

Project Title

Temperature monitoring system

Introduction

This project uses an Arduino to create a smart alert system for monitoring soil moisture and temperature for plants. Data from the sensors is displayed on the LCD screen, and if soil moisture level drops or temperature exceeds a preset limit, an alert is given by the buzzer or LED.

Components Required:

1. **Arduino UNO** - The main controller of the project.
2. **16x2 LCD Display** - Shows the sensor data and alerts.
3. **Soil Moisture Sensor** - Measures soil moisture.
4. **Buzzer** - Provides audio alerts.
5. **Potentiometer** - Adjusts LCD contrast.
6. **Temperature Sensor** (e.g., TMP36/LM35) - Measures ambient temperature.
7. **LEDs & Resistors** - Used for visual indication.
8. **Breadboard & Jumper Wires** - For circuit connections.

Basic Working

- Arduino continuously reads the sensor data.
- If the soil moisture or temperature moves beyond the defined limit, the buzzer or LED gives an alert.
- Real-time sensor data is displayed on the LCD.

Circuit Diagram

(You can include this diagram image in your README)

Code

Include your logic for sensor reading, LCD display, and alerts in a file like "code.ino" or "main.ino".

Applications

- Smart irrigation management in fields or home gardens.
- Real-time monitoring of soil moisture and temperature.