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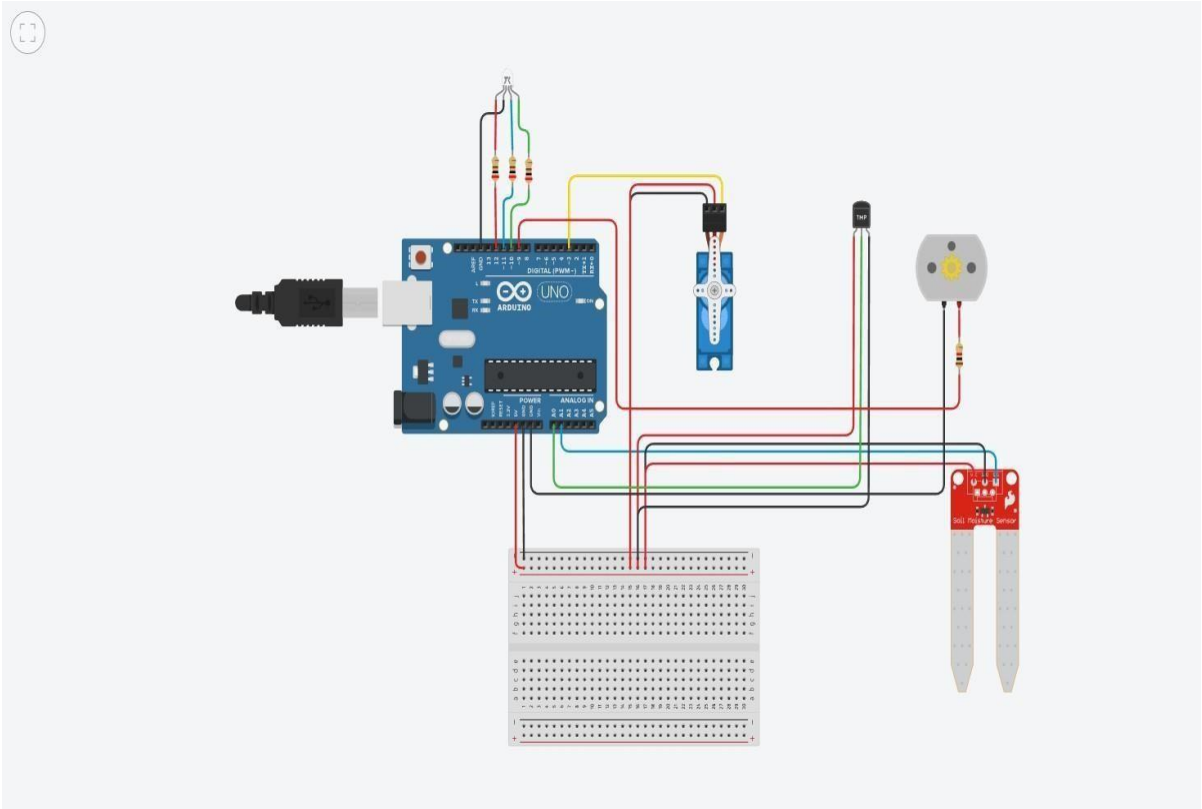
|---|---|
| Date | 03 NOVEMBER 2022 |
| Team ID | PNT2022TMID04737 |
| Project Name | Smart Farmer – IoT Enabled Smart Farming Application |

```
#include <Servo.h>
Servo s; int Sensor
= 0; int data = 0;
int motorPin = 9;

void setup()
{
  Serial.begin(9600);    pinMode(A0,INPUT);
//Temperature Sensor       pinMode(A1,INPUT); //Soil
Moisture Sensor     pinMode(10,OUTPUT);
//GREEN light for LED      pinMode(11,OUTPUT);
//BLUE light for LED     pinMode(12,OUTPUT);
//RED light for LED     s.attach(3);
//Servo Motor
  pinMode(motorPin, OUTPUT); //DC motor
 } void
loop(){
  Sensor = analogRead(A1);       //Reads data from Soil Moisture sensor data
= map(Sensor,0, 1023, 0, 100);  //Low analog value indicates HIGH
moisture level and High analog value indicates LOW moisture level
  //data = map(analogValue,fromLOW,fromHIGH,toLOW,toHIGH)
  Serial.print("Soil Moisture value:");
  Serial.println(data);
  //'data = 0' indicates wet and 'data = 100' indicates dry
```

```
  double a = analogRead (A0); //Reads data from Temperature sensor double
t = (((a/1024)*5)-0.5)*100;                Serial.print("Temperature value:");
Serial.println(t);

  if (t>40 & t<50){
digitalWrite(10,0);
digitalWrite(11,1);
digitalWrite(12,0);       s.write(90);
    digitalWrite(motorPin, HIGH);
Serial.println("Water Partially Flows");
    }

  else if (t>50){
digitalWrite(10,0);
digitalWrite(11,0);
digitalWrite(12,1);
s.write(180);
    digitalWrite(motorPin, HIGH);
Serial.println("Water Fully Flows");

}

  else if (t>30 & data<30){
digitalWrite(10,1);       digitalWrite(11,1);
digitalWrite(12,0);        s.write(90);
digitalWrite(motorPin, HIGH);
Serial.println("Water Partially Flows");
  }
```

```
  else if (data<50){      digitalWrite(10,0);
digitalWrite(11,1);       digitalWrite(12,1);
s.write(90);digitalWrite(motorPin, HIGH);
                  Serial.println("Water Partially
Flows");
  }


  else{     digitalWrite(10,1);
digitalWrite(11,0);
digitalWrite(12,0);       s.write(0);
digitalWrite(motorPin, LOW);
Serial.println("Water Does Not
Flow");
  }
  Serial.println("--------------------------------------------------");
delay(1000);
}
```

# Circuit Diagram



# Components Used

| Name | Quantity | Component |
|---|---|---|
| UAU | 1 | Arduino Uno R3 |
| SERVOMS | 1 | Positional Micro Servo |
| DLED | 1 | LED RGB |
| R2<br>R3<br>R4 | 3 | 200 Ω Resistor |
| SENSMS | 1 | Soil Moisture Sensor |
| MSmall 6V DC Motor | 1 | DC Motor |
| RR | 1 | 1 kΩ Resistor |
| UTS | 1 | Temperature Sensor [TMP36] |

# Schematic View