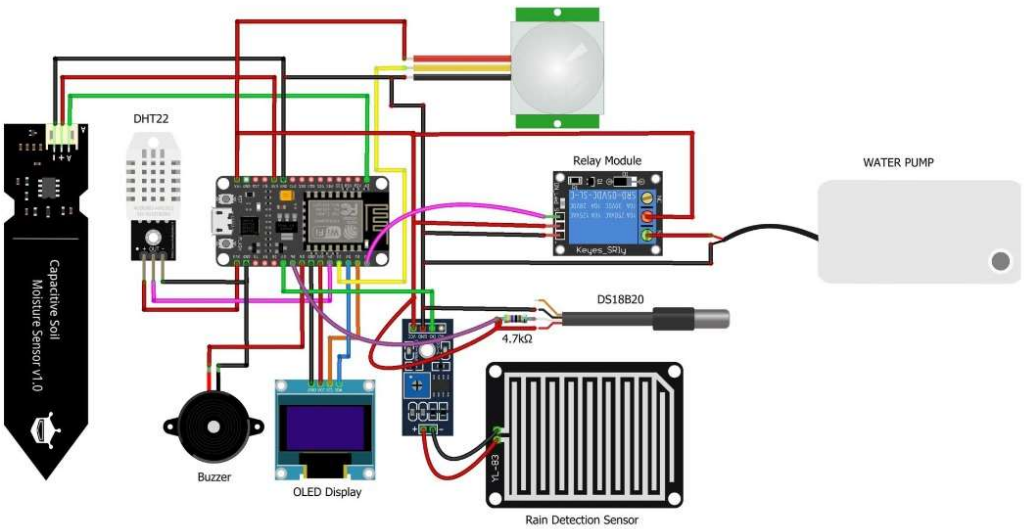
* Components Used –

- NodeMCU ESP8266-12E board -> 1
- Capacitive soil moisture sensor -> 1
- DHT11 temperature & humidity sensor -> 1
- DS18B20 waterproof temperature sensor -> 1
- Rain detector sensor -> 1
- 0.96" I2C OLED display -> 1
- 5V single-channel relay module -> 1
- 5V small buzzer -> 1
- Jumper wires -> 50
- Breadboard -> 2
- 4.8 kΩ Resistor -> 1
- 5V DC water pump -> 1

* Circuit Diagram -



* Connections –

- DHT11 temperature & humidity sensor :

  - +ve -> D4
  - Middle -> 3V3
  - -ve -> GND

- Capacitive soil moisture sensor :

  - GND -> GND
  - VCC -> 3V3
  - AOUT -> AO

- 5V small buzzer :

  - -ve (small pin) -> GND
  - +ve (large pin) -> D5

- 0.96" I2C OLED display :

  - GND -> GND
  - VCC -> 3V3
  - SCK -> D1
  - SDA -> D2

- Rain detector sensor:

  - DO -> d7
  - GND -> GND
  - VCC -> Vin
  - AO no connection

- 5V single-channel relay module :

  - D0 to in -> D0
  - GND -> GND
  - VCC -> 3V3
  - NO -> Water pump
  - COM -> 3V3

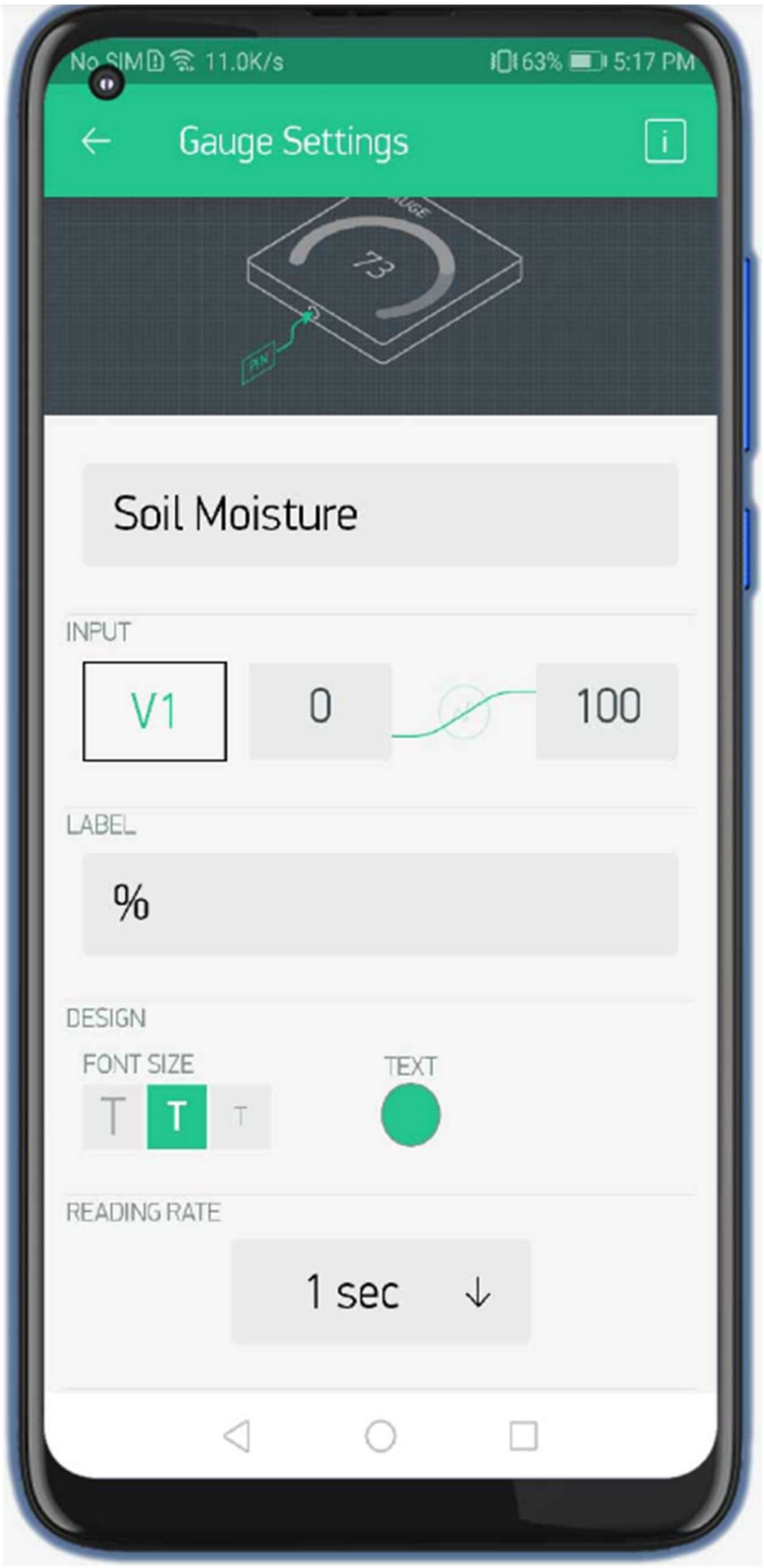
- DS18B20 waterproof temperature sensor :

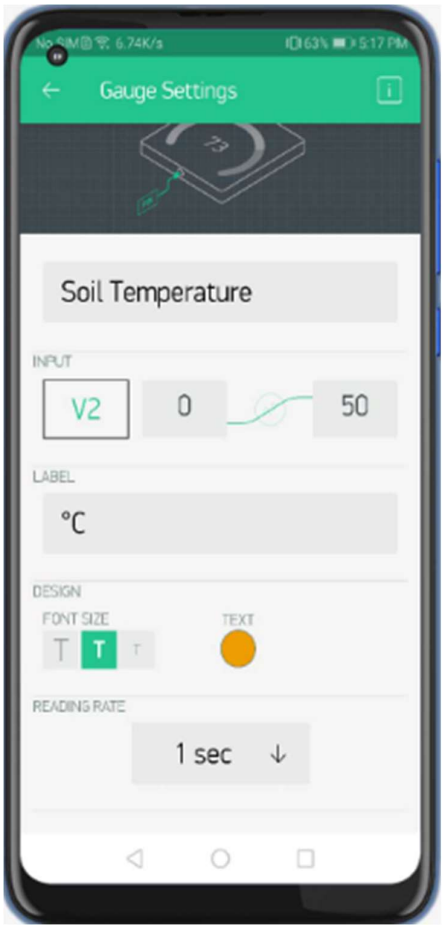
- Red wire -> Vin
- Black wire -> GND
- Yellow wire -> D6
- 4.8 kΩ Resistor between yellow and red wires

- 5V DC water pump :

- GND to Black wire -> GND
- Red wire -> NO

* Blynk 2.0 Setup –


No SIM 11.0K/s
63% 5:17 PM
Gauge Settings
i
73
Soil Moisture
INPUT
V1
0
100
LABEL
%
DESIGN
FONT SIZE
TEXT
READING RATE
1 sec


Gauge Settings
Soil Temperature
INPUT
V2
0
50
LABEL
°C
DESIGN
FONT SIZE
TEXT
READING RATE
1 sec


No SIM 219B/s
63% 5:17 PM
Gauge Settings
Air Temperature
INPUT
V3
0
50
LABEL
°C
DESIGN
FONT SIZE
TEXT
READING RATE
1 sec


No SIM 1.01K/s
63% 5:17 PM
Gauge Settings
Air Humidity
INPUT
V4
0
100
%
DESIGN
FONT SIZE
TEXT
READING RATE
1 sec