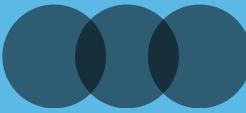


SMART IRRIGATION SYSTEM



USING IOT



OUR TEAM

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- **LAGUDU VINEETHA NAIDU
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(21BCE9329)**



LIST OF COMPONENTS

- 01 **NODE MCU ESP8266**
- 02 **JUMP WIRES (CONNECTORS)**
- 03 **OLED SCREEN**
- 04 **DHT11**
- 05 **SOIL MOISTURE SENSOR**
- 06 **BREAD BOARD**
- 07 **PUMP MOTOR**
- 08 **RELAY MODULE**

OVERVIEW OF THE PROJECT



- The smart irrigation system has wide scope to automate the complete irrigation system. Here, we are building an IoT based irrigation system using ESP8266 NodeMCU module and DHT11 sensor.
- For programming the ESP8266 NodeMCU module, only the DHT11 sensor library is used as external library. The moisture sensor gives analog output which can be read through the ESP8266 NodeMCU analog pin A0.
- Since the NodeMCU cannot give output voltage greater than 3.3V from its GPIO so we are using a relay module to drive the 5V motor pump. Also the moisture sensor and DHT11 sensor is powered from external 5V power supply.

1

Getting the parts

We were able to get all the parts necessary for the project.

3

Developing the Webpage and linking it to the firebase

We are gonna developp a webpage which shows all the readings of the sensors and connect it to the firebase.

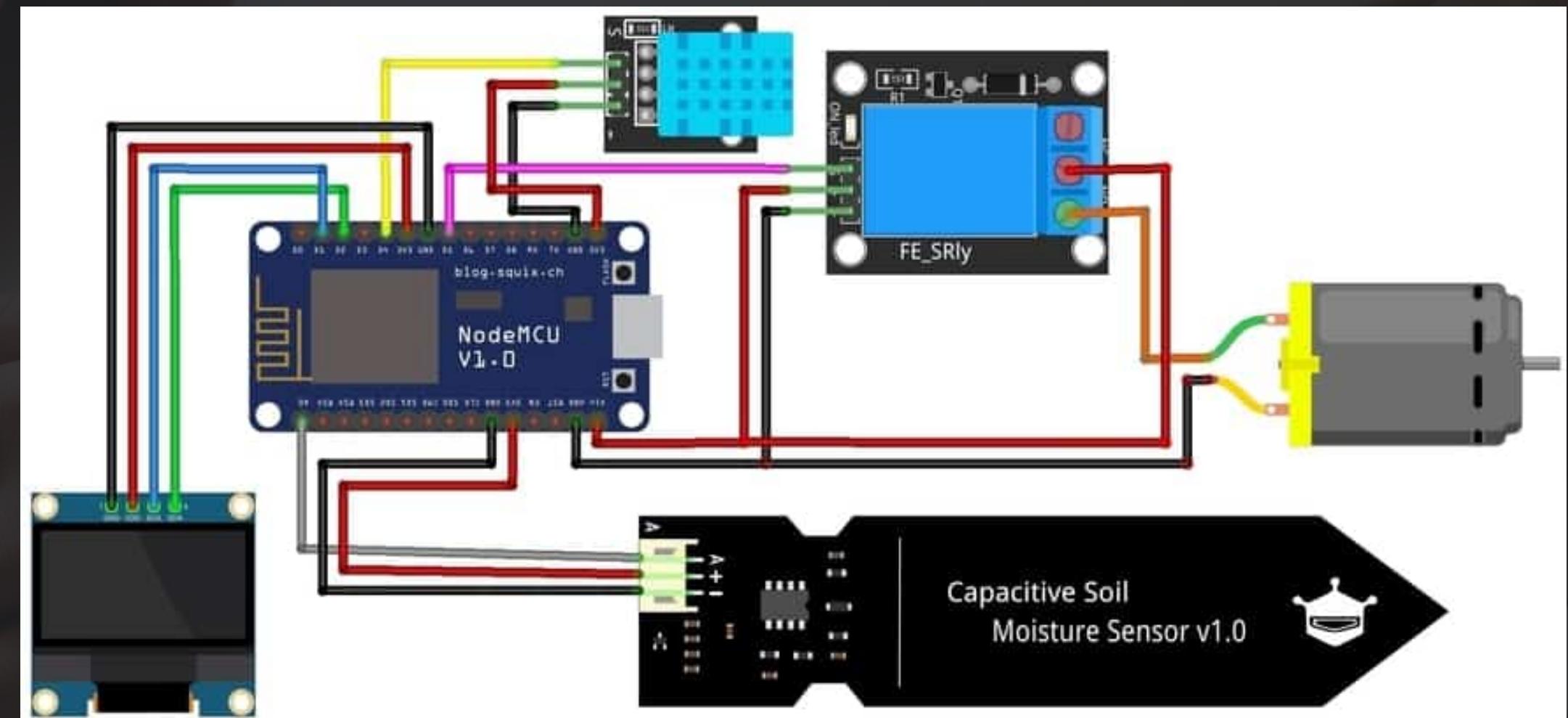
2

Deploy all the components

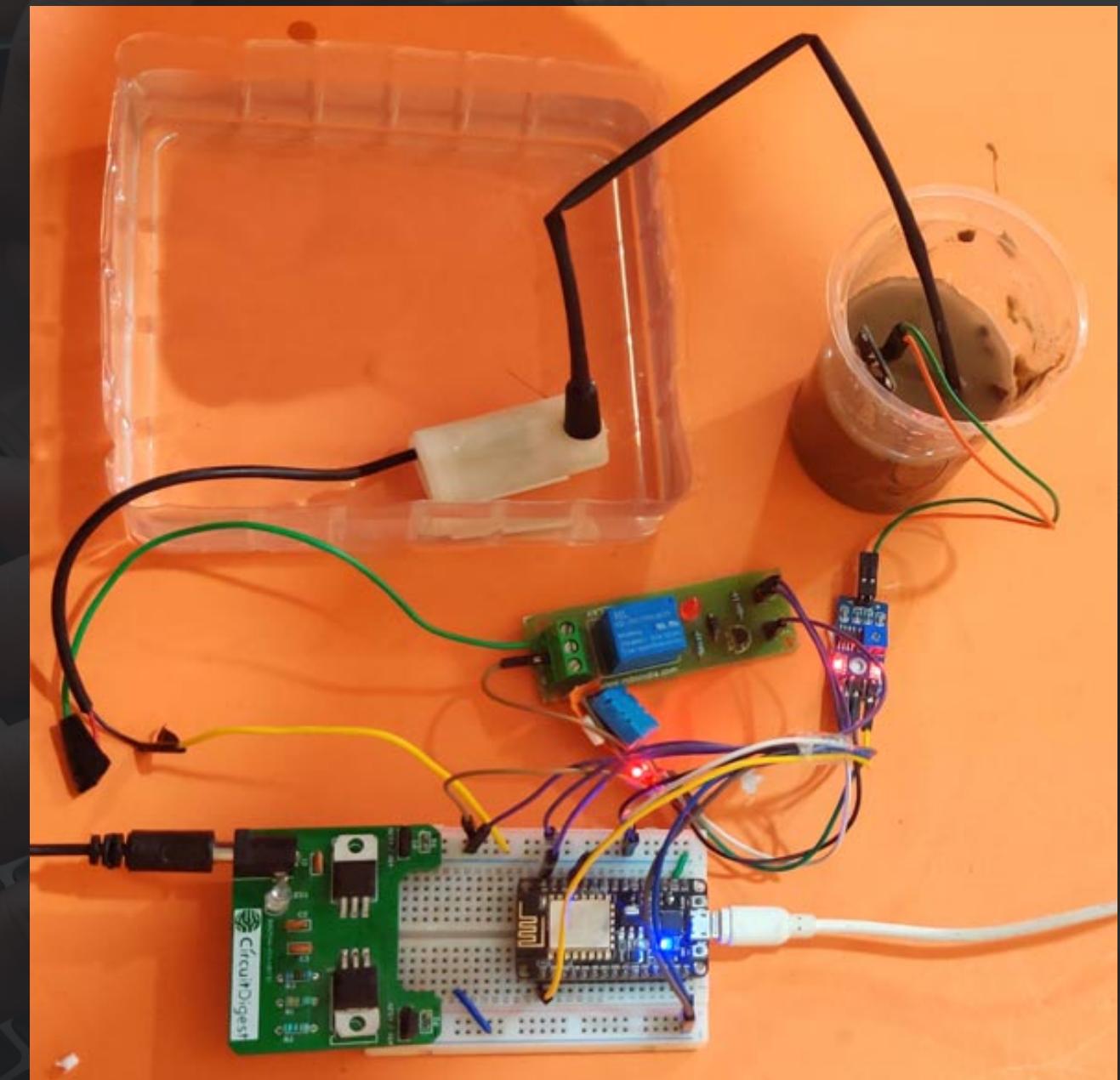
We need to set up all the components and connect them to the Node MCU board

AGENDA

CIRCUIT DIAGRAM



PHYSICAL REPRESENTATION



OUR PROGRESS

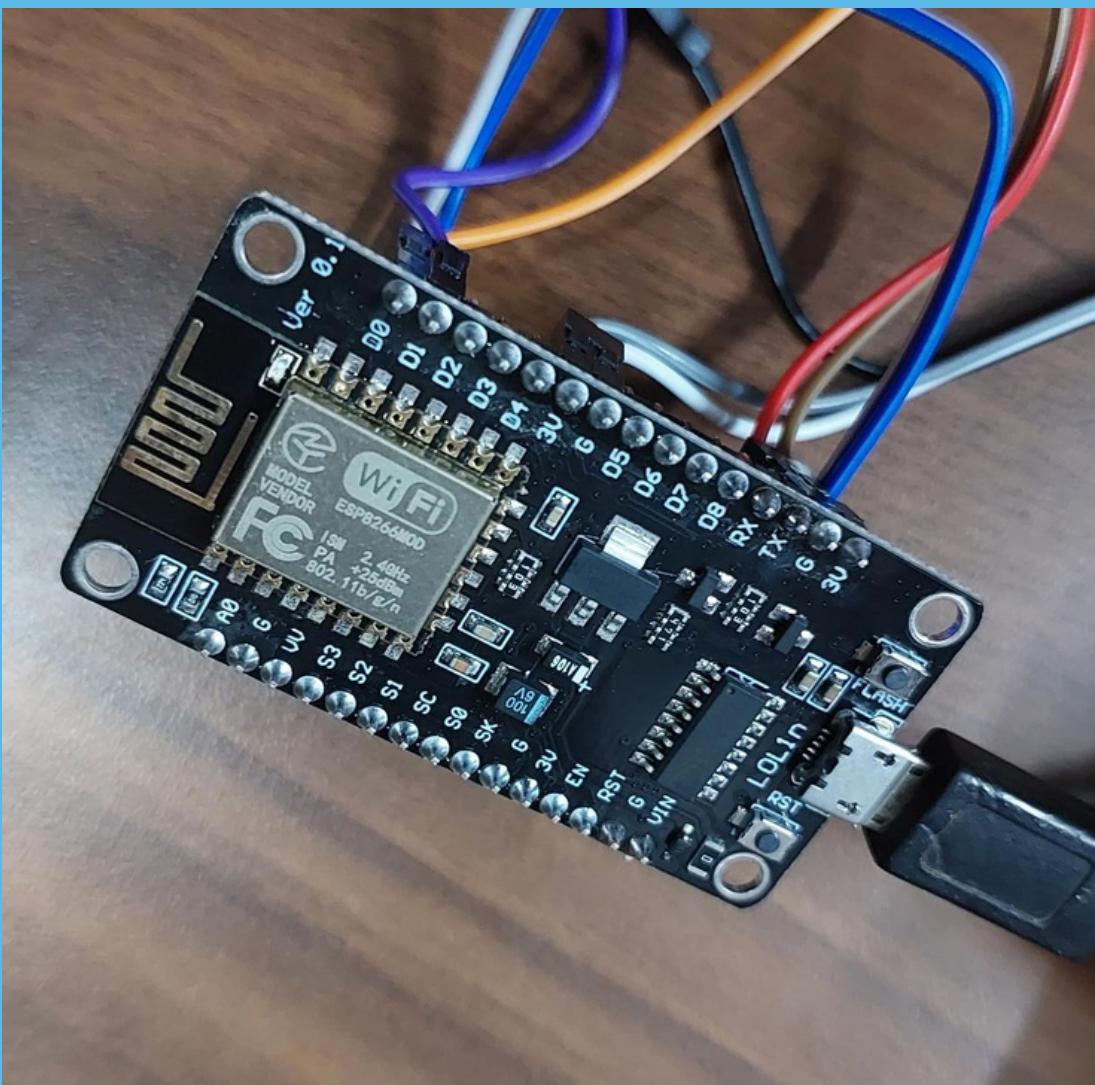
- We were able to connect the Node MCU ESP8266 to the firebase.
- The device is able to push the readings to the firebase so that we can further see the accurate readings in the webpage that we are gonna develop.
- We were also able to connect the Node MCU ESP8266 to the DHT11 sensor.

OUR PROGRESS

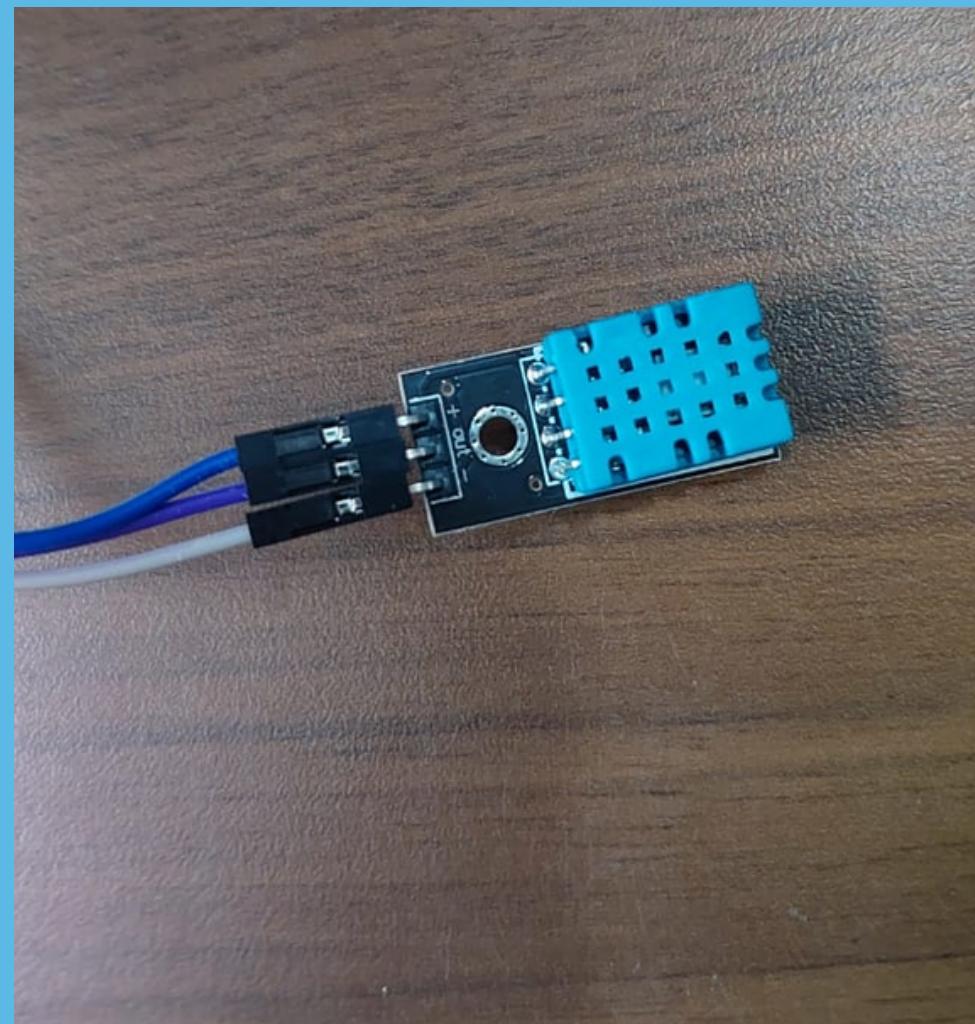
- We also linked the soil moisture and are now able to record readings of humidity and moisture from it.
- The device is also connected to the relay module that allows to pump water based on the readings.
- All the readings are being pushed to the firebase which will later be displayed on the webpage.

COMPONENTS

NodeMCU



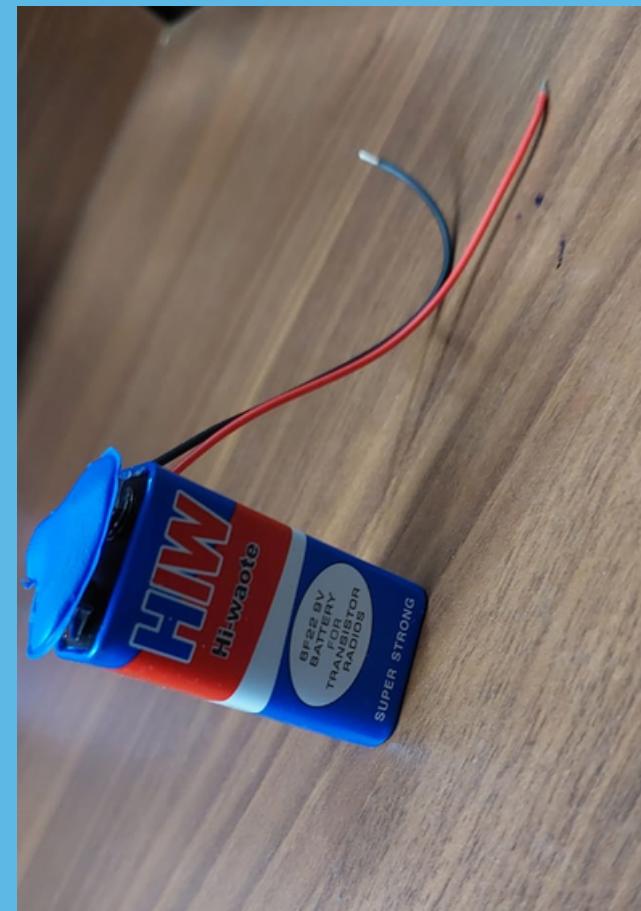
DHT11



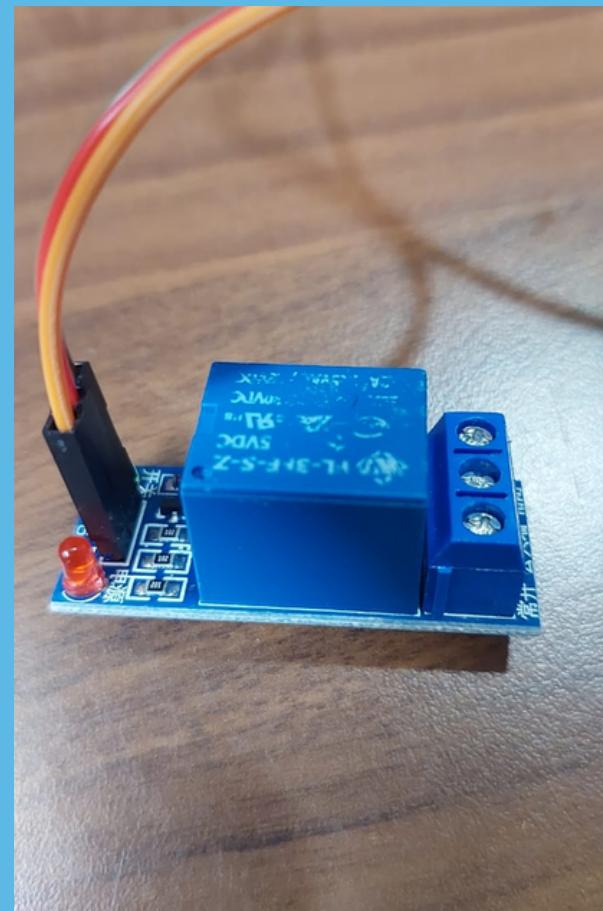
CONNECTORS



5V MOTOR PUMP

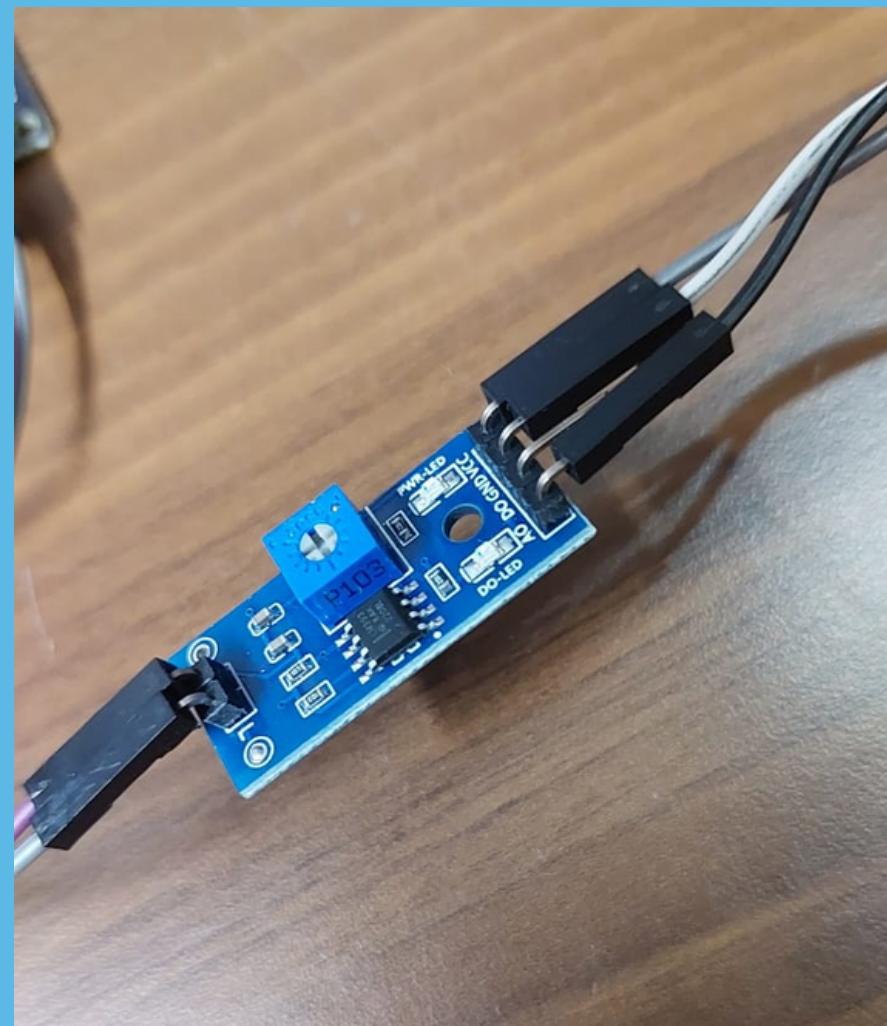


BATTERY

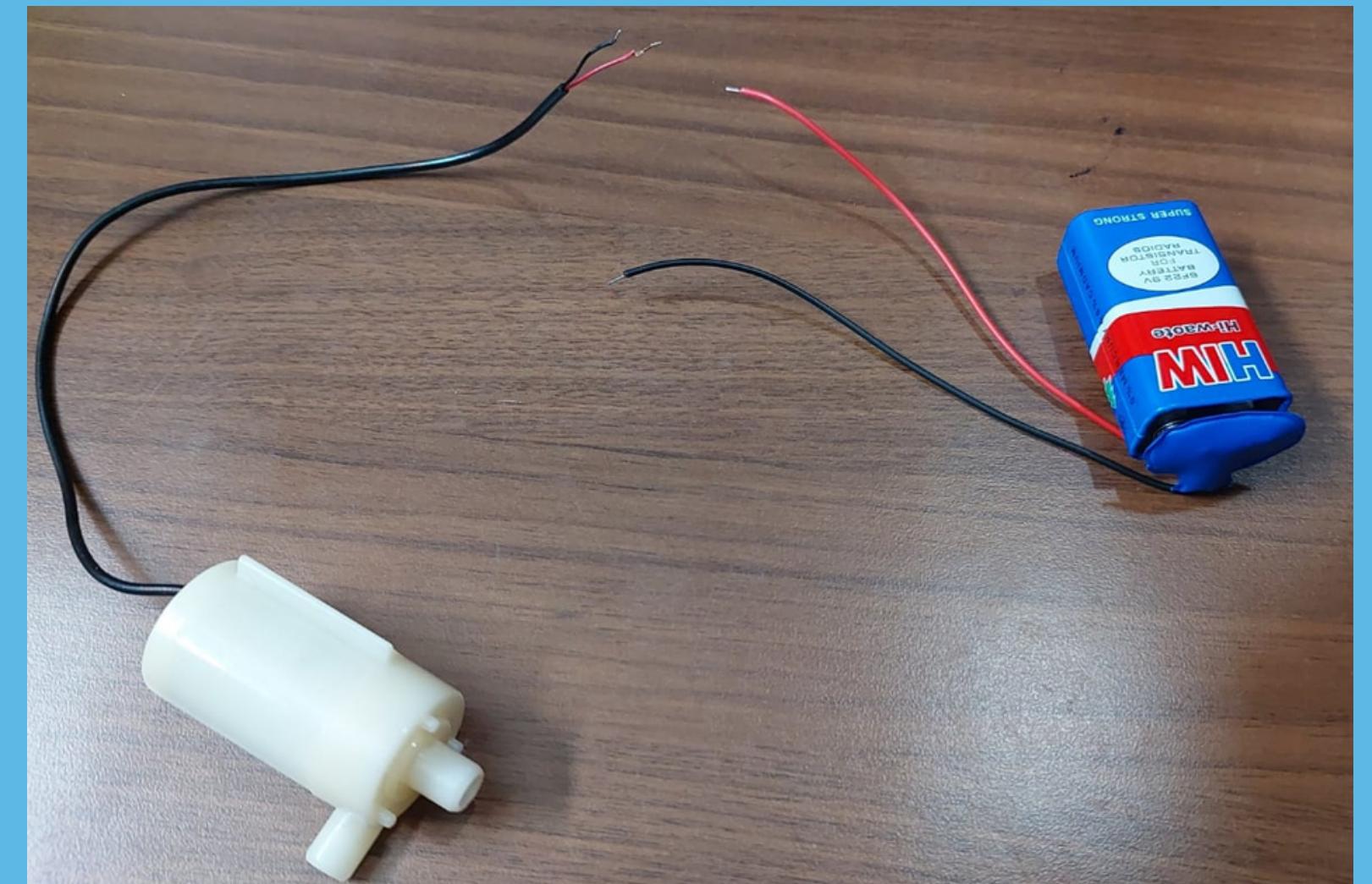


RELAY MODULE

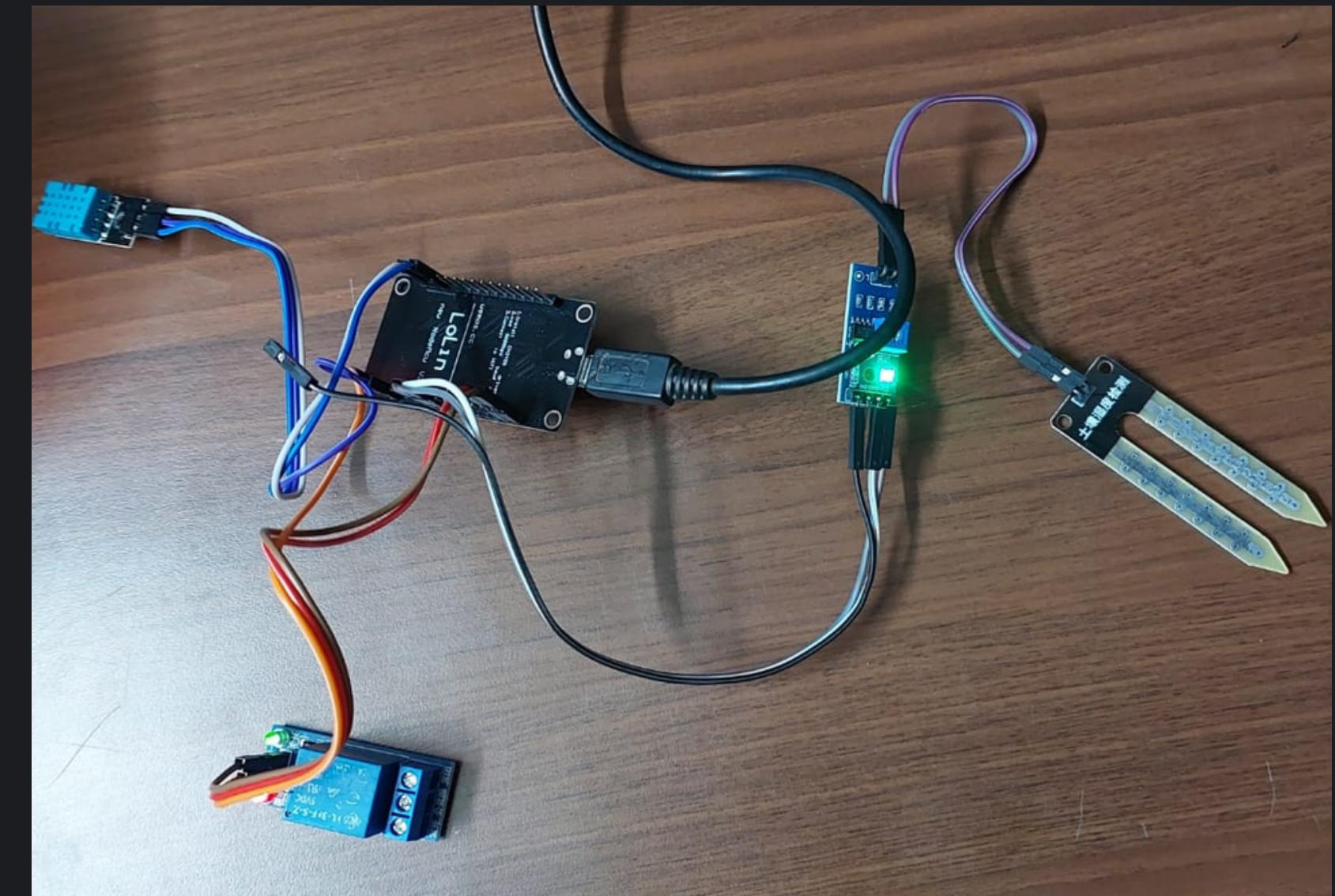
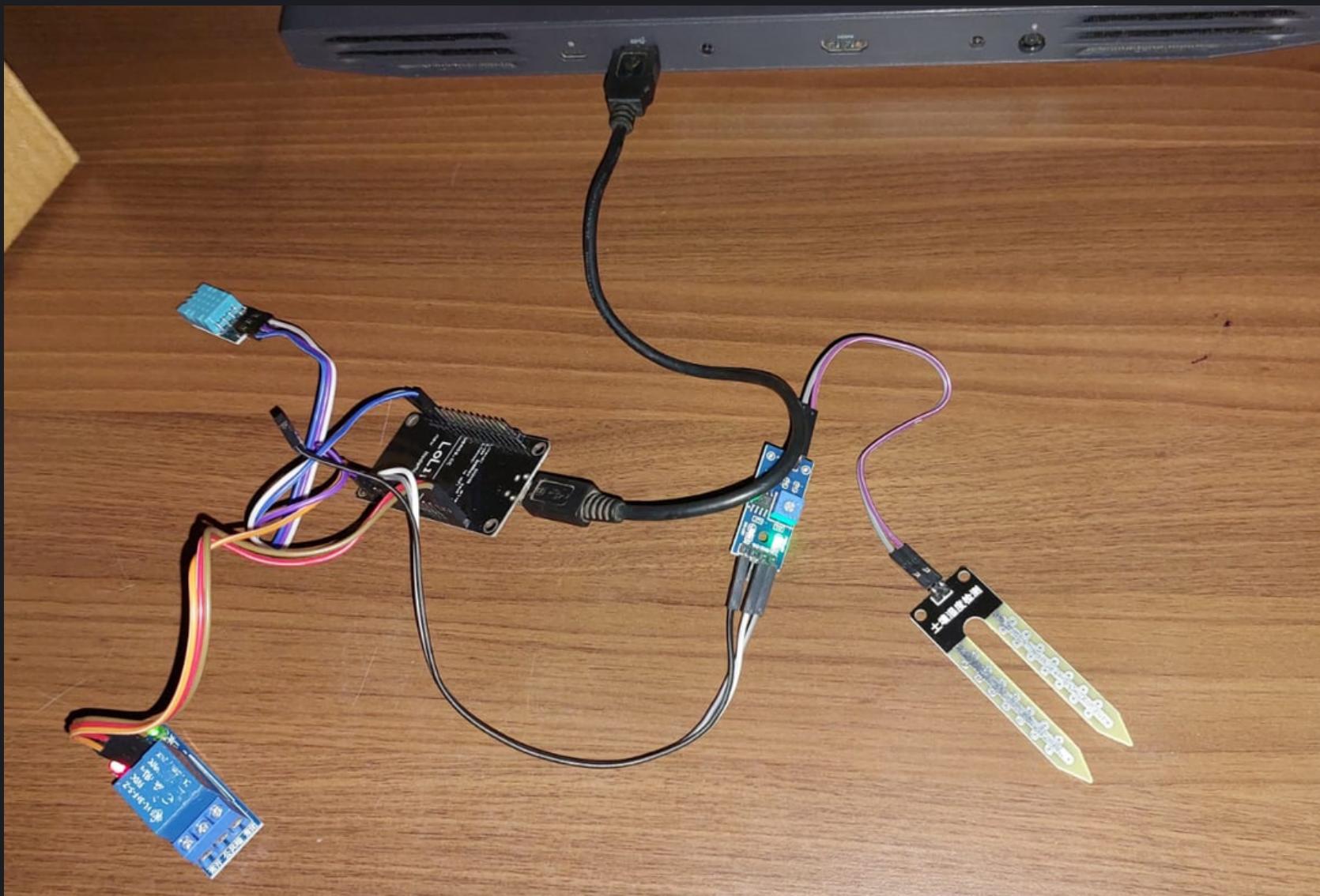
SOIL MOISTURE SENSOR



PUMP CONNECTED TO BATTERY



CIRCUIT



CONTRIBUTION

- **LENKA TEHYA**
PRESENTATION AND IDEA
GENERATION
- **LAGUDU VINEETHA NAIDU**
REPORT AND PROJECT
DOCUMENTATION
- **VANKADARA NIDHEESH
KUMAR**
GATHERED RESOURCES AND
INFORMATION, ANALYZED DATA
- **CASERKER HEMA TEJ PAVAN**
PRESENTATION AND IDEA
GENERATION
- **SUSHMA UDDANTI**
REPORT AND PROJECT
DOCUMENTATION
- **RACHUMALLA DIVYA REDDY**
GATHERED RESOURCES AND
INFORMATION, ANALYZED DATA



RESOURCE SITES

<https://how2electronics.com/iot-smart-agriculture-automatic-irrigation-system-with-esp8266/>

<https://circuitdigest.com/microcontroller-projects/iot-based-smart-irrigation-system-using-esp8266-and-soil-moisture-sensor>



THANK YOU

Bot+