COLLEGE OF COMPUTER AND INFORMATION SCIENCE

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I.T PRACTICUM

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OVERVIEW OF THE COMPANY

The City Government of Biñan serves as the central administrative body responsible for managing and implementing programs, services, and policies that

promote the welfare and development of its citizens. Located in the province of Laguna, the City Government is committed to ensuring efficient public service delivery through its various departments and offices. It plays a vital role in governance, infrastructure development, public safety, education, health, and technology advancement within the city.

With its continuous efforts toward modernization, the City Government of Biñan embraces innovation and information technology to enhance transparency, efficiency, and accessibility of services. By fostering collaboration among departments and engaging with the community, it aims to create a progressive, sustainable, and inclusive city that provides opportunities and improves the quality of life for all Biñanenses.

VISION

To lead the digital transformation and drive innovation in the city, using the power of information and communication technology to provide excellent public services.

MISSION

To provide secure and reliable solutions through system development and IT infrastructure management.

To provide excellent service through ICT support, graphic design and ICT literacy training.

COMPANY BACKGROUND

The City Government of Biñan, situated in the province of Laguna, is a dynamic local government unit widely known as the "Trading and Commerce Center of the South." Once a municipality, Biñan became an official component city through Republic Act No. 9740 in 2010 and later secured its own congressional district under Republic Act No. 10658 in 2015. The city aims to create a contemporary, advanced community that respects its cultural legacy while advancing social justice, economic expansion, peace and order, and moral leadership. In keeping with this vision, the City Government is committed to enhancing public safety, offering high-quality education, protecting the environment, and improving each Biñanense's general well-being via responsive and transparent leadership.

The City Government of Biñan consistently integrates information and communication technology (ICT) into its operations and services, making it one of the most technologically advanced municipal governments in the area. By digitizing records, automating procedures, and enhancing data management systems, the city's Information and Communication Technology Office (ICTO) strives to improve efficiency, transparency, and service accessibility. Additionally, the ICTO creates digital technologies for disaster relief, public information distribution, and document tracking. The city's goal of being an intelligent, networked municipal government that successfully leverages technology to better serve its citizens is supported by these   advances.

DISCUSSION OF THE NATURE OF THE TASK

As part of my on-the-job training at the City Government of Biñan, I helped construct a Document Tracking System that would improve the accuracy, efficiency, and transparency of document processing in various departments. The primary goal of the system is to enable offices to keep track of the flow and status of documents from the moment they are received until they are completely processed. The City Government hopes to increase accountability throughout the workflow, minimize delays, and lower the possibility of missing documents.

Designing and developing the document tracking component was my main responsibility. Every document is given a distinct barcode by this module, which acts as a digital identifier. Every time a document is received, accepted or rejected, or sent to another unit, employees can scan the barcode as it passes through several offices. Every scan creates a thorough and up-to-date record of the document's progress by automatically updating the system with the document's most recent position and state. This enhances departmental collaboration and operational flow by guaranteeing that all authorized staff have easy access to correct and current information.

System analysis, software development, and database management abilities were needed for the jobs I completed. I focused on maintaining data security and accuracy across the system, integrating barcode production with the database, and guaranteeing seamless scanning capabilities. Through this experience, I was able to put my IT expertise to use in a practical context and contribute to a solution that upholds the City Government of Biñan's dedication to transparent governance and operational efficiency.

SOFTWARE USED: CODEIGNITER 4 AND XAMPP

We utilized CodeIgniter 4, a robust yet lightweight PHP framework ideal for creating dynamic web applications, to construct the Document Tracking System. The Model-View-Controller (MVC) architecture used by CodeIgniter 4 divides the logic, display, and data management of the application. Clean, well-organized, and reusable code is encouraged by this structure, which facilitates the development and upkeep of complicated systems like document tracking platforms.

We used XAMPP, an open-source package that comes with an Apache server, MySQL database, and PHP support, to set up our working environment. We were able to manage the database effectively, run the CodeIgniter 4 application locally, and thoroughly test the system before deployment thanks to XAMPP. Quick setup and smooth communication between the application and the database were made possible by its user-friendly interface and preconfigured parts.

CodeIgniter 4 was chosen because of its robust security features, speed, and ease of use. For crucial tasks like database operations, form validation, session management, and security protections, it provides built-in libraries and auxiliary tools. Fast performance is also guaranteed by its lightweight design, which is essential for a system that is accessed by several government agencies. We successfully combined barcode production, scanning features, and real-time tracking capabilities with XAMPP to create a reliable and effective document tracking system for the City Government of Biñan.

HARDWARE USED: LAPTOP

Throughout the development of the Document Tracking System, I used my own laptop as my main device for coding, testing, and designing system features. This allowed me to work efficiently because my laptop was already set up with the necessary tools such as CodeIgniter 4, XAMPP, and my preferred code editor. Using my own device also provided flexibility, enabling me to continue working both in the office and at home, which helped me meet project deadlines.

Having full control over my development environment made it easier to customize tools, manage files, and ensure smooth workflow performance. I also maintained proper security practices, including backing up files and protecting sensitive data stored locally. Overall, using my personal laptop contributed to faster development, consistent productivity, and a more convenient working process throughout the project.

SOFTWARE DEVELOPMENT OUTPUTS

The City Government of Biñan's Document Tracking System is a fully complete web-based tool that simplifies document administration and tracking across departments. The following are the main outputs that the system generates:

1. Barcode-Enabled Document Tracking: When a document is received, accepted, rejected, or forwarded, departments can scan its unique barcode to update its status. This guarantee tracking of document movement in real time.

2. Document Status Dashboard: Transparency and simple monitoring for authorized users are provided by a centralized interface that shows the location, history, and status of documents.

3. Database Records: A MySQL database safely stores all document data, including timestamps, department logs, and workflow histories. This enables rapid document retrieval, reporting, and auditing.

4. User Management Module: The system's role-based access controls allow departments to access pertinent features while protecting sensitive data.

5. Reports and Logs: To facilitate accountability and decision-making, the system can provide activity logs and summary reports for administrative review.

All things considered, the software outputs offer a dependable and effective way for the City Government of Biñan to track papers, save processing times, and increase operational transparency.

SCOPE OF THE PROJECT

The City Government of Biñan's Document Tracking System is intended to enhance document management, tracking, and monitoring across multiple departments. The system's main goal is to make sure that documents can be effectively tracked from the time they are received until they are accepted, rejected, or sent to the following department.

The project's scope encompasses the following essential elements:

• Barcode Generation and Scanning: Every document is given a distinct barcode, which the receiving department scans to instantly update its status.

• Real-Time Document Tracking: Every document's location and status are updated by the system.

• Database management: For simple retrieval and reporting, all document information, timestamps, and workflow history are safely kept in a MySQL database.

• User Role Management: To guarantee information security and confidentiality, departments access the system in accordance with their designated roles.

• Reporting Functionality: To help administrators keep an eye on document flow and workflow effectiveness, the system may provide reports and logs.

The project does not cover external communication or other government entities outside the city; it is restricted to internal operations within the City Government of Biñan. Improving operational effectiveness, cutting down on processing delays, and preserving document handling transparency are its core objectives.

SCREEN OF THE FEATURES

Staff   Pages

Figure 1.1 Dashboard Page

My Documents and Shared Documents are the two primary parts of the Dashboard that give users a centralized overview of their document actions.

1. My Documents Statistics: Users can see an overview of every document that is directly connected to their account in this section. It shows the total number of completed, rejected, and pending papers in addition to the total number of documents they have submitted or oversee. This enables users to monitor their progress and swiftly determine which documents need attention.

2. Statistics on Shared Documents: The status of documents that have been shared or sent to other departments or users is displayed in this area. It comprises the total number of shared documents, the total number of pending documents, the total number of rejected documents, and the total number of documents forwarded. This feature guarantees efficient cooperation and accountability by allowing users to track the processing of papers   they   have   sent.

Figure 1.2 My Documents Page

The main location where users may create, modify, and keep an eye on their papers is the My papers Page. This site lets users produce new documents in addition to viewing existing ones. To make tracking easier throughout the workflow, each new document is automatically assigned a unique barcode.

A data table on the page shows important information for every document, such as:

- Date and Time Created: This shows the time the document was created or submitted.

- Title of the Document: The formal title or topic of the document.

- Reference Number: A special number given to every document to facilitate tracking.

- Document kind: Indicates the kind or category of the document.

- Status: Indicates whether the paper is pending, approved, rejected, or finished.

- Current Department: Shows which department is in possession of the document now.

Users can see document details, amend information, or destroy the document if needed using the interactive options in the Action column. Each document can be scanned by departments to update its status thanks to the integration of barcode generation, which enhances workflow efficiency and real-time tracking.

All things considered, the My Documents Page improves document generation, tracking, and

management, allowing users to keep correct records, monitor document movement, and guarantee accountability within the Biñan City Government.
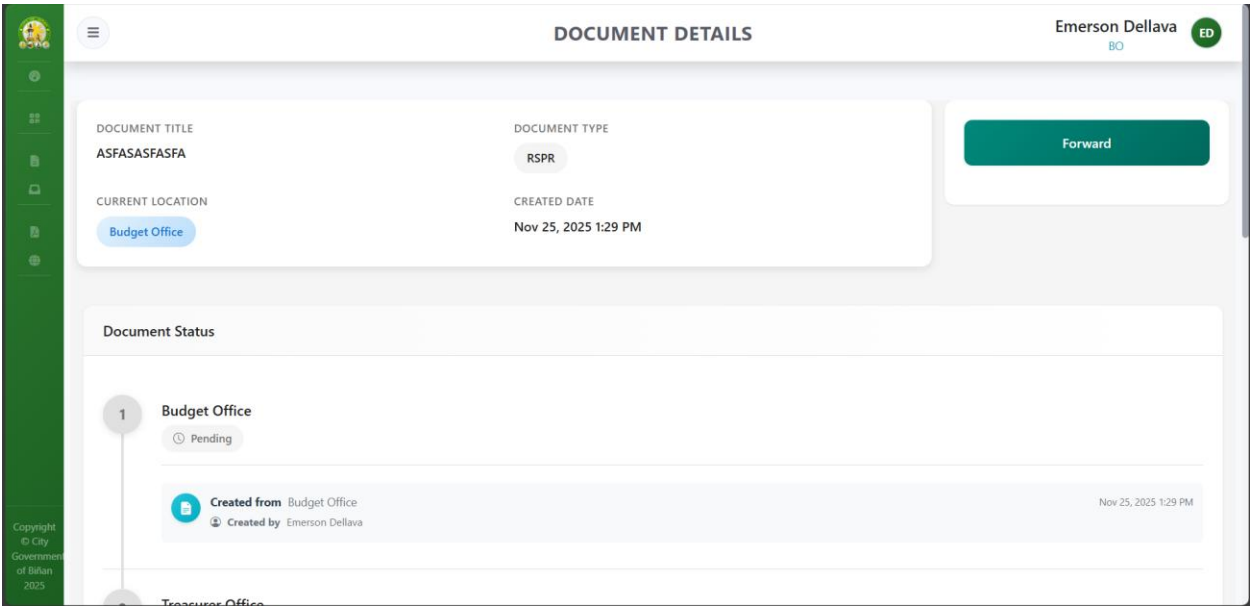
Figure 1.3 Document Details Page

Users can access all the information pertaining to a particular document on the Document Details Page. A thorough description of the document, including its title, reference number, type, creation date, and status, is given on this page. Its main purpose is to monitor the document's advancement through the workflow.

The workflow for the document creator starts on this page. The document can be formally moved via the document tracking system by the creator forwarding it to the next department. As the text develops, viewers can keep an eye on its present state in real time, including which department is in possession of the document and any modifications made throughout the approval or review procedure.
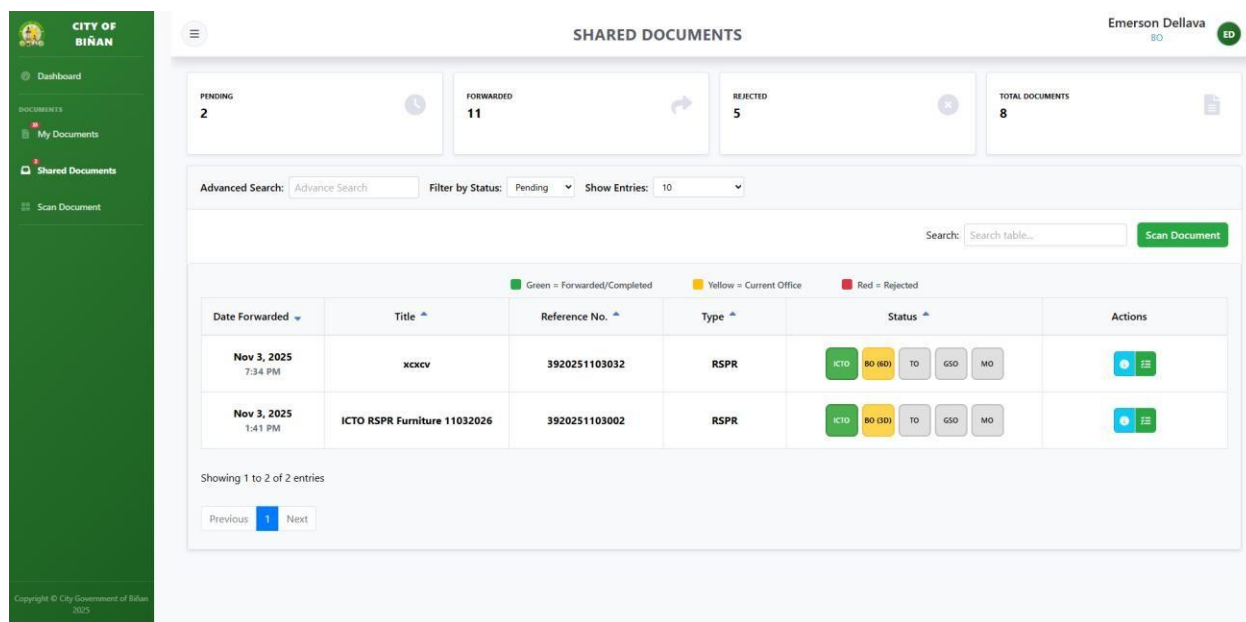
Figure 1.4 Shared Documents Page

All the materials that a prior office forwarded to the user's department are seen on the Shared materials Page. This page gives users a clear view of the documents that need their attention or action and enables them to track and manage documents received from other departments. A data table on the page displays crucial information for every shared document, including:

- Date and Time Received: This shows the time the document was sent to the department.

- Title of the Document: The document's name or topic.

- Reference Number: An identification number that facilitates tracking.

- Document kind: Indicates the kind or category of the document.

- Status: Indicates which department is in possession of the document now and whether it has been accepted or denied.

- Sending Department: Identifies the department that sent the file.

To properly evaluate, accept, reject, or process the document as needed, users can view document details in the Action column. Departments can effectively handle incoming documents and uphold accountability throughout the workflow thanks to this page's facilitation of seamless interdepartmental communication.
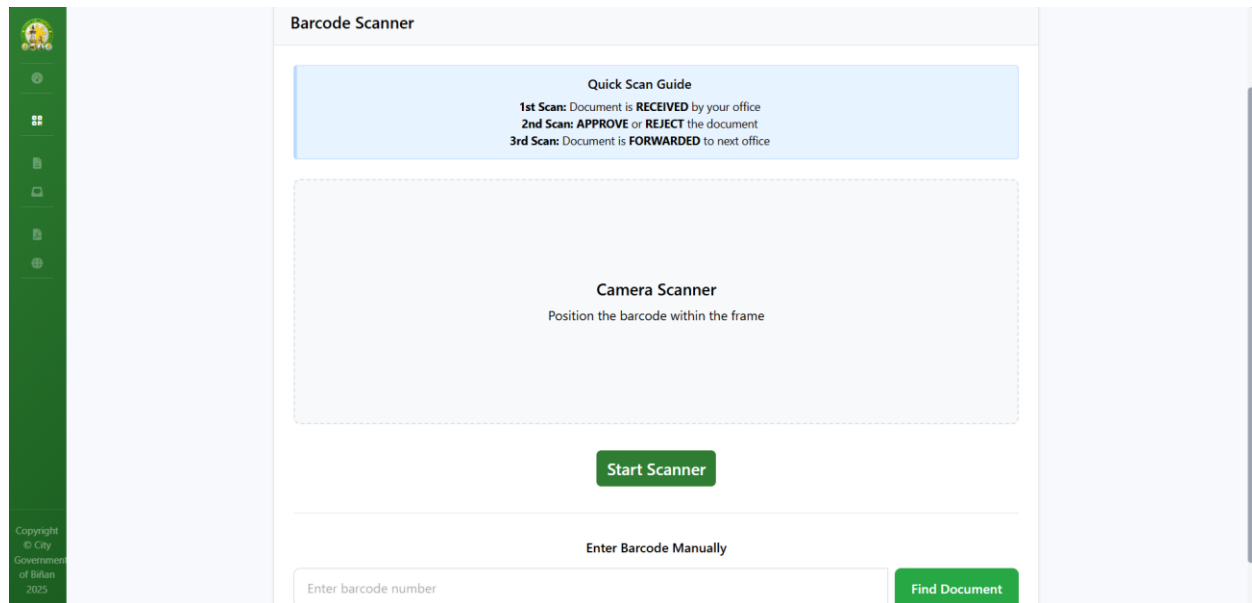
Figure 1.5 Scan Document Page
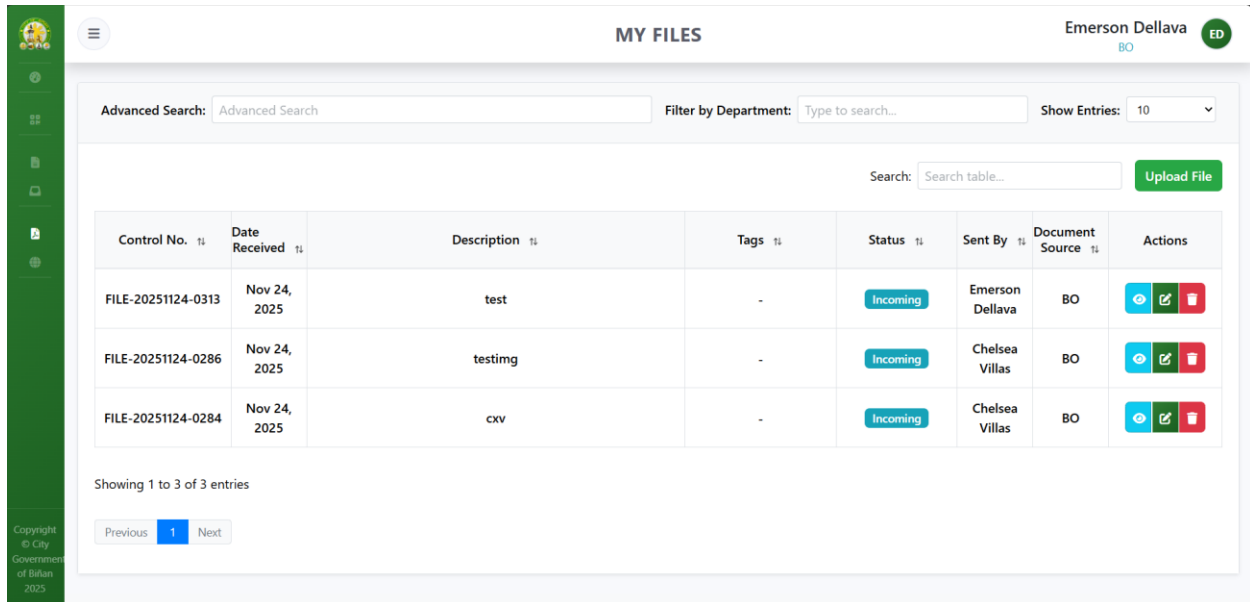
Departments can process documents utilizing barcode scanning using the Scan Document Page, which offers an effective way to update each document's status and workflow. A crucial component of the document tracking system, this page allows for precise tracking of document motions and real-time updates.

There are three steps involved in the scanning process:

1. **First Scan** - Receive Document: The system updates the document's position and status when the barcode is scanned for the first time, indicating that the department has received it.

2. **Second Scan** - After that, the department scans the document once more to decide whether to accept or reject it. The workflow is terminated, and the document does not move further if it is refused.

3. **Third Scan** - Forward Document: If the document is accepted, the department completes a third scan to send it on to the subsequent department, updating the system with the new location and carrying on with the workflow.

Because every scan updates the system in real time and keeps a comprehensive record of the document's status, this site guarantees accuracy, accountability, and efficiency in document

handling. For the City Government of Biñan to transport papers more efficiently and with fewer errors, the Scan Document Page is crucial.

Figure 1.6 My Files Page

My Files Page is added to our system, where you can PDF files that can also be shared within the municipality. The data table shows the files you have uploaded with the details like Control No., Date received, Description, Tags, Status, Sent by, Document Source, Actions, and more when you click the view full details button. This file management system helps users manage their files efficiently by reducing the need to handle hard copy files.
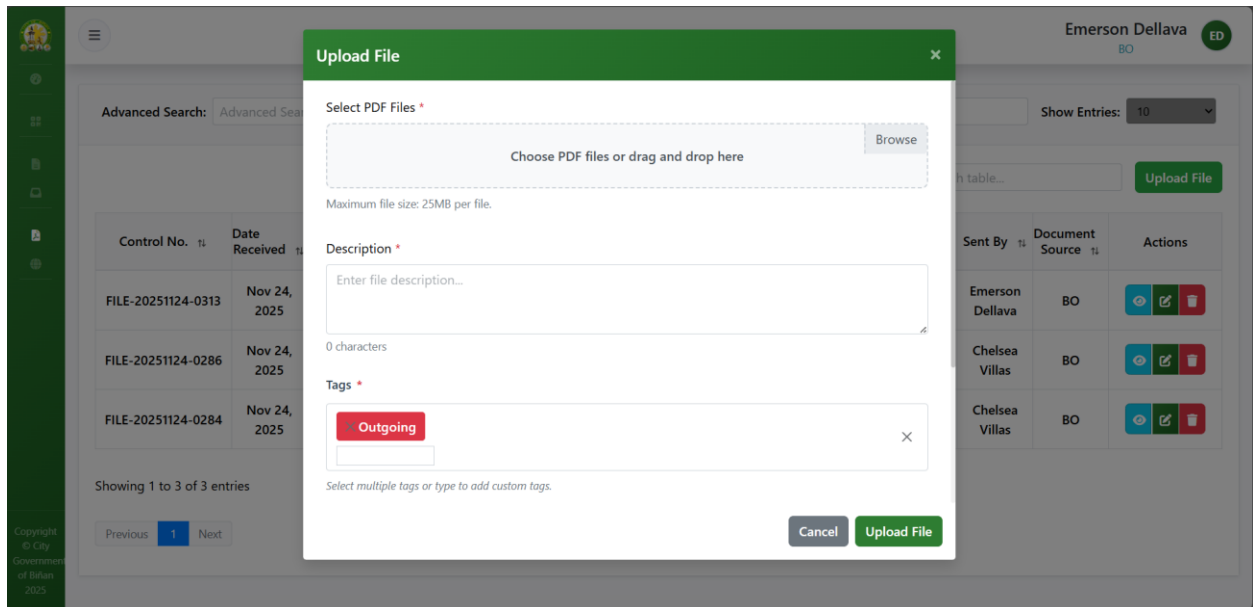
Figure 1.7 Upload File Modal

Upload File Modal allows you to select a single or multiple PDF file from your computer as long as each file does not exceed the 25MegaBytes file size limit. You can choose if the file should be available with everyone, with specific people, or just yourself.

Figure 1.8 Shared Files Page

Shared Files page was divided into two parts, shared files and pending files. Shared Files shows files that were shared with the user, files in Shared Files will also have a function where you will accept the files being shared by another user inside the pending files, after accepting the file, it will automatically transferred to your Shared Files, you will be required to approve or reject the file for the sender to be notified whether you have read the files and agreed.

Figure 1.9 Edit Profile

This page allows the users to edit their profile. The system will automatically take note of the changes while still being able to track your digital footprint to avoid losing track of the accounts. You can only change your name, birthdate, and your password if you are a staff member. Changing the department and employee number is exclusive for admin role.

ADMIN PAGES

Figure 2.1 User Documents Page

The User Documents Page is designed for administrative users to have a comprehensive

overview of all documents across the department. This page allows

administrators to monitor the status, progress, and workflow of documents handled by different

users within the department, ensuring transparency and effective management.

The page includes a data table that displays important details for each document, such as:

- **Date and Time Created**: Indicates when the document was submitted or
  generated.

- **Title of the Document**: The official name or subject of the document.

- **Reference Number**: A unique identifier for tracking purposes.

- **Document Type**: Specifies the category or nature of the document.

- **Status**: Shows which department currently holds the document and whether it has
  been approved or rejected.

- **Document Owner**: Identifies the user who created or manages the document.

Figure 2.2 Departments Page

The Department Page provides users with an overview of all departments and the documents currently associated with each department. This page is essential for monitoring department-level document distribution and workflow, allowing users to quickly identify which offices are handling specific documents.

The page includes a data table that displays key information for each department, including:

- Department Name: The official name of each department within the City Government of Biñan.

- Number of Documents: Shows the total number of documents currently held by the department.

- Documents List: Provides a summary of the documents associated with the department.

By using the Department Page, users can track document allocation across all offices, monitor workflow efficiency, and ensure accountability at the departmental level. This feature supports better resource management and inter-departmental coordination,

helping to maintain a transparent and organized

Figure 2.3 User Management Page

The User Management Page allows administrators to manage all user accounts within the Document Tracking System. This page provides a comprehensive view of users, including their assigned roles and departments, and serves as the interface for creating, updating, and controlling user accounts.

The page features a data table that displays key details for each user account, such as:

- **Username**: The full name of the account holder.

- **Role**: Specifies the user's access level, either Admin or Staff. Admins have full control over the system, including managing users and overseeing workflows, while Staff can manage documents and perform actions within their assigned department.

- **Department**: Indicates the department to which the user belongs.

- **Account Status**: Shows whether the account is active or deactivated.

The action column provides administrators with several management options, including:

- **Edit**: Modify user information, role, or department.

- **Delete**: Permanently remove a user account from the system.

- **Activate/Deactivate**: Enable or disable a user account without deleting it, allowing temporary restriction or reactivation as needed.
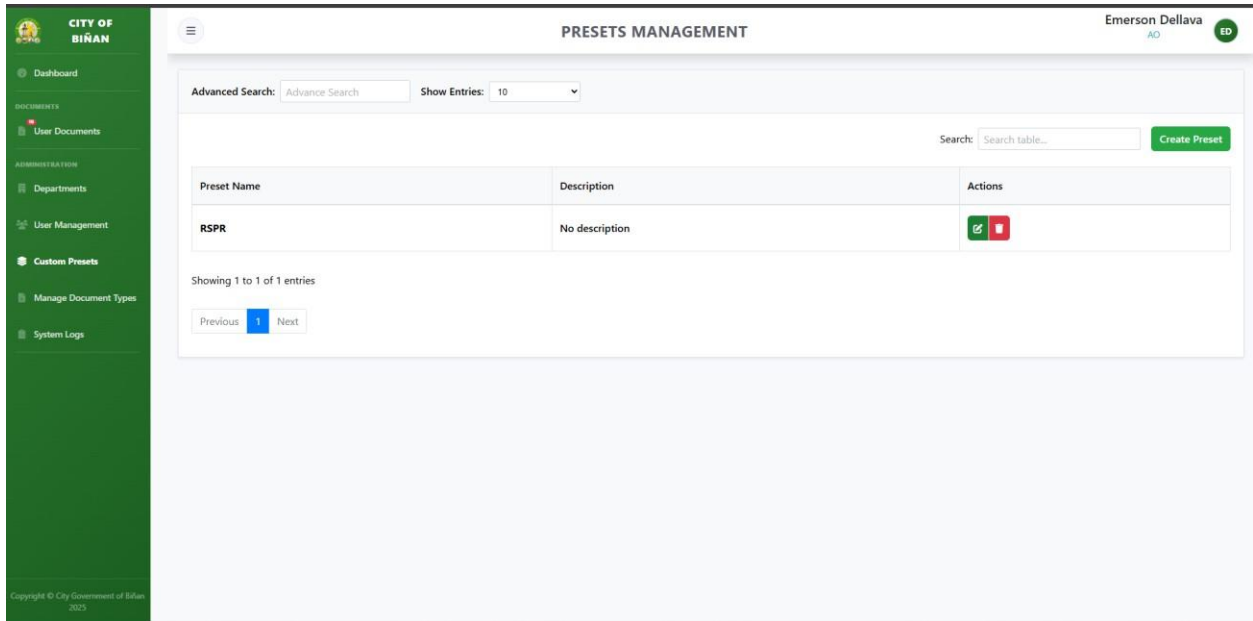
Figure 2.4 Custom Presets Page

The Custom Presets Page allows administrators to create and manage custom workflows for documents within the system. This page is essential for defining how documents move through different departments, ensuring that each document follows the proper process based on its type or purpose.

Users can select departments in a specific sequence, creating a preset workflow that will be applied during the creation of new documents. Once a workflow preset is defined, it automatically reflects in the document creation process, allowing the system to track the document as it moves through the selected departments.
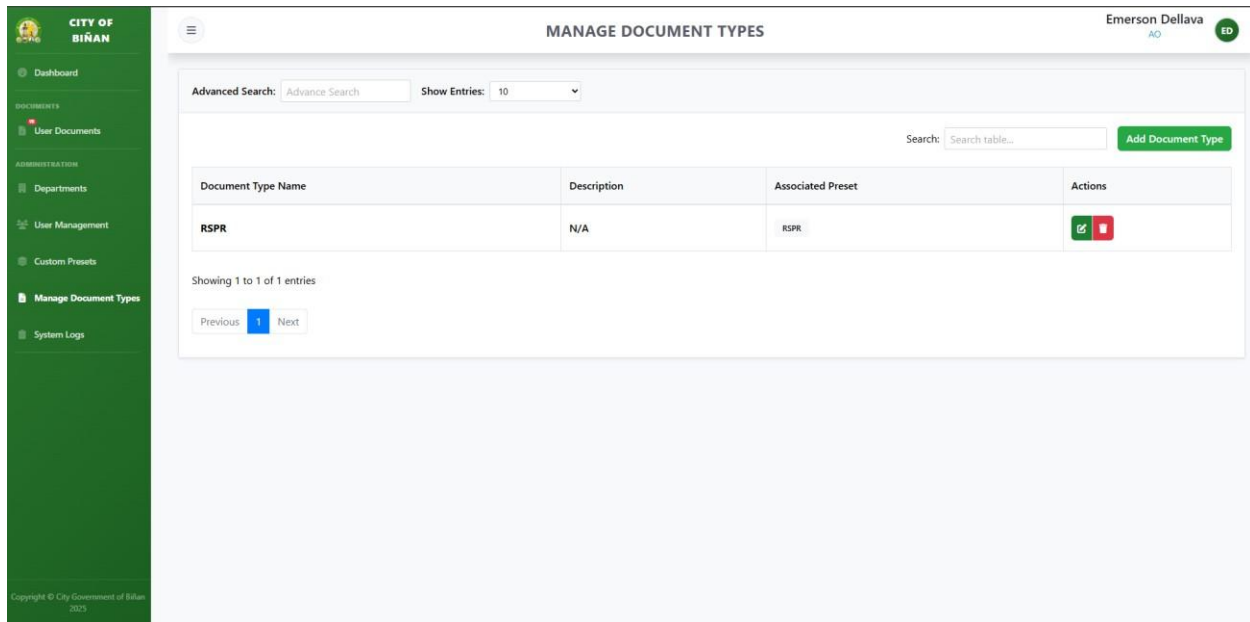
Figure 2.5 Manage Document Type Page

Administrators can create and manage various document kinds within the system using the Manage Document Type Page. This page is crucial for classifying documents based on their function or purpose and making sure that every type of document adheres to the proper procedure.

The system may automatically assign the proper order of departments for processing after a document type has been defined and linked to specific workflow presets. By ensuring that every type of document adheres to a predetermined procedure, this enhances document handling efficiency and consistency.

DISCUSSION

I was responsible for creating and overseeing the Document Tracking System during my practicum at the City Government of Biñan, with a special emphasis on the Tracking Module and numerous important frontend features. I was able to apply the theories and concepts I had studied in school to practical circumstances thanks to this chance, especially in the fields of system optimization, workflow automation, and software development. Because every document had to be tracked from the time it was received until it was authorized or transmitted, working on the tracking module forced me to develop a system that guarantees accuracy, accountability, and transparency.

I gained a deeper grasp of system flexibility, security, and scalability by working on the User Management, Custom Presets, and Document Type modules in addition to backend/frontend development. Processes were streamlined and the possibility of human mistakes was decreased by implementing role-based access control and creating department-specific workflows. I improved my backend and frontend skills by making use of the logics and the designs I have learned from school and here in Biñan.

Additionally, I helped to improve the interface by using CSS styling to improve general usability, layout uniformity, and visual clarity. A significant aspect of my job involved making sure the system was easy to use, particularly for government employees with different levels of technical expertise. To make the system simple to use and comprehend, I concentrated on creating clear form layouts, straightforward navigation, and readable visual components.

My communication, analytical, and problem-solving skills also improved because of working with my team and communicating with city employees. The significance of user-

centered design and useful functionality was highlighted by comprehending the workflow requirements of various departments and transforming them into useful system features. All things considered, my practicum experience offered a comprehensive educational opportunity that blended professional development with technical advancement, showing how technology can greatly increase the effectiveness and transparency of government procedures.