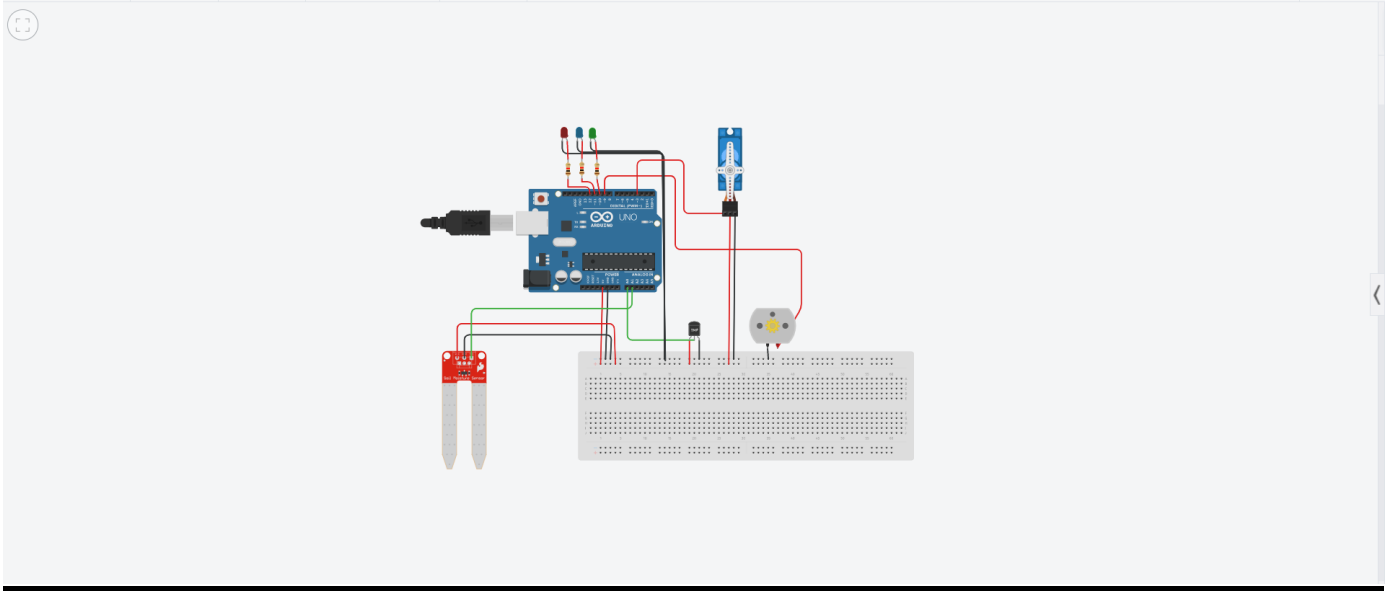
SPRINT_1

Date	1 November 2022
Team ID	PNT2022TMID08726
Project Name	Smart Farmer - IoT Enabled Smart Farming Application
Maximum Marks	4 Marks

```
#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);
 //SoilMoisture 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 HIGHmoisture 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 dr
```

```
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 PartiallyFlows");
}
else{  digitalWrite(10,1);
digitalWrite(11,0);
digitalWrite(12,0);
s.write(0);
digitalWrite(motorPin, LOW);
Serial.println("Water Does NotFlow");
}
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 R3 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]