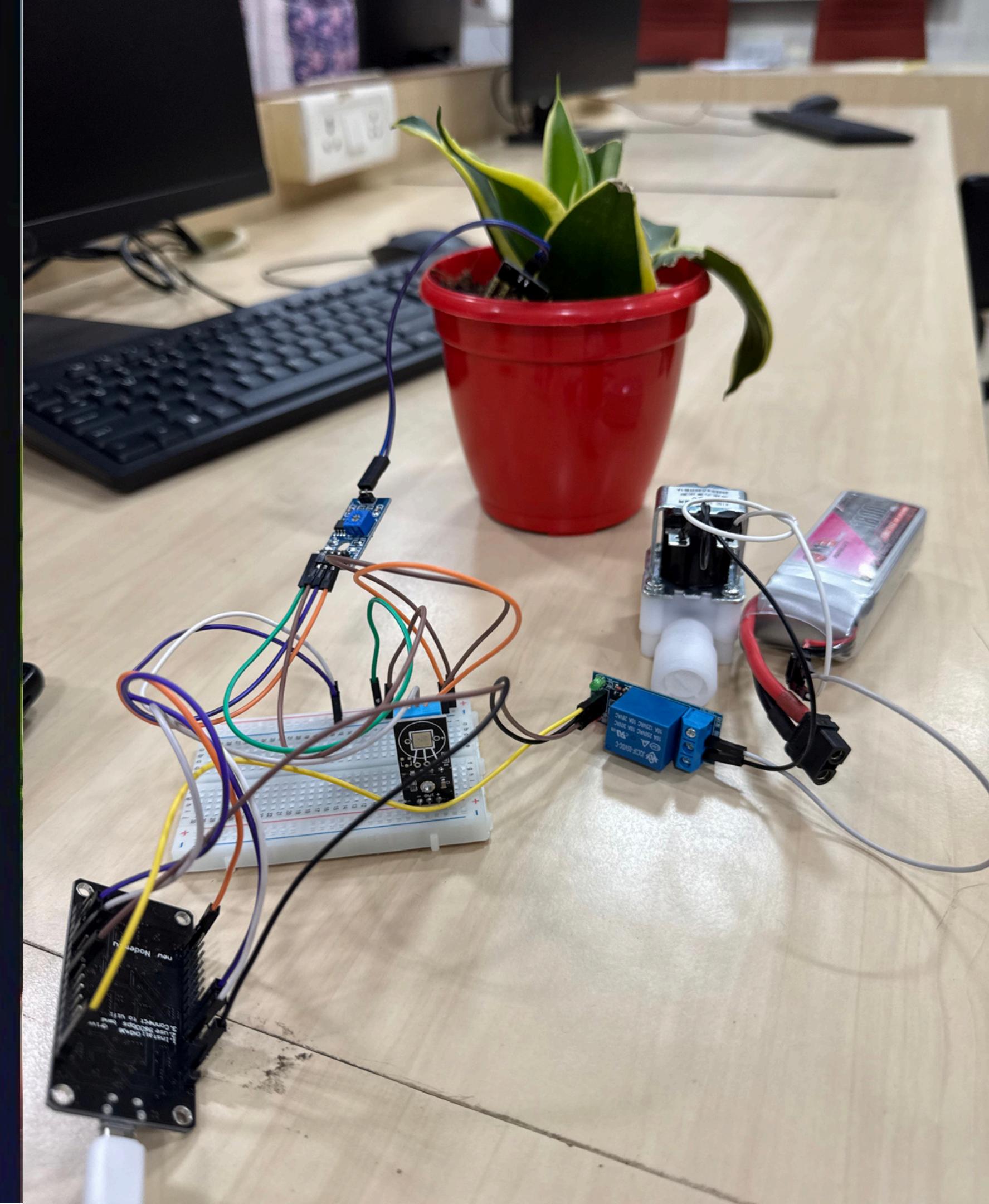


IoT Smart Irrigation

Mini Project Report by Arya Singh & Adithya Om
Saidupally

Introduction

This presentation covers the IoT Smart Irrigation project, detailing its objectives, components, and outcomes.

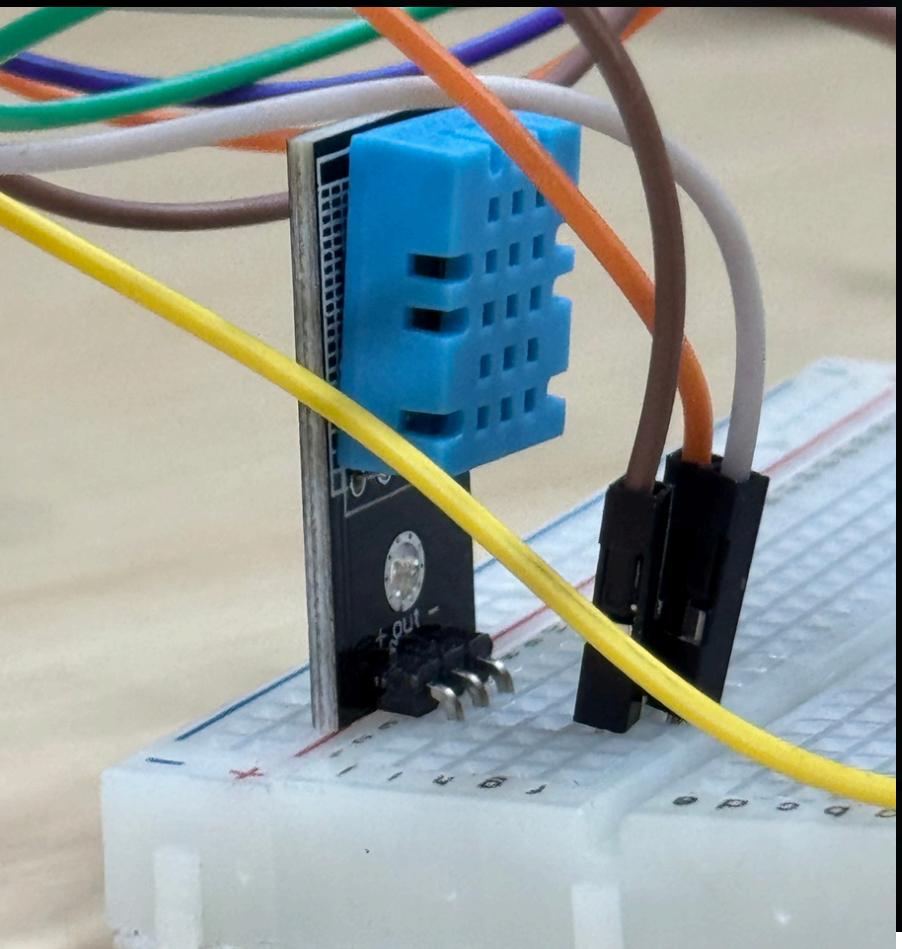


01

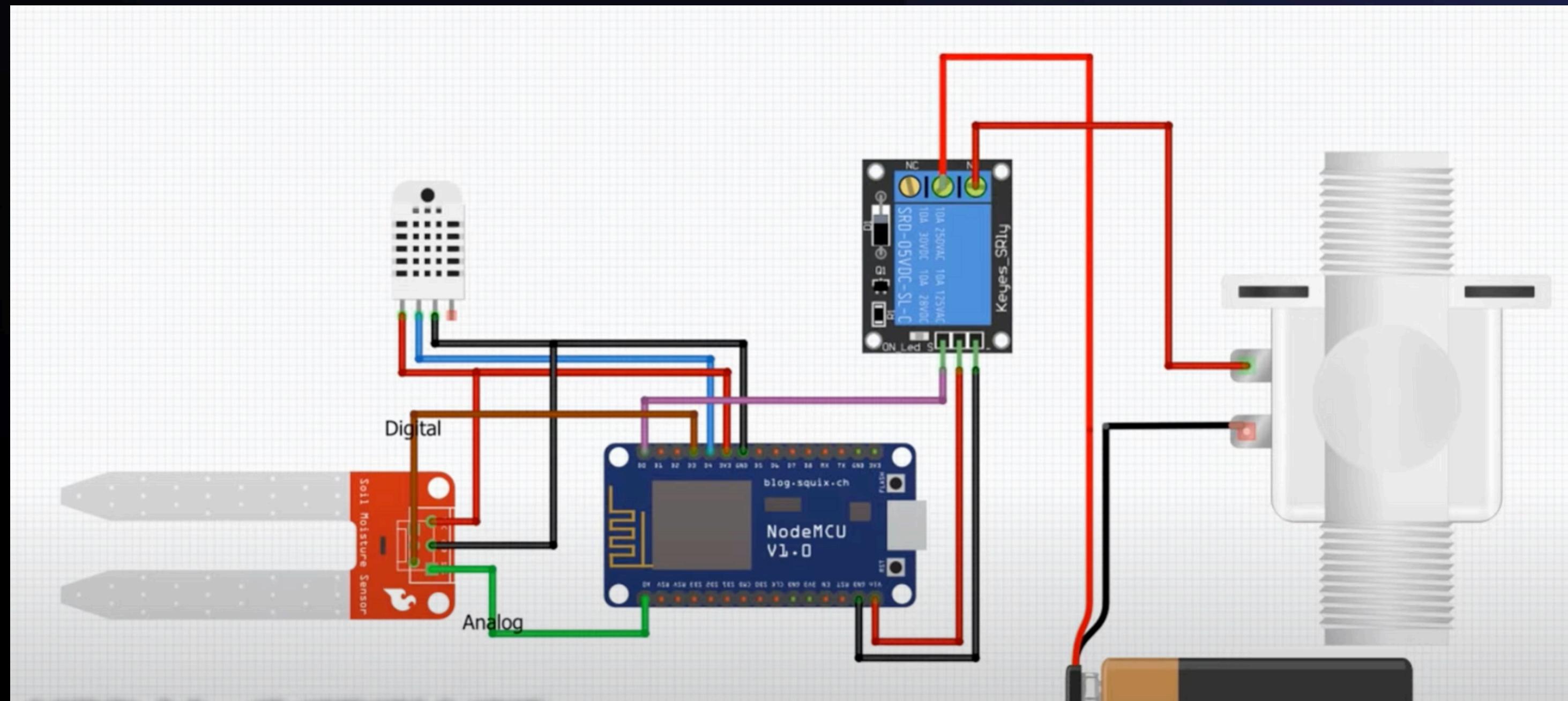
Objectives

Monitor soil moisture, temperature, and humidity

The system employs sensors to continuously monitor soil moisture, temperature, and humidity levels, ensuring optimal conditions for plant growth. This real-time monitoring allows for timely irrigation interventions based on environmental needs.



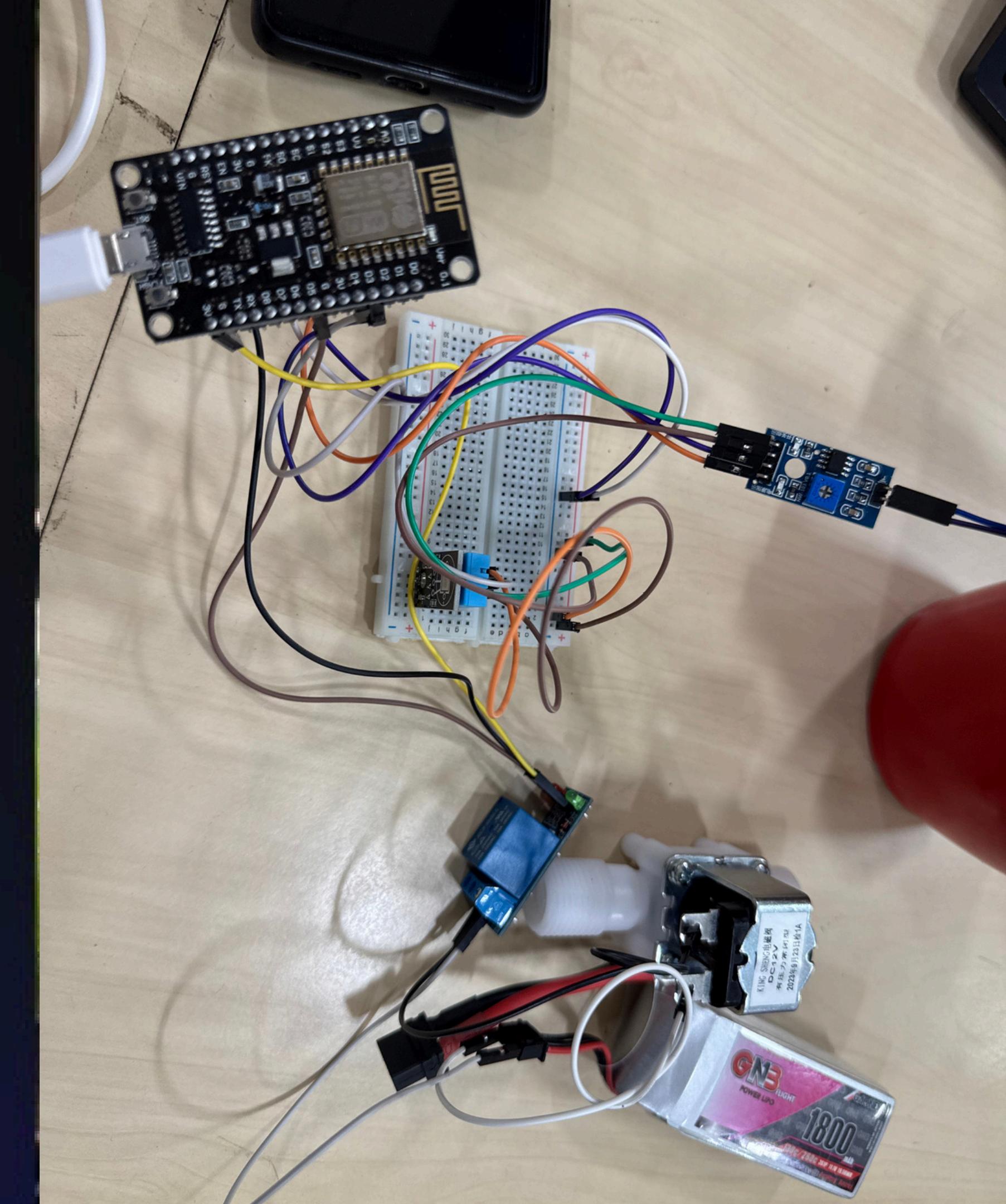
Circuit Diagram



Component used

NodeMCU ESP8266

- DHT11 Sensor
- Soil Moisture Sensor
- Relay Module
- Solenoid Valve
- Blynk Console
- 12V DC Power Supply

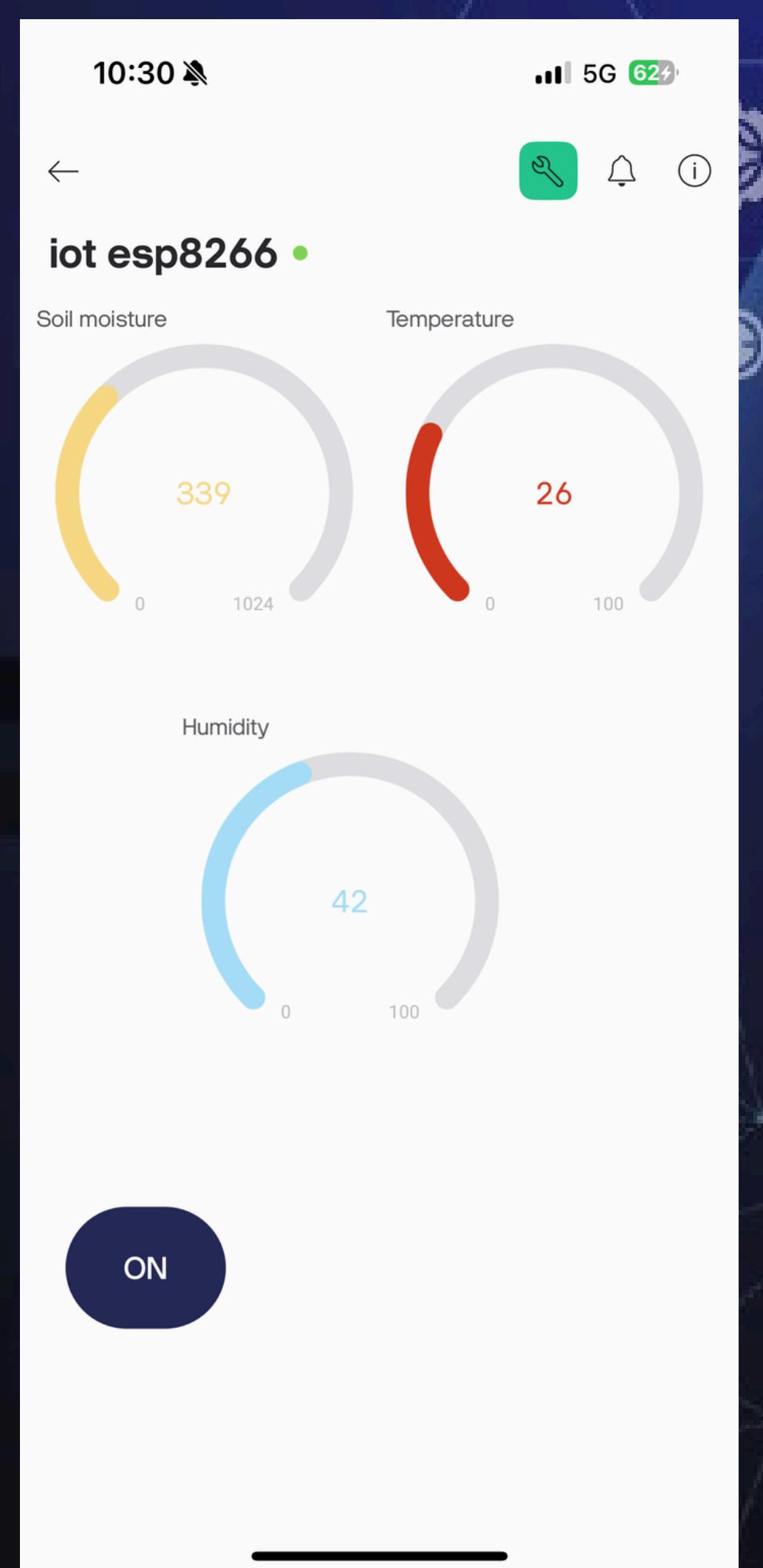


02

Results

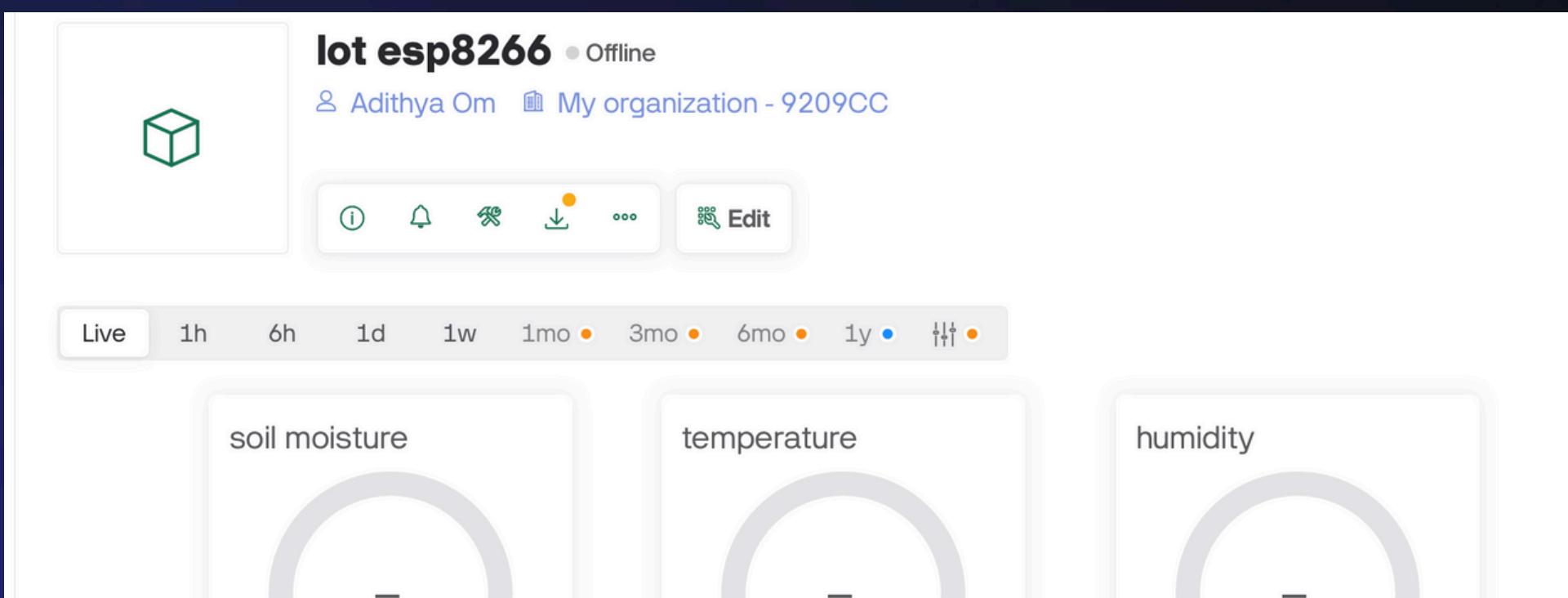
ESP8266 sends sensor data to Blynk

The NodeMCU ESP8266 module successfully connects to WiFi, transmitting data from various sensors to the Blynk server. This connection enables the system to relay crucial information related to soil moisture and temperature to the user's mobile application.



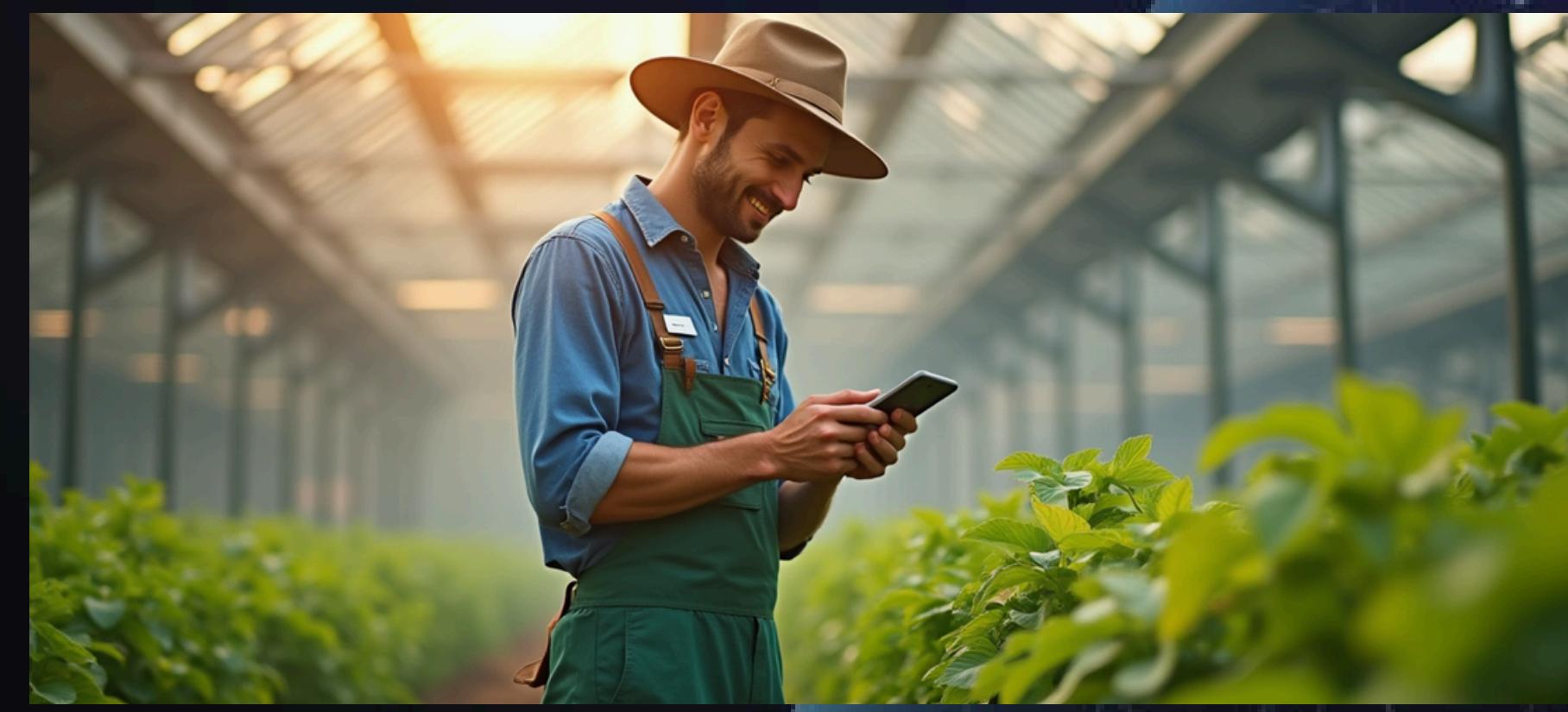
Real-time display of soil moisture and temperature

The Blynk application displays real-time readings of soil moisture levels and temperature, allowing users to visualize changes and make informed decisions about irrigation. This capability enhances the responsiveness of the irrigation system to environmental conditions.



Future Scope

Scope of improvement could be in integrating the system to automatically send notifications and do the necessary actions without users' involvement. and could also integrate motion sensor which triggers to ring an alarm, to scare away any threat.



Conclusions

The IoT Smart Irrigation system demonstrates the effectiveness of integrating technology into agriculture. By enabling remote monitoring and control, the system not only optimizes water usage but also supports sustainable farming practices. The project highlights the potential for further enhancements, including automated features for increased efficiency.



Thank You