

User Manual: Smart Irrigation System Dashboard

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1. Introduction

Welcome to the Smart Irrigation System Dashboard! This platform allows you to monitor and control your irrigation system remotely. You can track environmental conditions (temperature, humidity, soil moisture), manually operate pumps and valves, analyze historical data, and manage your account—all in one place.

To access the dashboard, you must first register (if you're a new user) or log in (if you already have an account).

2. Registration & Login

Registration (New Users)

1. Open the dashboard in your web browser.
2. Click "Register" on the login page.
3. Fill in your details:
 1. Full Name
 2. Username
 3. Password (must be strong)
 4. Email
 5. Location
4. Click "Submit" to create your account.

Login (Existing Users)

1. Enter your username and password.
2. Click "Login" to access the dashboard.

Note: If you forget your password, use the "Forgot Password?" link to reset it via email.

3. Dashboard Overview

After logging in, you will see the main dashboard with the following sections:

- **Navigation Menu (Left Sidebar):** Contains links to all pages (Dashboard, Control Panel, Visualize Data, Profile, Help, About, Contact, Logout).
- **Android Users:** To access the navigation menu, tap on the hamburger button (≡) in the top left corner.
- **Main Content Area:** Displays the selected page's content.

4. Pages & Features

4.1 Dashboard (Real-time Data & Export)

Purpose: View real-time sensor data (temperature, humidity, soil moisture) and system status (pump/valve on/off).

Features:

- Live Data Display: Shows current readings in numerical and graphical formats.
- Download Button: Export data in CSV or Excel format for analysis.

4.2 Control Panel (Manual Pump & Valve Control)

Purpose: Manually control the irrigation system.

Features:

- Toggle Buttons for Pump and Valve (ON/OFF).
- Status Indicators showing whether components are active.
- Viewing Current Moisture Level (%).
- Threshold Indicator: Shows the current moisture threshold.
- Setting Threshold: Option to set the moisture threshold for automatic control.

4.3 Visualize Data (Graphs & Data Export)

Purpose: View historical data trends.

Features:

- Checkboxes to select which data to display (temperature, humidity, moisture).
- Graphs showing trends over time.
- Download Button to export selected data in CSV or Excel.

4.4 Profile (User Account Management)

Purpose: Manage your account details.

Features:

- Personal Information: Name, username, age, profile picture, location.
- Account Management:
 - Update Profile (edit details).
 - Delete Account (permanently remove your account).

4.5 Help (FAQs & Support)

Purpose: Get assistance with common issues.

Features:

- FAQs (frequently asked questions).
- Support Message Form (send a message to the developer).

4.6 About (Developer Information)

Purpose: Learn about the developer.

Features:

- Developer: Morris Nduwayo (Chemical Engineer, Python & C++ Programmer).

4.7 Contact (Social Media & Direct Contact)

Purpose: Reach out for support or inquiries.

Features:

- Social Media Links: Facebook, Twitter, LinkedIn.
- Phone Number: +250 780 443 345.
- Email: nduwayomorris@gmail.com

4.8 Logout (Secure Session Termination)

Purpose: Securely end your session.

How to Use:

1. Click "Logout" in the navigation menu.
2. You will be redirected to the login page.

5. Troubleshooting

Issue	Solution
Can't log in	Check username/password. Use "Forgot Password" if needed.
No sensor data	Ensure sensors are connected and powered.
Pump/Valve not responding	Check physical connections and power supply.
Graphs not loading	Refresh the page or check internet connection.

6. Support & Contact Information

For further assistance, contact:

- **Email:** nduwayomorris@gmail.com
- **Phone:** +250 780 443 345
- **Social Media:** Facebook, Twitter, LinkedIn (Morris Nduwayo)

7. Frequently Asked Questions (FAQs)

Q1: How do I access the navigation menu on mobile devices?

A: On Android devices, tap the hamburger button (≡) in the top left corner to access the navigation menu.

Q2: What should I do if I forget my password?

A: Click on the "Forgot Password?" link on the login page, and follow the instructions to reset your password via email.

Q3: How can I view my current moisture level?

A: Navigate to the Control Panel, where you will find the current moisture level displayed in percentage.

Q4: How do I set the moisture threshold?

A: In the Control Panel, you will see an option to set the moisture threshold. Enter your desired value and save the changes.

Q5: Can I download my sensor data?

A: Yes, you can download your sensor data in CSV or Excel format from both the Dashboard and Visualize Data sections.

Q6: What if the graphs are not loading?

A: If the graphs are not loading, try refreshing the page or checking your internet connection. If the problem persists, ensure your sensors are functioning properly.

Thank you for using the Smart Irrigation System Dashboard!
For updates and improvements, stay tuned!