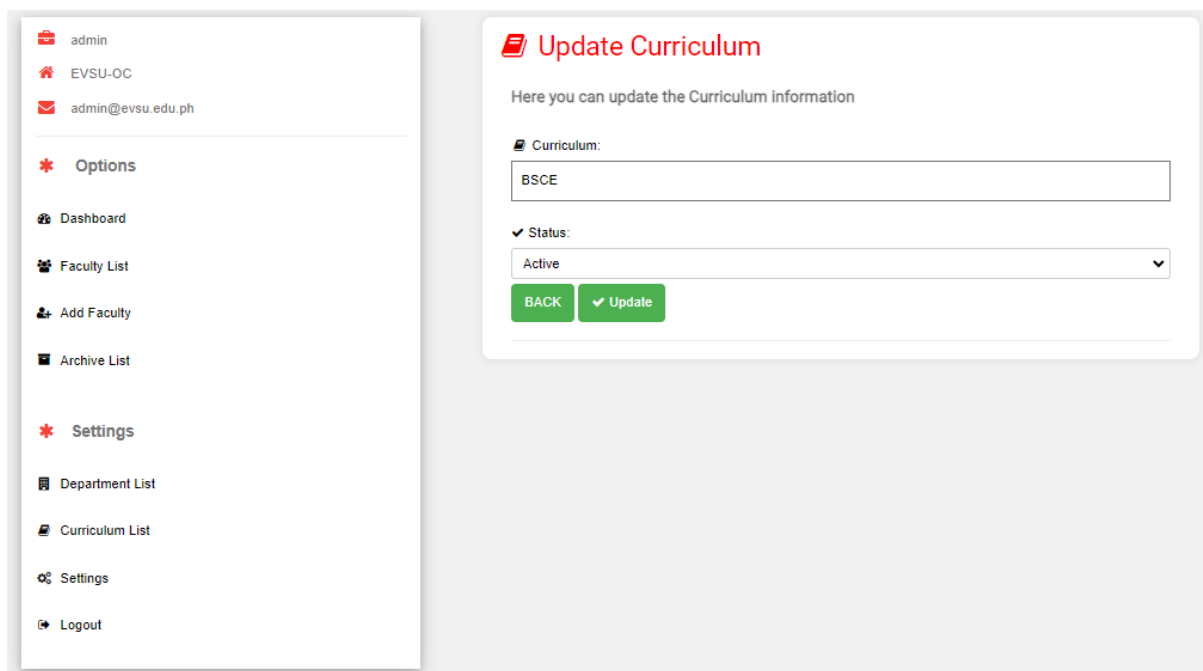


Figure 5.2.4 Update Curriculum

Here in the 'Curriculum List' is the recorded list of individual departments with unique codes for each department, making it easy to identify individual courses. In Figure 5.2.4, by clicking the action button for editing or deleting, the admin can edit, update, choose the status of the curriculum information, and delete the name.

The screenshot displays a web application interface. On the left, a sidebar menu lists the user's profile (admin, EVSU-OC, admin@evsu.edu.ph) and navigation options: Options, Dashboard, Faculty List, Add Faculty, Archive List, Settings, Department List, Curriculum List, and Logout. The 'Settings' option is highlighted. The main content area is titled 'Update Admin' and contains a form for updating admin credentials. The form includes four input fields: 'New Username', 'New Email', 'New Password (at least 8 characters)', and 'Confirm Password'. A green button labeled 'Update Admin' is positioned at the bottom of the form.

Figure 5.2.5 Update Admin

In figure 5.2.5, By clicking the “Settings” the admin can update credentials and fill out the form. It will display a form that will ask for the new username, email, password, and confirm password options.

Dashboard

Faculty Members

Elena

EVSU-OC

maelena.niegas@evsu.edu.ph

Options

Dashboard

Archive List

Logout

Dashboard

Welcome to EVSU-OC Online Archiving Management System

Add New

TITLE	UPLOADER	STATUS	DEPARTMENT	CURRICULUM	ACTION
testing 1	admin	Unpublish	Computer Studies	BSIT	
Sample 2	admin	Unpublish	Computer Studies	BSIT	
Sample 3	admin	Unpublish	Computer Studies	BSIS	
testing	admin	Unpublish	Computer Studies	BSIT	
Online Academic Document Request System	admin	Unpublish	Computer Studies	BSIT	

1

Figure 5.3.1 Faculty Dashboard

Elena

EVSU-OC

maelena.niegas@evsu.edu.ph

Options

Dashboard

Archive List

Logout

Add New Manuscript

Here you can Add New Manuscript to our Online Archiving Management System

Title:

Description:

Uploader:
Elena

Email:
maelena.niegas@evsu.edu.ph

Year:

Department:
Computer Studies

Curriculum:
BSIT

✓ Status:
Unpublish

✓ Add Manuscript

Figure 5.3.1 Add New Manuscript

This is the dashboard interface for faculty members. Faculty members can add a new manuscript to the system by clicking the 'Add New' button and update or delete the file by clicking the action button. During the process of adding a new manuscript, there are choices for the status of the manuscript—either 'Publish' or 'Unpublish' the paper. Once the paper is unpublished, it will be displayed on the dashboard, but if the paper is published, it will go to the 'Archive List'.

Archive List

This are the Publish Manuscript store in the system

Search Title...

TITLE	STATUS	DEPARTMENT	CURRICULUM	ACTION
testing 1	Published	Computer Studies	BSIT	
Sample 1	Published	Computer Studies	BSIT	
Sample 1	Published	Computer Studies	BSIS	
Narrative Report	Published	Computer Studies	BSIT	
Online Academic Document Request System	Published	Computer Studies	BSIT	
Manuscript	Published	Computer Studies	BSIT	
Final Manuscript	Published	Computer Studies	BSIT	
System Manuscript	Published	Computer Studies	BSIT	

1

Figure 5.3.2 Archive List

Here in the 'Archived List' is the list of published manuscripts with functions to edit and view each manuscript.

4.4 SYSTEM SCOPE AND LIMITATIONS

System scope:

- ✓ The system will be able to store and organize thesis/capstone project manuscript that are in PDF form.
- ✓ The system will be able to provide users with access to thesis/capstone project manuscript through a web interface.
- ✓ The system will allow the admin to register or add account for a staff.
- ✓ The system will allow the user to search and retrieve documents based on keywords, metadata, and dates.
- ✓ The system will allow the retrieval of documents in any device as long as it has internet connection.

System Limitations:

- ✓ Documents or manuscripts may take a few seconds to retrieve, depending on the database size and search complexity.
- ✓ The system does not perform optical character recognition or OCR, so it cannot search the content of the manuscript without text metadata.

Assumptions:

- ✓ The system assumes a stable internet connection for users to access and retrieve the manuscripts.
- ✓ The system assumes that users provide the accurate metadata when searching for a specific manuscript for efficient document retrieval.
- ✓ Documents should be uploaded in common, supported file (PDF file only).

- ✓ Regular data backups of the archive are assumed to be taken to prevent data loss in case of system failures.

4.5 PHYSICAL ENVIRONMENT AND RESOURCES

Hardware resources

- ✓ Document Scanner – a reliable document scanner is essential for capturing high-quality images of manuscripts. Example: Printer with scanner
- ✓ Smartphone for scanning, with a sufficient storage capacity for storing scanned documents.
- ✓ Computer, desktop, or laptop for accessing the manuscript archiving system online through web interface.

Software resources

- ✓ PDF conversion tool – a tool for converting scanned images into PDF files. This ensures the preservation of manuscripts in a standardized format.
- ✓ Mobile scanning app – if using smartphones, install a reliable scanning application with features like automatic cropping, image enhancement, and PDF conversion. Example: CamScanner
- ✓ Web Browser like Google Chrome, Microsoft Edge, Brave, Mozilla Firefox

Technical Feasibility

Table 2.0 System's Development Software Requirements

Name	Minimum	Recommended
------	---------	-------------

Windows (Operating System)	Windows	Windows
Web Browser	Google Chrome, Microsoft Edge	Google Chrome
Programming language	PHP, JavaScript, HTML, CSS	PHP, HTML, JavaScript, CSS
Database	MySQL	MySQL

Table 2.1 System’s Development Hardware Requirements

Name	Specification
Processor	Intel(R) Core(TM) i3-4030U CPU @ 1.90GHz 1.90 GHz
RAM	8 GB
Hard Disk	500 GB

Table 2.2 System’s Implementation Software Requirements

Name	Minimum	Recommended
Windows (Operating System)	Windows	Windows
Web Browser	Google Chrome, Microsoft Edge	Google Chrome

Table 2.3 System's Implementation Hardware Requirements

Name	Minimum	Recommended
Processor	Intel(R) Core(TM) i3-4030U CPU @ 1.90GHz 1.90 GHz	Intel Core i5 or i7
RAM	8GB	8GB or UP

Development Environment

Back End

PHP (Hypertext Preprocessor) - is a widely used open-source general-purpose scripting language that is especially suited for web development and can be embedded into HTML. In this archiving system, our main language that is used in developing the system is PHP. By scripting language, we make a program that is script-based (lines of code) written for the automation of tasks.

Front End

HTML (Hypertext Markup Language) – is the standard markup language for creating web pages.

CSS (Cascading Style Sheet) – is the language we used to style HTML documents.

JavaScript – scripting or programming language that allows you to implement complex features on web pages - every time a web page does more than just sit there and display static information for you to look at — displaying timely content updates, interactive maps, animated 2D/3D graphics, scrolling video jukeboxes, etc. — you can bet that JavaScript is probably involved. For the index page in this system, we used JavaScript or Swiper.js for the image's slider animation.

Swiper.js - is the most modern free and open-source mobile touch slider with hardware accelerated transitions and amazing native behavior. Use it on websites, web apps, and mobile native/hybrid apps.

```
<div class="swiper books-slider">
  <div class="swiper-wrapper">
    <?php
      // Fetch image paths from the database
      $sql = "SELECT image FROM files";
      $result = $conn->query($sql);

      if ($result->num_rows > 0) {
        while ($row = $result->fetch_assoc()) {
          $imagePath = $row['image'];
          echo '<a href="#" class="swiper-slide"></a>';
        }
      } else {
        echo '<p>No images found.</p>';
      }

      // Close the database connection
      $conn->close();
    <?>
  </div>
  
</div>

</div>

</section>
```

```
var swiper = new Swiper(".books-slider", {
  loop:true,
  centeredSlides: true,
  autoplay: {
    delay:9500,
    disableOnInteraction: false,
  },
  breakpoints: {
    0: {
      slidesPerView: 1,
    },
    768: {
      slidesPerView: 2,
    },
    1024: {
      slidesPerView: 3,
    },
  },
});

var swiper = new Swiper(".featured-slider", {
  loop:true,
  centeredSlides: true,
  autoplay: {
    delay:9500,
    disableOnInteraction: false,
  },
  navigation:{
    nextEl: ".swiper-button-next",
    prevEl: ".swiper-button-prev",
  }
});
```

Figure 6.0 Swiper.js Implementation and Integration

In Figure 6, it shows how the Swiper.js was integrated to our system. Swiper.js was used to animate the images from the cover photo uploaded by the staff.

RDBMS (Relational Database Management System) - is a type of database management system (DBMS) that stores data in a row-based table structure which connects related data elements. An RDBMS includes functions that maintain the security, accuracy, integrity, and consistency of the data. This is different than the file storage used in a DBMS. We used MySQL for creating, updating, deleting, and retrieving relational data from the database.

XAMPP - is one of the most widely used cross-platform web servers, which helps developers to create and test their programs on a local webserver. It was developed by Apache Friends, and its native source code can be revised or modified by the audience. It consists of Apache HTTP Server, MariaDB, and interpreter for the different programming languages like PHP and Perl.

4.6 ARCHITECTURAL DESIGN

This section outlines the initial internal design of the manuscript archiving system, focusing on its major components, interactions, and design choices.

System Architecture

The system will adopt a web-based application architecture with a distributed design for scalability and performance. This means the application logic and data will be distributed across multiple servers, enabling horizontal scaling to handle increasing workloads.

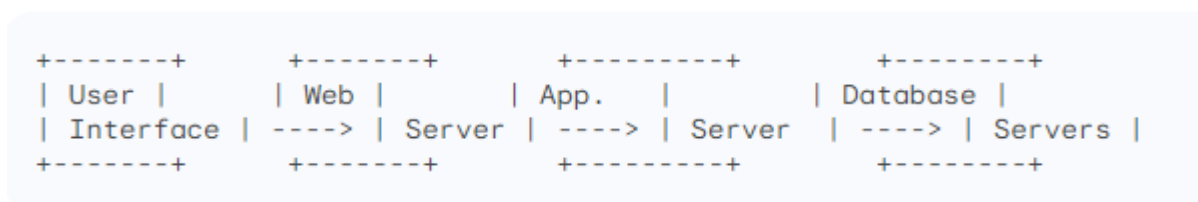


Figure 7.0 Component Diagram

Components:

- User Interface – a web-based interface built with HTML, Bootstrap, CSS, and JavaScript, offering a user-friendly functionality for uploading, viewing, browsing, searching, and accessing the manuscript.
- Web Server – Apache web server receives user requests, routes them to the appropriate application server, and serves static content.
- Database Server – MySQL server stores all manuscript metadata, data, and user data, ensuring data integrity and high availability.

Entity- Relationship Diagram

Entity-Relationship Diagram (ERD) is a graphical representation of the entities and their relationships in a database. It is a common tool for designing relational databases, as it helps to visualize the structure of the database of the system.

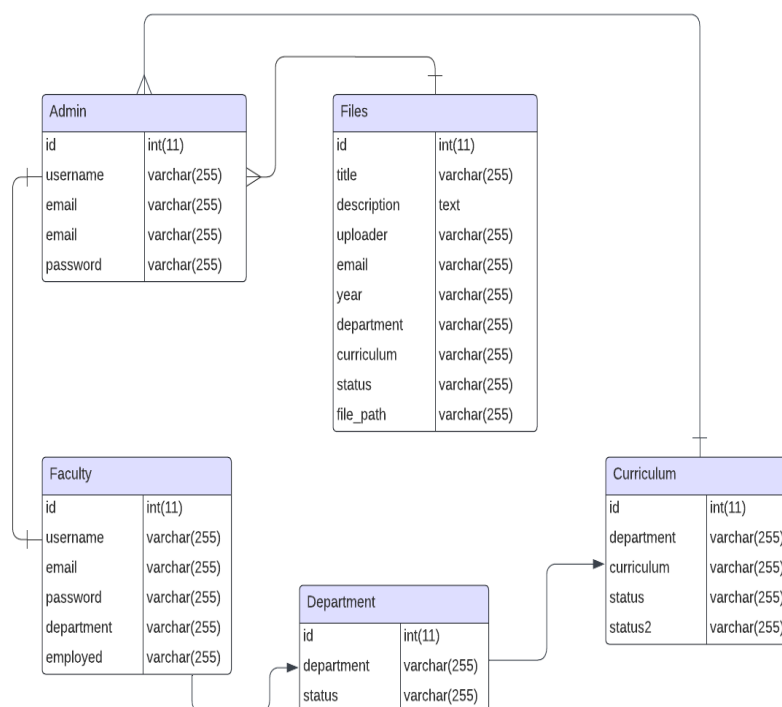


Figure 7.0 Entity Relationship Diagram

Data Dictionary

Data dictionaries were used to provide definitions of the data used; these included the final data structures for the various tables and their corresponding field name, data type, and sizes. It serves as a comprehensive metadata management tool, offering a structured overview of data elements, their definitions, relationships, and attributes.

Database Tables

	Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/>	admin	★ Browse Structure Search Insert Empty Drop	1	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/>	curriculum	★ Browse Structure Search Insert Empty Drop	9	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/>	department	★ Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/>	faculty	★ Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/>	files	★ Browse Structure Search Insert Empty Drop	15	InnoDB	utf8mb4_general_ci	16.0 KiB	-

Admin

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	username	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	email	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	password	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

Curriculum

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	department	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	curriculum	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	status	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	status2	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

Department

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 🔑	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	department	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	status	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

Faculty

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 🔑	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	username	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	email	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	password	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	department	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	6	employee_id	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

Files

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	id 🔑	int(11)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	title	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	description	text	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	uploader	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	email	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	6	year	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	7	department	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	8	curriculum	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	9	status	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	10	file_path	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

Architectural Diagram

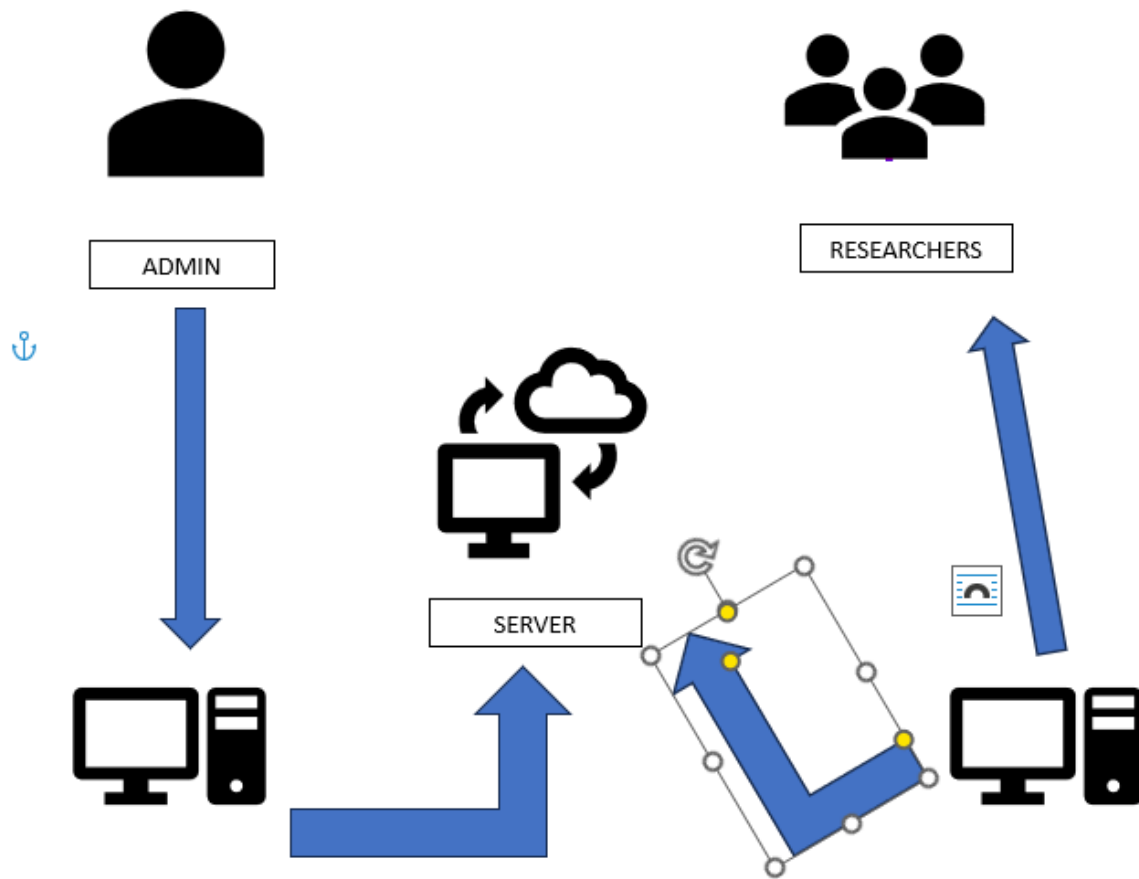


Figure 7.1 Architectural design

5.0 DESIGN AND IMPLEMENTATION ISSUES

In the fast-evolving landscape of education, the need for efficient and comprehensive management of capstone projects and manuscript has never been more pressing. Capstone projects manuscript serve as the culmination of a student's academic journey, allowing them to apply the knowledge and skills they have acquired throughout their studies. However, the administration and oversight of these projects can be complex, often involving numerous intricate processes, and diverse requirements also capstone projects manuscript can deteriorate overtime since it is submitted in a physical copy. To streamline this critical aspect of higher education, the "THESIS/CAPSTONE PROJECT MANUSCRIPTS

ARCHIVING SYSTEM " emerges as an innovative solution. This project aims to address the myriad of challenges and intricacies involved in managing capstone theses effectively.

The entire archiving system is consisting of several distributed components:

1. A relational database which stores configuration information and archive “metadata”.
2. A graphical interface for inspecting the archiver configuration.
3. A client library for search and queries.

1.1 Relational Database

In an archiving system, a relational database is commonly used to store and manage various types of structured data, including metadata associated with archived documents or manuscripts. Relational databases are preferred for archiving systems because they provide a structured and efficient way to store, retrieve, and manage data. Common relational database management systems (RDBMS) used in archiving systems include MYSQL, PostgreSQL, Microsoft SQL Server, and Oracle Database, among others. In this system, we used the MYSQL RDBMS for storing and managing the data including document metadata. The database can support indexing of metadata and content, allowing for fast and accurate search operations. User data, including user profiles, authentication credentials, and access control information, is typically stored in a database.

The database also stores summary information for logged data, including data format, file name, and file status. The database can implement security measures such as encryption and access controls to protect archived data from unauthorized access.

In general, we used relational database to handle different types of data efficiently.

2.1 Graphical Interface

The graphical user interface (GUI) for inspecting the archiver configuration is a crucial component of an archiving system, as it allows administrators to manage, configure, and monitor the system's settings. The GUI start with a sign in and registration functions, which allow the users to register and sign in into the system. Users should be required to log in to access configuration interface. The GUI can support different user roles with varying levels of access.

For archiving systems like this that provides user-generated content, the GUI can provide tools for user management, including user registration, access control, and user roles. The GUI allow the customization of search and retrieval settings, including indexing preferences, search filters, and search result ranking.

The design and layout of GUI of this system prioritize user-friendliness, accessibility, and intuitive navigation. The system's GUI is also responsive, ensuring that users can access and configure the archiver from different devices and screen sizes.

3.1 Client library

This archiving system uses SQL data libraries which plays a crucial role in managing and interacting with the underlying relational database system. SQL data libraries facilitate the establishment of connections to the relational database used for storing archived data. This connection is fundamental to the interaction between the archiving system and the database.

SQL data libraries enable the execution of SQL queries against the database. These queries can include various operations like SELECT (for retrieving data), INSERT (for adding new data), UPDATE (for modifying existing data), and DELETE (for removing data). The system also uses SQL data libraries to retrieve archived data from the database, facilitate the insertion of new data into the database, support

the modification or archived data, and when documents or data need to be removed from the archive (in compliance with retention policies), these libraries enable the execution of deleting specific records.

SQL data libraries also support transaction management to ensure consistency and reliability of database operations. This includes creating and modifying tables, indexes, and relationships in the database to accommodate the archiving system's data structure. The libraries also provide error handling and reporting mechanisms, enabling the archiving system to handle unexpected database errors gracefully, log errors, and notify administrators if necessary.

Libraries also help manage security aspects of database interactions. They often support parameterized queries to prevent SQL injection attacks and enable access control and authentication checks, which we imposed in this system. In terms of compatibility, SQL data libraries are designed to work with specific database management systems (e.g., MYSQL, PostgreSQL, Microsoft SQL Server).

By integrating these libraries into this archiving system, it streamlines the interaction with the relational database. It's now easier to manage, retrieve, and manipulate archived data. This simplifies the development process, enhances security, and ensures the integrity of the data.

Challenges and Issues

User Interface Design – one problem we encounter about the design of our system is the responsive and interactive design of the index page. The images should have animation to slide next to one another, and it should also be functional. In this case, we used Swiper.js. It is a popular JavaScript library used for creating modern touch sliders on websites and web apps.

Modern and responsive: Swiper.js adapts seamlessly to different screen sizes and devices, ensuring your sliders look great and function smoothly on desktops, tablets, and mobile phones.

Touch-enabled: It's optimized for touch interaction, allowing users to easily swipe between slides with their fingers.

Hardware-accelerated transitions: This feature utilizes the GPU (graphics processing unit) to render smooth and visually appealing transitions between slides.

Multiple slider effects: Swiper.js offers various transition effects like fade, slide, coverflow, cube, and more, enabling you to create dynamic and engaging sliders.

Customization options: It provides a wide range of customization options, allowing you to personalize the appearance and behavior of your sliders with ease. You can adjust slide dimensions, navigation elements, pagination, and much more.

Modular and lightweight: Swiper.js has a modular structure, allowing you to include only the features you need, keeping the library lightweight and efficient.

Open-source and free to use: It's an open-source library available under the MIT license, making it free to use in both personal and commercial projects.

Large community and resources: Swiper.js boasts a large and active community with extensive documentation, tutorials, and examples. This makes it easy to learn and get help if needed.


```

<div class="swiper books-slider">
  <div class="swiper-wrapper">
    <?php
      // Fetch image paths from the database
      $sql = "SELECT image FROM files";
      $result = $conn->query($sql);

      if ($result->num_rows > 0) {
        while ($row = $result->fetch_assoc()) {
          $imagePath = $row['image'];
          echo '<a href="#" class="swiper-slide"></a>';
        }
      } else {
        echo '<p>No images found.</p>';
      }

      // Close the database connection
      $conn->close();
    ?>
  </div>
  
</div>

</div>

</section>

```

Figure 8.0 Swiper.js Implementation

```

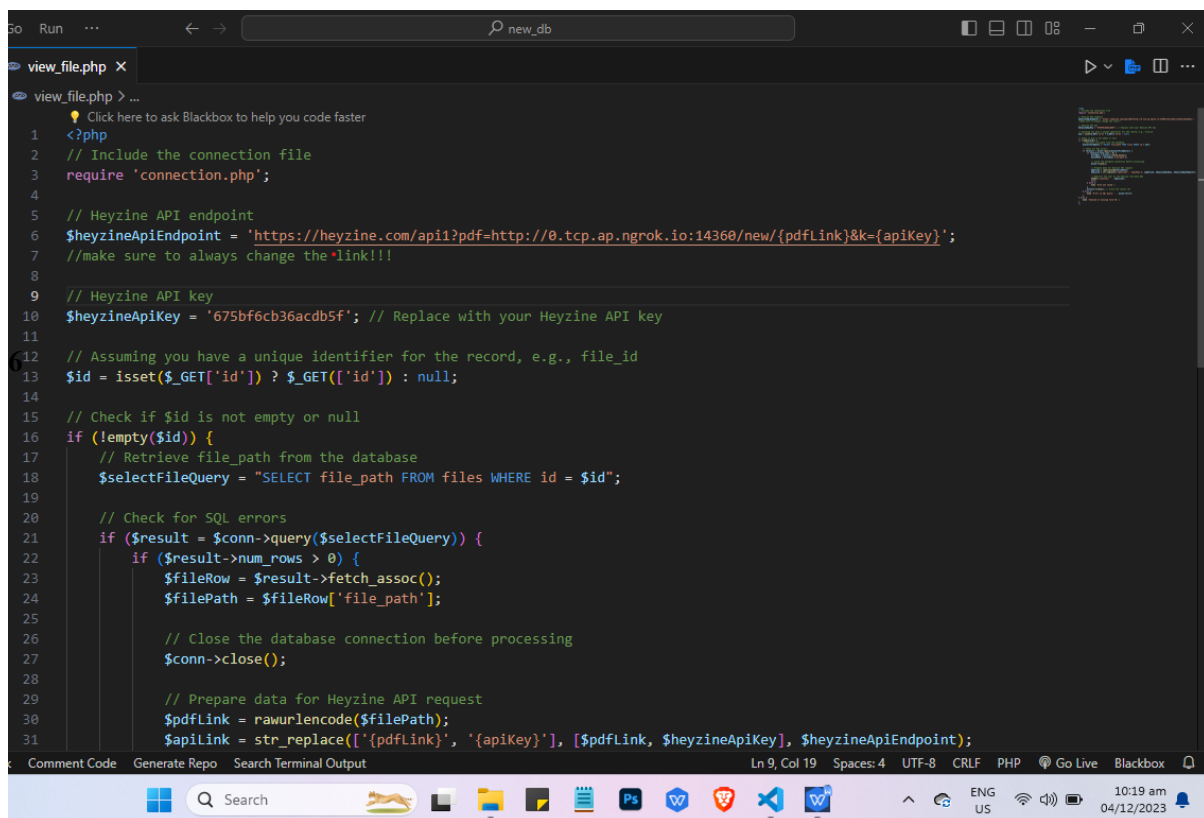
var swiper = new Swiper(".books-slider", {
  loop:true,
  centeredSlides: true,
  autoplay: {
    delay:9500,
    disableOnInteraction: false,
  },
  breakpoints: {
    0: {
      slidesPerView: 1,
    },
    768: {
      slidesPerView: 2,
    },
    1024: {
      slidesPerView: 3,
    },
  },
});

var swiper = new Swiper(".featured-slider", {
  loop:true,
  centeredSlides: true,
  autoplay: {
    delay:9500,
    disableOnInteraction: false,
  },
  navigation:{
    nextEl: ".swiper-button-next",
    prevEl: ".swiper-button-prev",
  },
});

```

Figure 8.0 Swiper.js Implementation

The next design issue we encounter is for the plain PDF file to look like an actual book when it is viewed. The PDF file is converted into a flipbook, that has animations like you're turning the pages of an actual book. This was solved by integrating Heyzine Flipbook Maker to our system. Once the user clicked on the view or eye icon, the PDF file will be converted into a flipbook using the Heyzine REST API. The integration starts with adding or calling the REST (Representational State Transfer) endpoint client or server-side, to convert the PDF and get a JSON (JavaScript Object Notation) response with the links to flipbook, thumbnail, and PDF. The endpoint will send the response right after the conversion ends. We make sure the client has a long enough time out for large documents.



```
view_file.php > ...
1 <?php
2 // Include the connection file
3 require 'connection.php';
4
5 // Heyzine API endpoint
6 $heyzineApiEndpoint = 'https://heyzine.com/api?pdf=http://0.tcp.ap.ngrok.io:14360/new/{pdfLink}&k={apiKey}';
7 //make sure to always change the link!!!
8
9 // Heyzine API key
10 $heyzineApiKey = '675bf6cb36acdb5f'; // Replace with your Heyzine API key
11
12 // Assuming you have a unique identifier for the record, e.g., file_id
13 $id = isset($_GET['id']) ? $_GET['id'] : null;
14
15 // Check if $id is not empty or null
16 if (!empty($id)) {
17     // Retrieve file_path from the database
18     $selectFileQuery = "SELECT file_path FROM files WHERE id = $id";
19
20     // Check for SQL errors
21     if ($result = $conn->query($selectFileQuery)) {
22         if ($result->num_rows > 0) {
23             $fileRow = $result->fetch_assoc();
24             $filePath = $fileRow['file_path'];
25
26             // Close the database connection before processing
27             $conn->close();
28
29             // Prepare data for Heyzine API request
30             $pdfLink = rawurlencode($filePath);
31             $apiLink = str_replace(['{pdfLink}', '{apiKey}'], [$pdfLink, $heyzineApiKey], $heyzineApiEndpoint);
```

Figure 8.1. Heyzine Flipbook Maker REST API

6.0 RESULTS AND OBSERVATIONS

The Theses/Capstone Project Manuscript Archiving System was developed to assist the EVSU-OC particularly the Computer Studies Department for fast record tracking and managing of manuscripts that provide fast and efficient services. It is a web-based archiving system that digitally stores the final manuscripts that were submitted by the students. These manuscripts are vital in the institution and have a corresponding retention period since these are in physical copies which will deteriorate in long period of time.

In our archiving system, we performed different tests to evaluate its functionality, performance, and data management capabilities. These tests were designed to ensure that the system effectively archives and retrieves data, complies with data retention policies, and provides a seamless user experience.

The system development starts by storing the paper-based manuscript into digital form. It is done by uploading the manuscript to our system in a PDF format. The admin or staff are the users with access to dashboards and were provided with the uploading functionality. The admin, who has default username and password can automatically log into the system. The admin can also create an account for the staff, providing a unique username and password which can be used to log in when the staff is ask for the credentials. The admin has also the functionalities to change the username and password.

Data intake, search and retrieval, access control, and document versioning were just a few of the components of the archiving system that were covered by functional testing. Results indicated that the system effectively ingests and indexes data from multiple sources, including user uploads. Search and retrieval functionalities run smoothly, with users able to find documents accurately and efficiently. Access control mechanisms were successfully confirmed, ensuring that users could access only authorized content.

To assess the system's response time and scalability, a performance testing was conducted. Response time study showed that the system typically responded quickly to user queries, creating an engaging user experience. The typical response time for search queries stayed well within allowable limits. Testing for scalability showed that the system successfully handled increasing data quantities and concurrent user access, making it appropriate for deployment in organizations with various data storage requirements.

User feedback is significant to our system since this system is developed using RAD and depends on user feedback or insights for further improvements. User feedback indicated a high level of satisfaction with the system's performance and ease of use. Users particularly commended the intuitive search interface and quick retrieval of archived manuscripts.

The system is equipped with user-friendly GUI with five primarily functional pages: Homepage, Sign in page for the Admin and Staff, Admin Dashboard, Staff Dashboard. Homepage is the landing page of this web-based system, it has functionable featured projects animated with Swiper.js, and are all viewable and downloadable. The Sign In page is where the admin or staff can input their credentials and logged into the system. Admin dashboard interface that provides administrators with centralized access to manage and monitor various aspects of a system. And, staff dashboard where the staff can upload manuscript, view manuscript, and the archived list.

While the data entry happens in the Upload page, the Search page deals with the manuscripts entered. Searching, viewing, and downloading is facilitated through this page. The search page is the landing page of this system. This page analyzes the most commonly used search queries and patterns to understand the user needs.

But before the data import happens, a user can only upload manuscripts if they were to register and sign into the system. The registration will take place in the Registration page, and logging in to the system is done in the sign in page. The admin has only the permission to create new account for the staff.

In the Dashboard page, the appropriate things are done here, including the uploading of manuscript, viewing the archived list, adding staff account, adding department and program, and updating the manuscript.

Overall, for the observations in this system, it exhibits uncompromising functionality, reliable data management, and impressive performance. User satisfaction is high but there is room for improvement and minor interface enhancements.

7.0 CONCLUSION AND RECOMMENDATIONS

This paper presented a system that facilitates the need of digitization and management of paper-based manuscripts of Computer Studies Department in EVSU-OC. The system was developed to accomplish organized storage and archiving of manuscripts that no longer require large physical spaces. Intentionally, this was created to aid the department and for the quick and easy retrieval of the manuscripts. Furthermore, the system's capability to digitally stored the manually uploaded file makes the job of a researcher easier and more comfortable.

In this chapter, we provide in-depth evaluation of the project's outcomes, explaining how the project's objectives were met and identifying areas where improvements are possible. The first objective of this system is to provide an archiving system that will enhance the process of managing, storing, and accessing the manuscripts. By allowing users to create accounts, upload final manuscripts, and manage essential metadata, the system offers a seamless experience. We successfully improved the user interface by implementing a more understandable navigation system and responsive design.

For the user registration and authentication, we have fully met this objective since our system provides creation of user accounts with unique credentials, and the implementation of role-based access of different categories, such as instructor or faculty, and administrators.

We also have fully met the manuscript submission objective, since the system allows users to upload their final manuscripts in PDF format, ensuring that the manuscripts cannot be easily edited or altered. It also achieved the objective in managing the metadata, all the metadata related to each manuscript, such as title, author, keywords, and year of submission are captured and stored.

The system also provides advanced search and retrieval capabilities, allowing users to filter content by title, publication dates, and academic programs. The system offers different level of access control, including viewing, downloading, and approval permissions, to manage who can perform specific actions. Only administrators or staff is allowed to upload, update, and delete manuscripts.

Recommendations

Based on the findings and conclusions of the study, here are the following recommendations proposed. Implement regular system monitoring to identify performance bottlenecks, security vulnerabilities, or data integrity issues. Consider user feedback and usability testing results to make continuous improvements to the user interface and overall user experience. Strengthen security measures to protect sensitive academic data. Regularly test the disaster recovery capabilities of the system, including data backup and recovery processes, to ensure that data remains secure and accessible in case of unforeseen incidents.

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EVSU-OC Thesis/Capstone Project Manuscript Archiving System User's Manual

Table of Contents

1.0 Introduction

Welcome to the EVSU-OC Thesis/Capstone Project Manuscript Archiving System User's Manual. This manual serves as your guide to understand how this archiving system works. Whether you are new to this platform or a knowledgeable user, this manual is designed to assist you in using the capabilities and features of this archiving system for efficient manuscript searching and data preservation.

1.1 System Requirements

Before you begin using EVSU-OC Thesis/Capstone Project Manuscript Archiving System, it is important to ensure that your computer and network environment meet the system requirements outlined in this section. You must have stable internet connection, a laptop or desktop or mobile devices, and web browsers such as Google Chrome, Mozilla Firefox, Microsoft Edge, etc., to fully utilize our system and guarantee a seamless and reliable experience while using our archiving system.

1.2 Installation

1.3 Convention

To ensure clarity and consistency throughout this manual, we have adopted specific conventions for formatting and notation. Listed below are the following notations used in this manual, please take a note of the following conventions:

- **BOLD:** Texts in bold are important concepts, keywords, and items you need to pay special attention to.
- *Italic:* Text in italic represents the user inputs, such as file names, directory paths, and user-specific data. For example, "*ENTER SEARCH KEYWORD*".
- Buttons in **red**: **Red or maroon** buttons are used for approval, viewing, and downloading of manuscripts.
- Buttons in **green**: **Green** buttons are used for declining manuscripts.
- Bulleted lists: are used for items or features that do not require a specific sequence, such as list files or manuscripts displayed after searching.
- Warnings and Cautions: Important messages or warnings will be highlighted in boxes or window alerts to draw your attention to potential issues or critical information.

2.0 Getting Started

To start EVSU-OC Thesis/Capstone Project Manuscript Archiving System, follow these simple steps:

2.1 Running the System

First, you need to click on the link provided to redirect you to the archiving system's interface. You must have a stable internet connection and fast operating computer.

2.2 Initial Screen

The initial screen is the landing page of the system, where you can find the toolbar, located usually at the top of the screen. The login form is located at the center of the screen, where you can opt out to register first, and the footer below the login form.

2.3 Navigating the System

Upon launching the system, you will be presented with the initial screen. This screen serves as your gateway to the archiving platform, and its layout typically includes the following components:

- **Toolbar:** The toolbar, often located at the top, contains quick access buttons to common actions, such as signing in, searching, uploading files, or logging out.
- **Menu Options or the Dashboard:** these options offer comprehensive functions for managing the data. There are two dashboards for this system, the instructor dashboard where you can approve, view, or decline the uploaded manuscripts, and the super admin dashboard where you can approve or decline accounts.
- **Main Workspace:** The central area is the main workspace, where you can search, view, download, and select with your archived data.
- **Status Bar:** At the right side of the screen, the status bar displays information about the current user status.

3.0 <Module / Feature 1>

N.0. Messages

This section provides a comprehensive list of system messages you may encounter while using EVSU-OC Thesis/Capstone Project Manuscript Archiving System.

N.1 Error Messages

<Please fill out this field>

Description: This error message indicates that a required field has not been filled out in a form.

Action: Please ensure that all required fields are completed before proceeding.

<Invalid email address or password>

Description: This error message indicates that you have entered a wrong password or not registered email address.

Action: Please ensure that you are already registered before logging into the system.

<Email already exists! Please try another >

Description: This error message indicates that the email address you used for registration is already an existing email.

Action: Please ensure that you use an email address that has not been registered to the system.

<Invalid OTP. Please try again>

Description: This error message indicates that you have entered the wrong OTP code.

Action: Please ensure that the OTP code sent to your registered email must be the one you have entered.

<Wrong email or password. Please try again>

Description: This error message indicates that you have entered the wrong email or password that is default for the super admin role.

Action: Please ensure that the email and password you have entered is correct for the default email and password of the super admin function.

N.2 Status Messages

<Registered Successfully>

Description: This status message indicates that you have successfully created an account, and your data has been successfully saved.

Action: You can choose to login to the system.

<OTP verification successful>

Description: This status message indicates that you have entered a correct OTP code and your account is verified.

Action: No action required.

<File Uploaded Successfully>

Description: This status message indicates that you have uploaded a file successfully. The file has been successfully saved to the archiving system.

Action: No action required.

<File Approved Successfully>

Description: This status message indicates that the manuscript uploaded by the students is approved.

Action: No action required.

<Status: Approve / Status: Decline>

Description: This status message indicates that the super admin has approved or declined the account.

Action: No action required.

N.3 Information Message

User Account Verification

<Enter OTP>

Description: This message requests users to verify the email address by entering the OTP sent to the user's registered email, this is to enhance security and communication.

Action: Enter the OTP code sent to your email address and click the "VERIFY" button.

<No results found>

Description: This message indicates that there is no file found in our system for the manuscript you are looking for.

Action: Enter another keyword or specific title.

