



Plant Health Tracker

TCS Experienceship Project

Project Introduction

Plant Health Tracker is a full-fledged online tool focused on the Agriculture and AgriTech industry. We chose this field because plants are essential for food, beauty, and the environment, yet many suffer from poor watering, temperature, or humidity. This solution is perfect for plant enthusiasts, home gardeners, and even small-scale farmers.

Users can select a plant type, input care details, and instantly get colorful feedback to prevent diseases and promote healthy growth. The goal is simple: make plant care easy, engaging, and effective for healthier plants everywhere.

Website Details

Plant Health Tracker

Choose a category:

Houseplants

Choose a plant:

Snake Plant



Enter your plant conditions:

Temperature (°F):
75

Humidity (%):
56

Times watered per week:
2

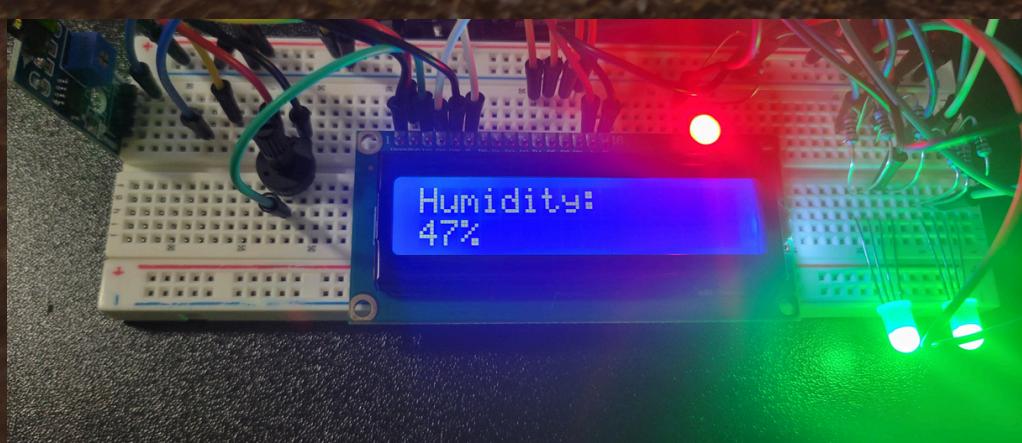
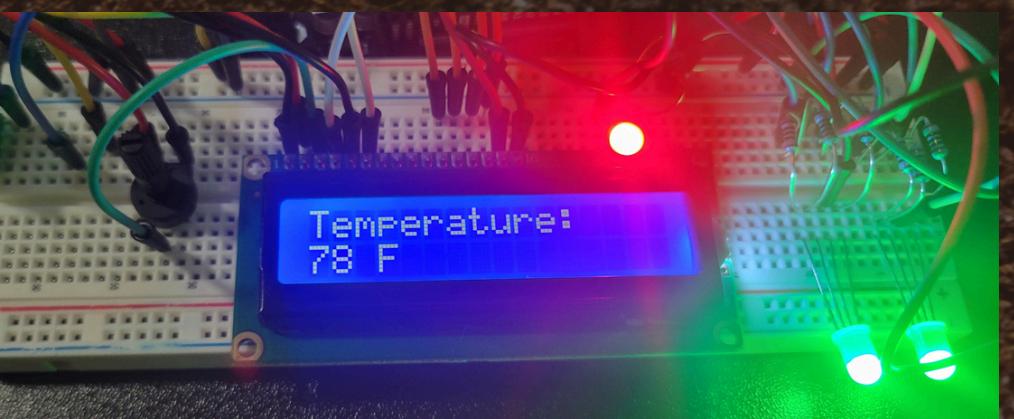
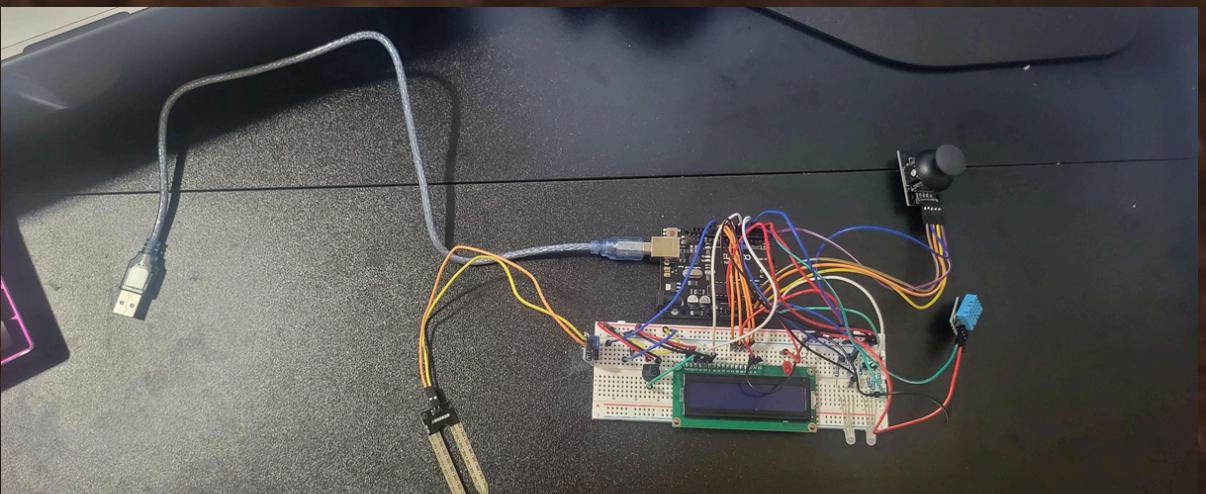
Get Feedback

Great job! Your plant conditions are just right.

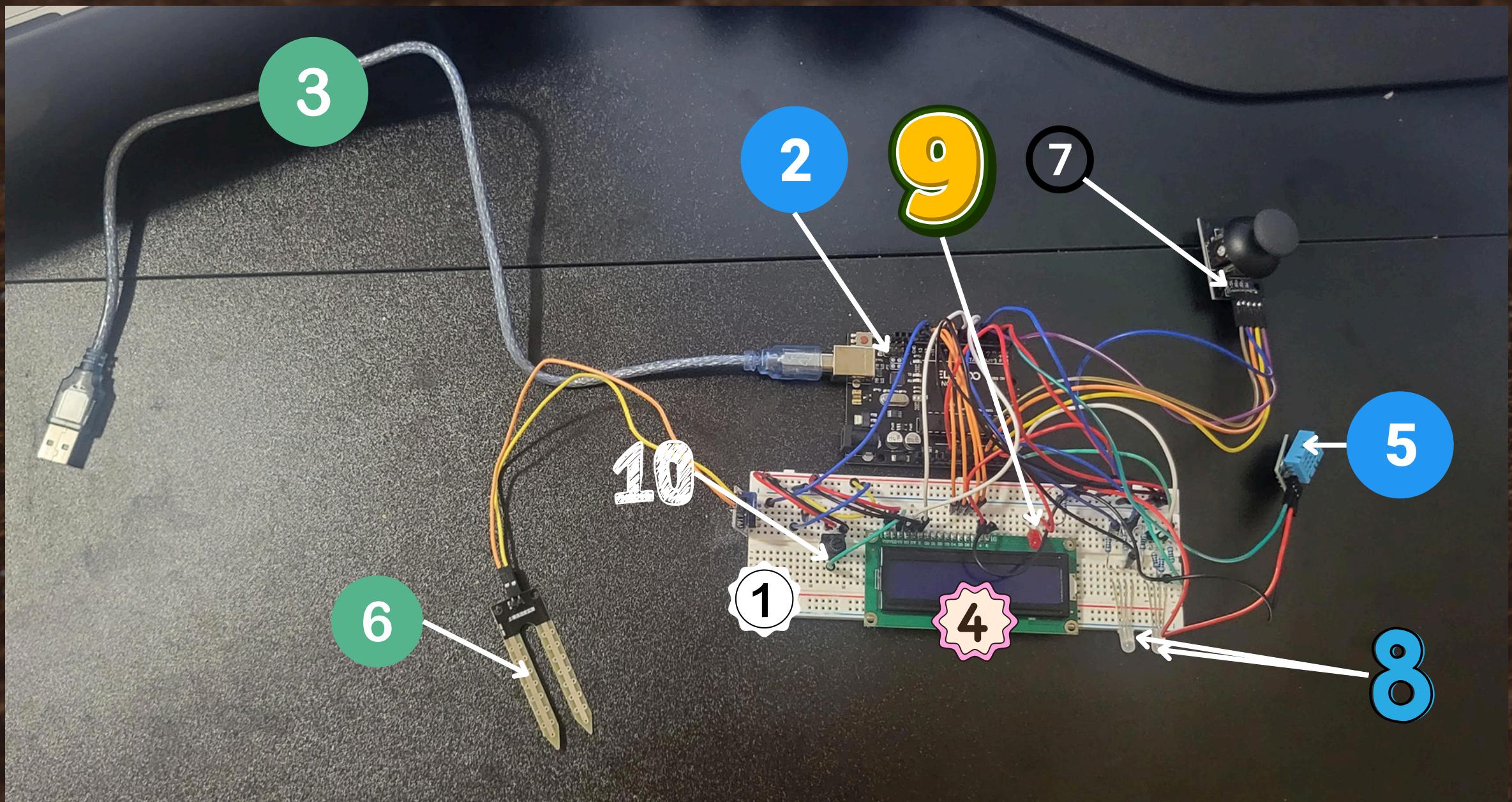
- Developed using **HTML** for structure, **CSS** for styling, and **JavaScript** for interactivity
 - all coded in **VS Code**.
 - Designed a simple, intuitive frontend interface for ease of use.
- Connected the frontend to a lightweight JavaScript-based backend logic for processing user input and generating feedback.**
- Enables users to:**
- Choose a plant category
 - Input care data such as temperature, humidity, and watering frequency
 - Receive instant, personalized feedback on plant health through visual cues and messages

Plant Health Tracker Arduino Form

In addition to creating the website, I've also developed an Arduino-powered version that takes plant care a step further. This edge device collects real-time environmental data—measuring temperature and humidity using sensors, checking soil moisture with a soil sensor, and using color-coded LEDs to instantly signal the plant's health. This hardware works seamlessly alongside the frontend, feeding accurate data into the system. Together, the interactive webpage and the Arduino hardware create a complete, end-to-end plant care solution that's easy, engaging, and effective for keeping plants healthy.

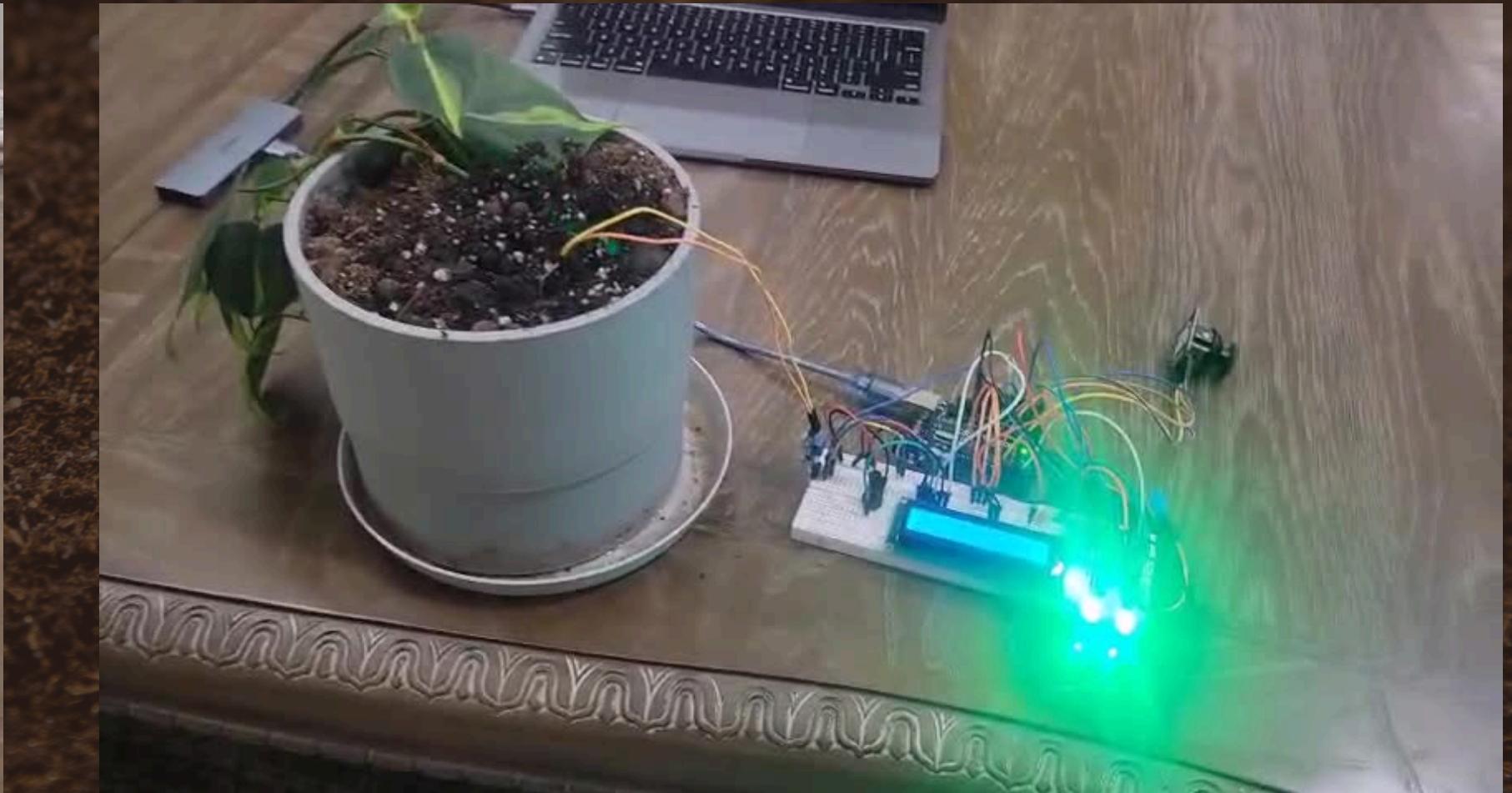
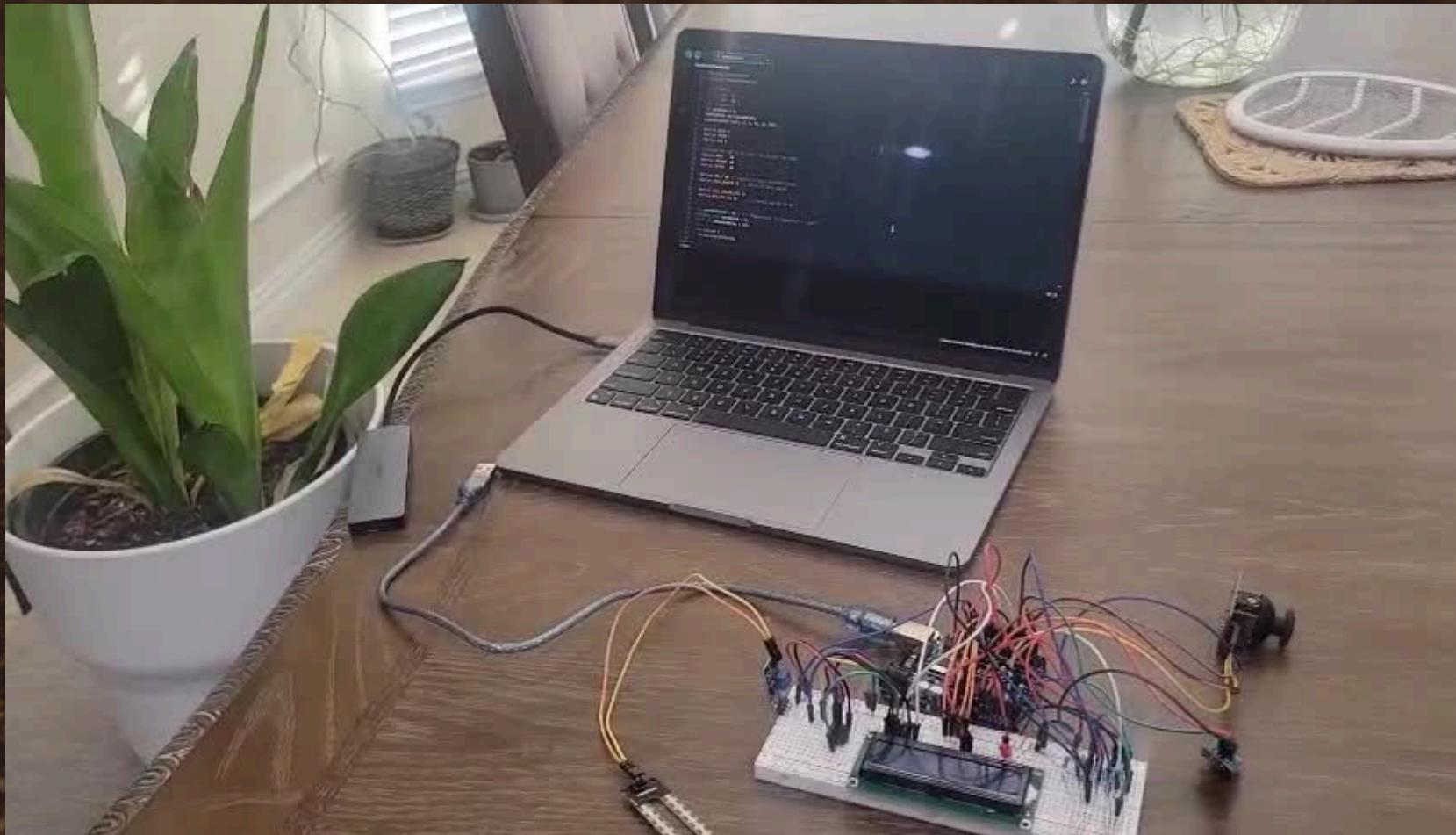


Arduino Parts List



- 1 – Breadboard
- 2 – Arduino UNO
- 3 – USB Cable
- 4 – LCD
- 5 – DHT11 Sensor
- 6 – Soil Moisture Sensor
- 7 – Joystick
- 8 – 2 RGB LED Lights
- 9 – Red LED Light
- 10 – Potentiometer
- 27 M-M Wires
- 8 M-F Wires
- 2 F-F Wires

PHT Plant Arduino Videos



Conclusion

Through this project, I gained valuable hands-on experience in full-stack web development by creating a fully functional, interactive website using HTML, CSS, and JavaScript. I learned how to design an intuitive user interface, handle input data, and implement real-time feedback using lightweight backend logic. This helped me better understand the full workflow of building a complete web application from scratch.

In addition to the software side, I also explored Arduino circuitry by integrating sensors to measure temperature, humidity, and soil moisture. I learned how to collect and process real-world data, and use LEDs to visually represent plant health in real time. This project helped me bridge the gap between hardware and software, improve my problem-solving skills, and see how technology can be used to support sustainability and smart agriculture.

Thank You!

