



**COLLEGE OF COMPUTER AND INFORMATION SCIENCE**

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**Academic Year 2025-2026**

# **I.T PRACTICUM**

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**Bachelor of Science in Internation Technology**

# 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.

# **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.

# **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.

# COMPANY BACKGROUND

The City Government of Biñan, located in the province of Laguna, is a progressive local government unit recognized as the “Trading and Commerce Center of the South.” Formerly a municipality, Biñan officially became a component city through Republic Act No. 9740 in 2010 and later achieved its own congressional district under Republic Act No. 10658 in 2015. The city envisions itself as a modern and developed community that values cultural heritage, peace and order, economic stability, social justice, and good governance. Guided by this vision, the City Government of Biñan is committed to promoting public safety, ensuring access to quality education, protecting the environment, and enhancing the quality of life for every Biñanense through responsive and transparent governance.

The City Government of Biñan is one of the most technologically progressive local governments in the region, continuously integrating information and communication technology (ICT) into its public services and operations. Through its Information and Communication Technology Office (ICTO), the city aims to improve efficiency, transparency, and accessibility of government services by digitizing records, automating workflows, and enhancing data management systems. The ICTO also supports the development of digital platforms that assist in document tracking, public information dissemination, and disaster management. These initiatives align with the city’s goal of becoming a smart and connected local government that leverages technology to serve its citizens better.

# DISCUSSION OF THE NATURE OF THE TASK

During my on-the-job training at the City Government of Biñan, I was assigned to assist in the development of a Document Tracking System aimed at improving the efficiency, accuracy, and transparency of document handling across various departments. The primary purpose of the system is to enable government offices to monitor the movement and status of documents from the moment they are received until they are finalized. By implementing this system, the City Government can reduce processing delays, prevent document misplacement, and ensure accountability throughout the workflow.

My primary responsibility was to design and implement the document tracking feature. This feature generates a unique barcode for each document, which serves as its digital identifier. Departments can scan the barcode whenever a document is received, approved or rejected, and forwarded to another office. Each scan automatically updates the document's status and location within the system, providing a comprehensive real-time overview of the document's workflow. This functionality ensures that all stakeholders have immediate access to accurate and up-to-date information, which streamlines operations and enhances inter-departmental coordination.

The tasks I performed required the application of system analysis, software development, and database management skills. I focused on integrating barcode generation with the database, ensuring seamless scanning functionality, and maintaining data accuracy and security throughout the document workflow. These responsibilities allowed me to translate theoretical IT knowledge into practical solutions while contributing to a system that directly supports the operational efficiency and transparency of the City Government of Biñan.

# SOFTWARE USED: CODEIGNITER 4 AND XAMPP

For the development of the Document Tracking System, we utilized CodeIgniter 4, a powerful and lightweight PHP framework designed for building dynamic web applications. CodeIgniter 4 provides a structured and organized approach to development by following the Model-View-Controller (MVC) architecture, which separates the application logic, user interface, and data management. This separation allows developers to write clean, maintainable, and reusable code, making it easier to manage complex systems like a document tracking application.

To support the development environment, we used XAMPP, a free and open-source platform that provides an Apache server, MySQL database, and PHP support. XAMPP allowed us to run the CodeIgniter 4 application locally, manage the database, and test the system in a controlled environment before deployment. Its user-friendly interface and pre-configured components made it easy to set up and maintain the development environment, ensuring smooth integration between the application and the database.

CodeIgniter 4 was chosen for its simplicity, speed, and security features, offering built-in libraries and helper functions for common tasks such as database management, form validation, session handling, and security protection. Its lightweight nature ensures fast performance even with multiple users, which is essential for a system used across various government departments. Combined with XAMPP, we were able to efficiently integrate barcode generation, scanning functionalities, and real-time document tracking, resulting in a robust and reliable Document Tracking System for the City Government of Biñan.

# SOFTWARE DEVELOPMENT OUTPUTS

The development of the Document Tracking System for the City Government of Biñan resulted in a fully functional web-based application that streamlines the monitoring and management of documents across departments. The system produces the following key outputs:

1. **Barcode-Enabled Document Tracking:** Each document is assigned a unique barcode that allows departments to scan and update the status whenever a document is received, approved, rejected, or forwarded. This ensures real-time tracking of document movement.
2. **Document Status Dashboard:** A centralized interface displays current status, location, and history of documents, providing transparency and easy monitoring for authorized users.
3. **Database Records:** All document information, including timestamps, department logs, and workflow history, is stored securely in a MySQL database. This allows quick retrieval, reporting, and auditing of documents.
4. **User Management Module:** The system includes role-based access controls, enabling departments to access relevant functionalities while maintaining the security of sensitive information.
5. **Reports and Logs:** The system can generate summary reports and activity logs for administrative review, which supports accountability and decision-making.

Overall, the software outputs provide a reliable and efficient solution for tracking documents, reducing processing delays, and improving operational transparency within the City Government of Biñan.

# SCOPE OF THE PROJECT

The Document Tracking System for the City Government of Biñan is designed to improve the management, monitoring, and tracking of documents within various departments. The system focuses on ensuring that documents can be efficiently traced from the moment they are received until they are approved, rejected, or forwarded to the next department.

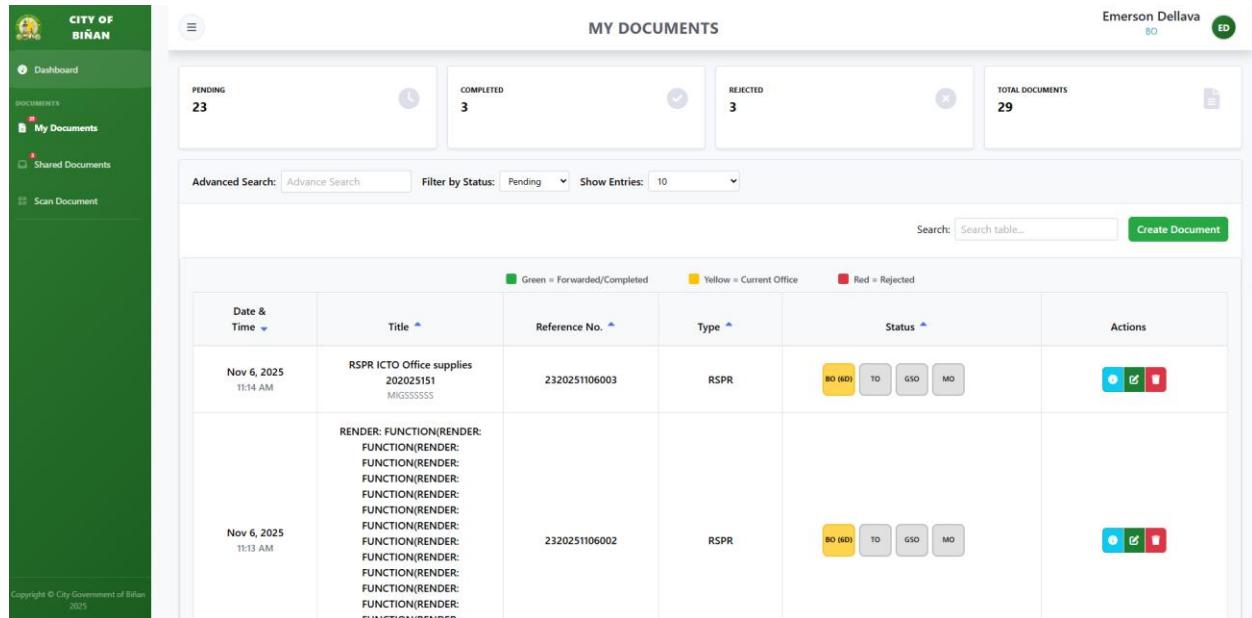
The scope of the project includes the following key features:

- **Barcode Generation and Scanning:** Each document is assigned a unique barcode, which is scanned by the receiving department to update its status in real time.
- **Real-Time Document Tracking:** The system provides up-to-date information on the location and status of each document.
- **Database Management:** All document details, timestamps, and workflow history are stored securely in a MySQL database for easy retrieval and reporting.
- **User Role Management:** Departments access the system according to their assigned roles to ensure security and confidentiality of information.
- **Reporting Functionality:** The system can generate reports and logs to assist administrators in monitoring document flow and workflow efficiency.

The project is limited to internal operations within the City Government of Biñan and does not extend to external communication or other government agencies outside the city. Its primary goal is to enhance operational efficiency, reduce processing delays, and maintain transparency in document handling.



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**Figure 1.2 – My Documents Page**

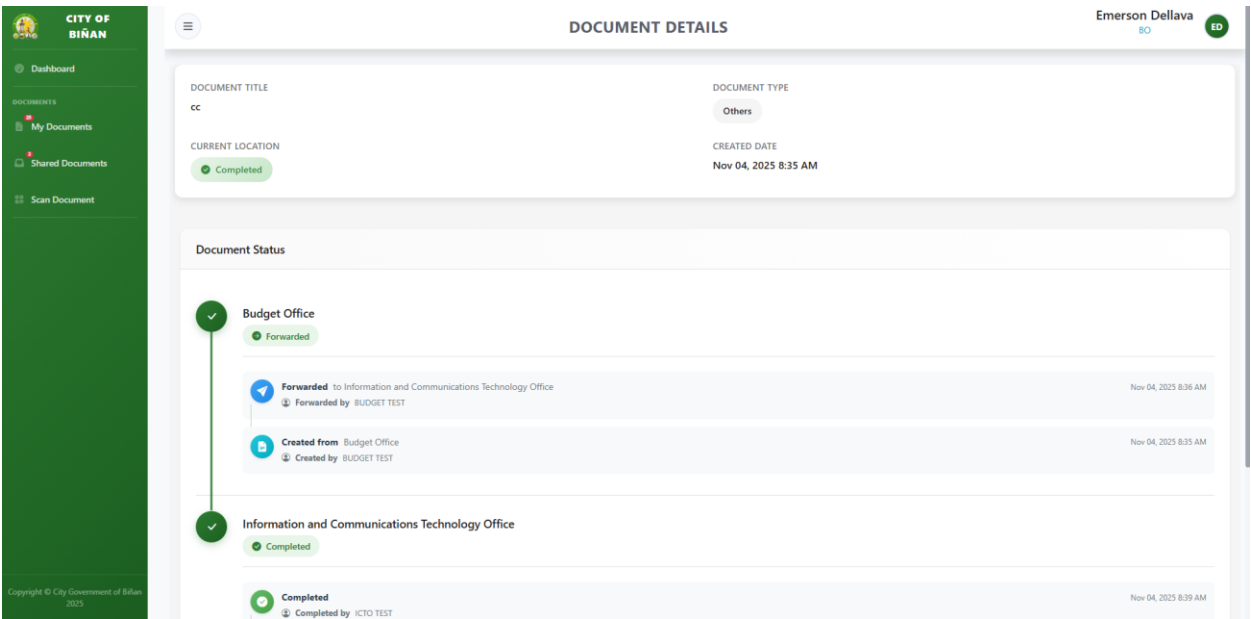
The My Documents Page serves as the central hub for users to create, manage, and monitor their documents. In addition to viewing existing documents, this page allows users to create new documents, which automatically generates a unique barcode for each document to facilitate tracking throughout the workflow.

The page includes a data table that displays key details for each document, including:

- **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 assigned to each document for tracking purposes.
- **Document Type:** Specifies the category or nature of the document.
- **Status:** Shows the current stage of the document, such as pending, approved, rejected, or completed.
- **Current Department:** Indicates which department currently holds the document.

The Action column provides interactive options for users to view document details, edit information, or delete the document if necessary. The integration of barcode generation ensures that each document can be scanned by departments to update its status, improving real-time tracking and workflow efficiency.

Overall, the My Documents Page enhances document creation, monitoring, and management, enabling users to maintain accurate records, track document movement, and ensure accountability within the City Government of Biñan.

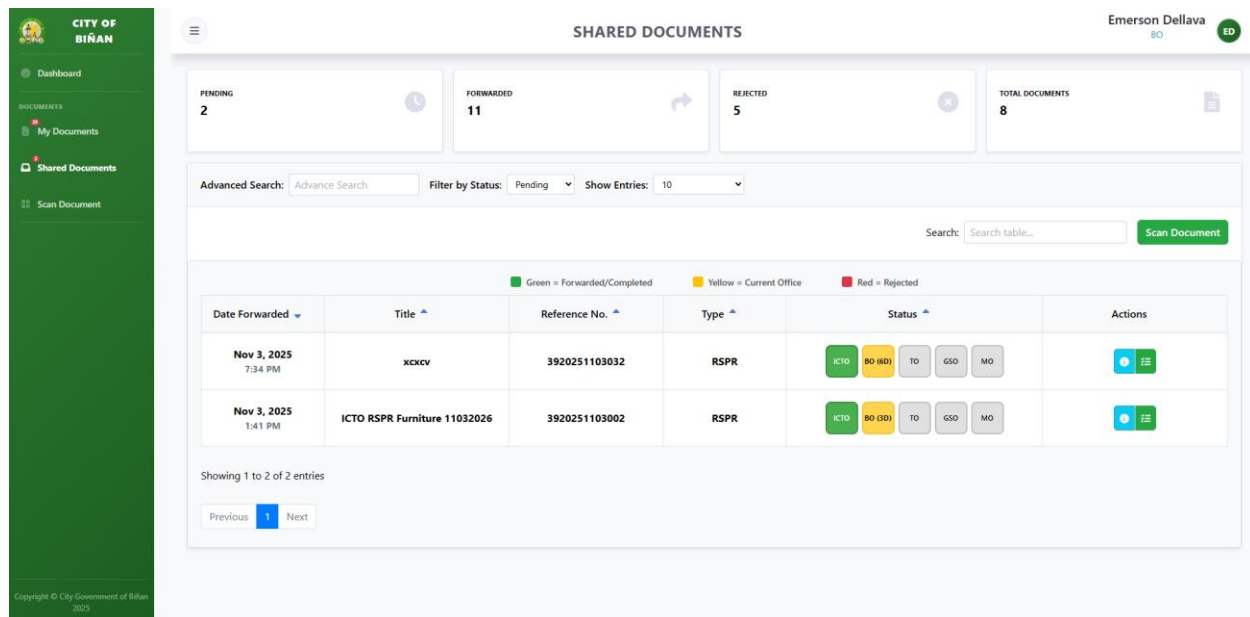


**Figure 1.3 – Document Details Page**

The Document Details Page allows users to view all information related to a specific document. This page provides a detailed overview of the document, including its title, reference number, type, creation date, and current status. It is primarily used to track the progress of the document as it moves through the workflow.

For the creator of the document, this page is where the workflow begins. The creator can forward the document to the next department, officially initiating its movement through the document tracking system. As the document progresses, users can monitor

its status in real time, including which department currently holds the document and any updates made during the approval or review process.



**Figure 1.4 – Shared Documents Page**

The Shared Documents Page displays all documents that have been forwarded to the user’s department by a previous office. This page allows users to track and manage documents received from other departments, providing a clear view of documents that require their attention or action.

The page includes a data table showing important details for each shared document, such as:

- **Date and Time Received:** Indicates when the document was forwarded to the department.
- **Title of the Document:** The name or subject of the document.
- **Reference Number:** A unique identifier for easy tracking.
- **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.
- **Sending Department:** Indicates the department that forwarded the document.

The Action column allows users to view document details, ensuring they can properly review, approve, reject, or process the document as required. This page facilitates smooth inter-departmental communication, enabling departments to efficiently manage incoming documents and maintain accountability throughout the workflow.

The screenshot shows a web application interface for scanning documents. The header includes a menu icon, the title "SCAN DOCUMENT", and user details for Emerson Dellava. The main section is titled "Barcode Scanner" and contains a "Quick Scan Guide" with three steps: 1st Scan (RECEIVED), 2nd Scan (APPROVE or REJECT), and 3rd Scan (FORWARDED). Below the guide is a "Camera Scanner" section with a dashed box for positioning the barcode and a "Start Scanner" button. At the bottom is an "Enter Barcode Manually" section with a text input field and a "Find Document" button.

**Figure 1.5 – Scan Document Page**

The Scan Document Page allows departments to process documents using barcode scanning, providing an efficient method to update the status and workflow of each document. This page is a key part of the document tracking system, enabling real-time updates and accurate monitoring of document movements.

The scanning process follows a three-step workflow:

1. **First Scan – Receive Document:** When the barcode is scanned for the first time, the system registers that the department has received the document, updating its status and location.

2. Second Scan – Approve or Reject: The department then scans the document a second time to either approve or reject it. If the document is rejected, the entire workflow is canceled, and the document does not proceed further.
3. Third Scan – Forward Document: If the document is approved, the department performs a third scan to forward the document to the next department, updating the system with the new location and continuing the workflow.

This page ensures accuracy, accountability, and efficiency in document handling, as each scan updates the system in real time and maintains a complete record of the document's status. The Scan Document Page is essential for streamlining the workflow and minimizing errors in the movement of documents within the City Government of Biñan.

## ADMIN PAGES

Date & Time	Title	Reference No.	Type	Status	Actions
Nov 9, 2025 2:13 PM	TESTING 1	392025109001	Others	ICTO (SD) BO	[Icons]
Nov 6, 2025 11:14 AM	RSPR ICTO Office supplies 202025151 MIGSSSSSS	2320251106003	RSPR	BO (RD) TO GSO MO	[Icons]
Nov 6, 2025 11:13 AM	RENDER: FUNCTION(RENDER: FUNCTION(RENDER: FUNCTION(RENDER: FUNCTION(RENDER: FUNCTION(RENDER: FUNCTION(RENDER: FUNCTION(RENDER:	2320251106002	RSPR	BO (RD) TO GSO MO	[Icons]

**Figure 1.6 – 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.

Department Name	Documents	Actions
Accountant Office AO	0	[Add] [Edit] [Delete]
Agriculture AGRI	1	[Add] [Edit] [Delete]
Assessor Office AO	0	[Add] [Edit] [Delete]
Auditor Office AO	0	[Add] [Edit] [Delete]
Budget Office BO	35	[Add] [Edit] [Delete]
Building Parts and Admin Office BPAO	0	[Add] [Edit] [Delete]
Business Permit and Licensing Office BPLO	0	[Add] [Edit] [Delete]
Cemetery Office CO	0	[Add] [Edit] [Delete]

**Figure 1.7 – Department 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 or reference to 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



Employee Number	Name	Department	Account Status	Role	Actions
0002	MIG A. Corrales	Agriculture	Active	Staff	 
0005	Auditor TEST	Auditor Office	Active	Staff	 
0006	BPAO TEST	Building Parts and Admin Office	Active	Staff	 
0007	BPLO TEST	Business Permit and Licensing Office	Active	Staff	 
0008	Emerson Dellava	Budget Office	Active	Staff	 
0009	CA TEST	City Administrator	Active	Staff	 
0010	CAO TEST	Community Affairs Office	Active	Staff	 
0011	CCCCO TEST	Command, Communication and Control Center Office	Active	Staff	 
0012	CEM TEST	Cemetery Office	Active	Staff	 

**Figure 1.8 – 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.

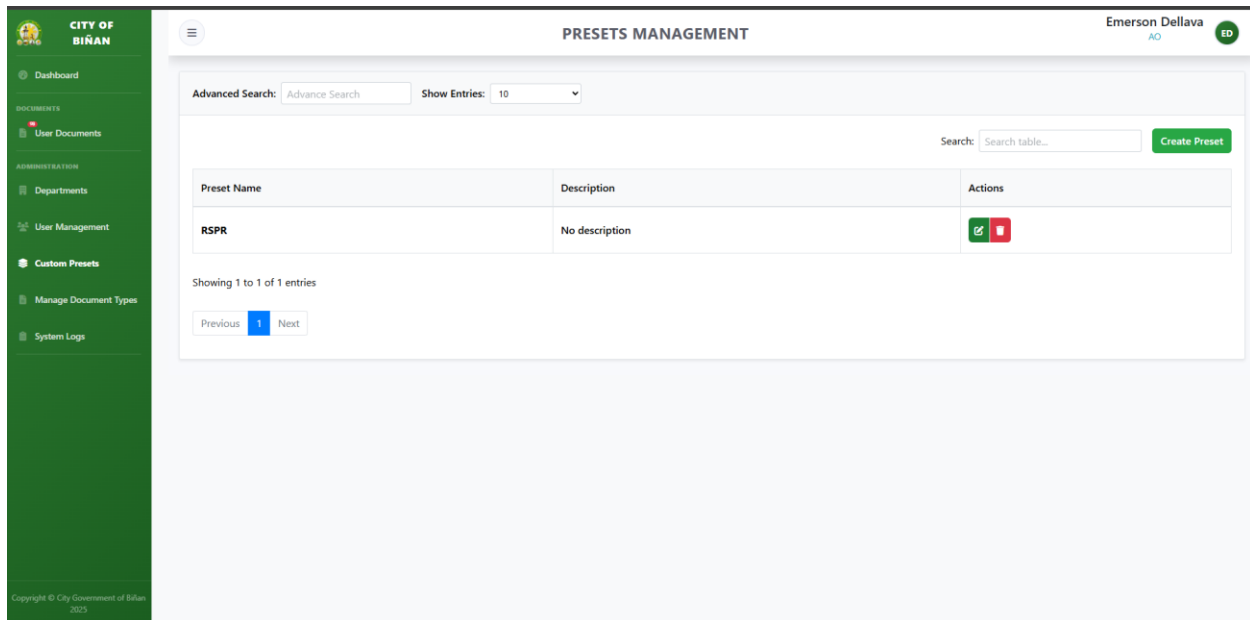
The page features a data table that displays key details for each user account, such as:

- **User Name:** 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.

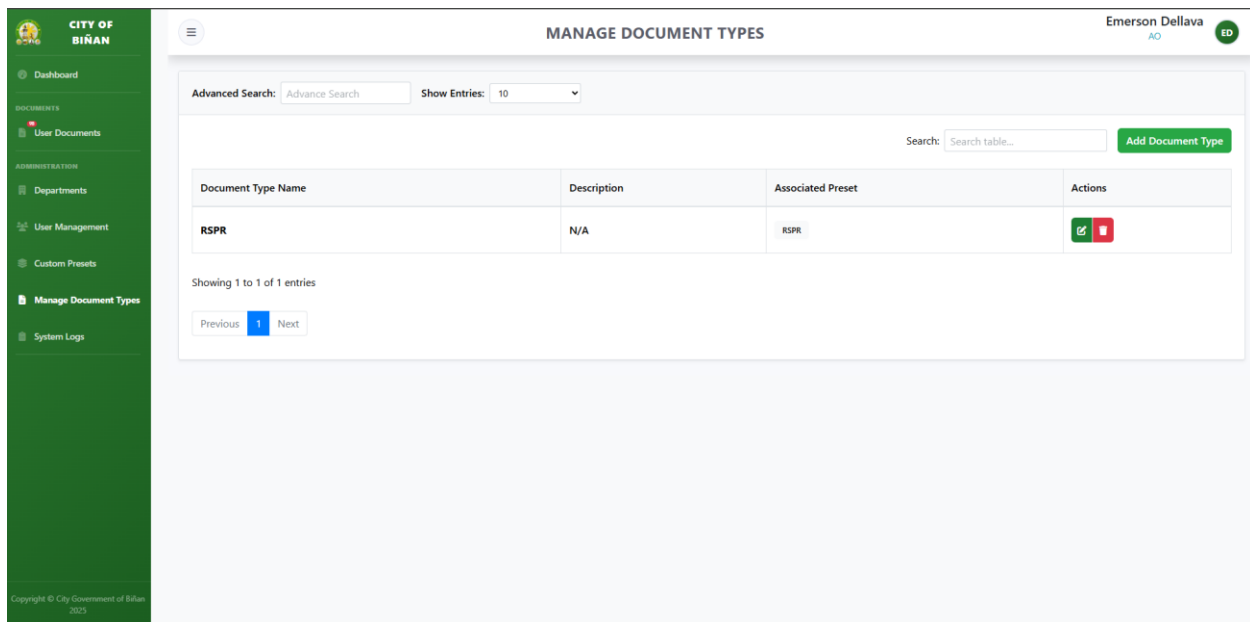
- **Activate/Deactivate:** Enable or disable a user account without deleting it, allowing temporary restriction or reactivation as needed.



**Figure 1.9 – 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 will 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 1.10 – Manage Document Type Page**

The Manage Document Type Page allows administrators to create and manage different types of documents within the system. This page is essential for categorizing documents according to their purpose or function, ensuring that each document type follows the appropriate workflow.

Once a document type is created, it can be linked to custom workflow presets, allowing the system to automatically assign the correct sequence of departments for processing. This ensures that each document type follows a predefined workflow, improving efficiency and consistency in handling documents.

# DISCUSSION

During my practicum at the City Government of Biñan, I was assigned to develop and manage the Document Tracking System, focusing primarily on the Tracking Module and other backend components. This experience allowed me to apply theoretical knowledge from my academic studies to real-world scenarios, particularly in software development and workflow automation. Developing the tracking module exposed me to the challenges of creating a system that ensures accuracy, accountability, and transparency in document processing, as each document had to be carefully monitored from receipt to approval and forwarding.

Working on the User Management, Custom Presets, and Document Type modules gave me insight into the importance of system flexibility and security. Implementing role-based access control and defining department-specific workflows helped standardize processes while minimizing human error. The practical use of CodeIgniter 4, MVC architecture, and MySQL database management strengthened my technical skills in backend development and taught me how to develop modular and maintainable code for long-term system sustainability.

Furthermore, collaborating with my team and interacting with city staff allowed me to enhance my communication, problem-solving, and analytical skills. Understanding the workflow needs of different departments and translating them into system features emphasized the importance of user-centered design and practical functionality. Overall, my practicum engagement provided a comprehensive learning experience, blending technical development with professional growth, and highlighted the impact of technology in improving efficiency and transparency in government operations.