

DOCUMENT TRACKING SYSTEM FOR NIA REGION IV-A, PILA, LAGUNA

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The National Irrigation Administration (NIA) in Pila, Laguna needed an efficient way to track documents as they move through various offices. Manual tracking led to delays and misplacement

Initial Scope :

- Track document flow across offices
- Use QR codes for quick lookup
- Support multiple user roles:
 - Admin
 - Record Office Staff
 - Handler
 - Guest
- Generate reports and notifications

Key Enhancements

Database Optimization Tools : Archive old records and optimize tables for performance

Idle Document Detection : Automatically detect and notify about documents not updated in 7+ days

Scheduled Maintenance Monitor : Run optimization and checks via monitor.php (ideal for cron jobs)

Guest Dashboard : View current document status and progress from a dedicated interface

Modular Code Architecture : Restructured code into reusable model classes

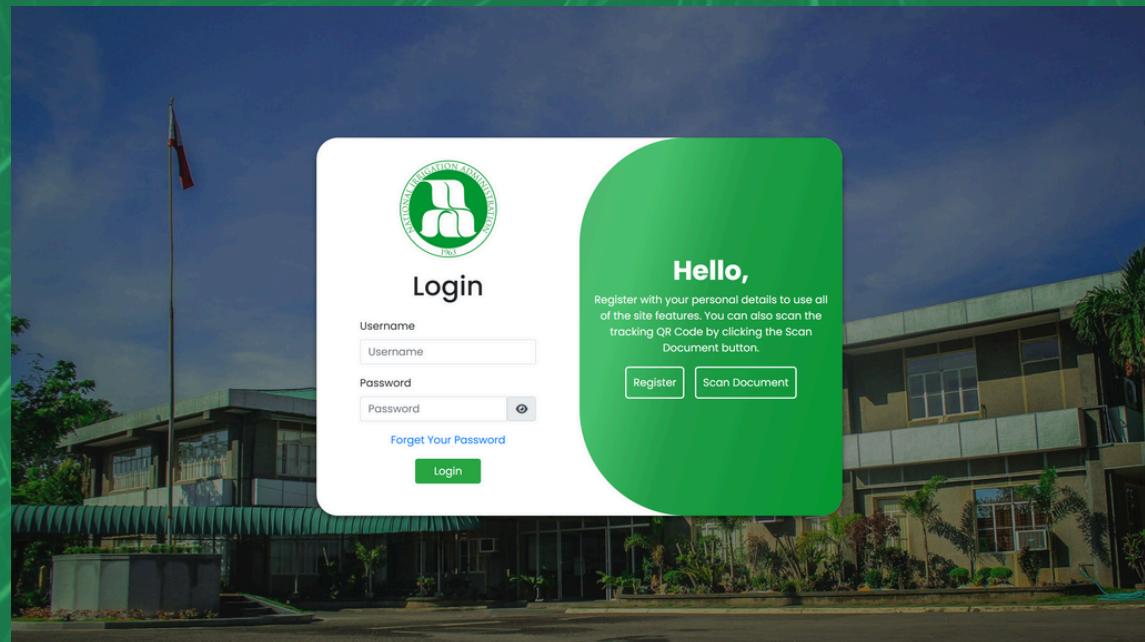
Secure Configuration Handling : Centralized config management with dynamic base path and email settings

Database Abstraction Layer : Unified DB connection handling using Config\Database

PSR-4 Autoloading : Clean class loading via Composer

PHPUnit Test Coverage : Unit tests for core logic and database interactions

GitHub Actions Automation : Tests run automatically on every push



Registration Form

Register with your personal details to use all of the site features. You can also scan the tracking QR Code by clicking the Scan Document button.

Account Type Document Handler	First Name	Last Name
Contact Number Format: 09123456789	Position	Office Office of The Regional Irrigation Manager
Email Address	Confirm Email Address	Username
Password	Confirm Password	Confirm password

[Register](#) [Back to login page](#)

Dashboard

NIA Document Tracking and Management System

- Dashboard
- CDTS Document
- Offices
- User Management
- Office Performance

Dashboard

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No. of guest accounts: 11 users

No. of document handler account: 9 users

Incoming Registration: 1 items

QR Code Scanner

Scan QR Code

Enter tracking code

Find Code

Back

CDTS Document

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Document Type	Action
Abstract	
Acknowledge Receipt for Equipment (ARE)	
ADA Received from CO	
Advice of check issued	
Aging of Cash Advances	
Annual Procurement Plan (APP)	
Application for Terminal Leave	
Application Letter	
ASA Received from CO	
ASA releases to IMO's	

Settings

- Home
- Update Profile
- Change Password

Update Profile

Image: Choose File No file chosen

First Name: Admin Last Name: Admin

Contact no: 9123123123

Position: ADMINASDASDASD

[Update Profile](#)

Received Documents

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Documents currently handle by this office.

Date	QR Code	Doc Code	Document Type	Document Source	Sender	Action
2024-03-11 06:00:13		2024-03-11-7245	Transmittal Letter	internal	Records Office	
2024-03-17 01:02:55		2024-03-17-9110	Indorsement Letter	internal	asdasdasdasqA asdasd	

Navbar

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Total Documents: 0 Pending Documents: 0 Completed Documents: 0

Recent Documents

Tracking Code	Document Type	Subject	Status	Date Updated

Submit Document

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Subject:

Document Type:

Description:

Document Date:

Action Required:

Send Attachments:

[submit](#) [Clear](#)

Technical Overview & Testing

System Architecture :

- Backend: PHP + MySQL
- Frontend: HTML/CSS/JS + Bootstrap + SweetAlert + jQuery
- Libraries: PHPMailer, phpqrcode, TCPDF

Testing Tools Used :

- PHPUnit for unit tests
- GitHub Actions for automated testing
- Laragon Terminal for local test execution
- SQLite memory DB for fast, isolated testing

Development Tools :

- Laragon (local dev environment)
- Git + GitHub (version control + CI/CD)
- Composer (dependency management)
- Visual Studio Code / Notepad++ (code editor)

Lesson Learned

The group learned several essential lessons throughout the project that strengthened both technical skills and software engineering practices. First, the importance of modular design and reusable components became clear, as they contributed to cleaner, more manageable code. The group also understood how automated testing can be integrated into real-world projects, ensuring system reliability and catching errors early. Working with Composer and PHPUnit on a Windows environment provided hands-on experience in dependency management and test automation. In addition, the group saw the value of database optimization and maintenance scripts in improving system performance and reliability. Deployment and task automation using cron and GitHub Actions further emphasized the benefits of streamlining repetitive tasks. Overall, the project highlighted how core software engineering principles apply to real-life scenarios and contribute to building efficient and maintainable systems.

Installation & Deployment Summary

How to Set Up the System :

- Clone from GitHub
- Run composer install
- Import .sql file into MySQL
- Configure config/Database.php and Config.php
- Set permissions for:
 - assets/qr-codes/
 - assets/uploaded-pdf/
- Schedule daily cleanup with monitor.php

Technologies Used :

- PHP 8.x
- MySQL / MariaDB
- HTML, CSS, JavaScript
- Laravel-style folder structure
- Composer + PHPUnit + phpqrcode + PHPMailer