Project Development

Delivery Of Sprint-1

Date	09 Nov. 22
Team Id	PNT2022TMID51073
Project Name	SmartFarmer - IoT Enabled Smart Farming Application

PROGRAM

```
#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);
```

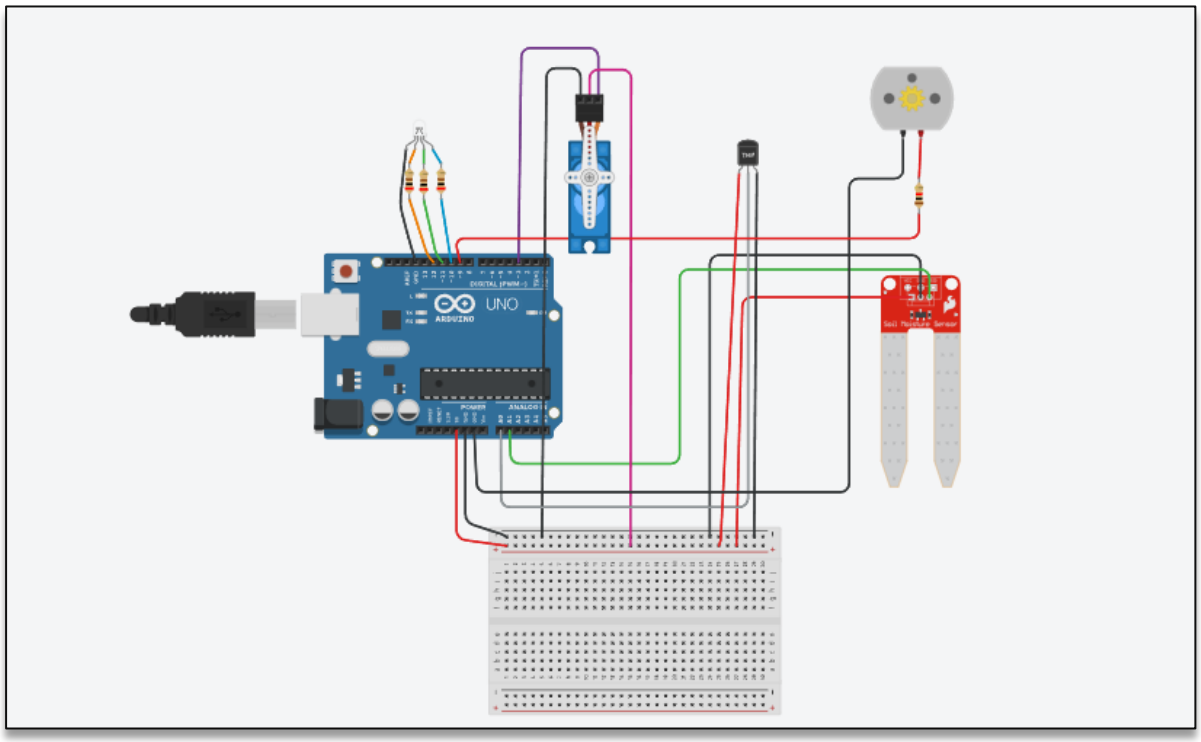
```
  Serial.println("Water Fully Flows");
}



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("     ");
delay(1000);
}
}
```

COMPONENTS

S.NO	COMPONENTS	QUANTITY
1	Arduino uno r3	1
2	Micro servo	1
3	Led rgb	1
4	200 Ω Resistor	3
5	Soil Moisture Sensor	1
6	DC Motor	1
7	1KΩ Resistor	1
8	Temperature sensor(TMP36)	1

CIRCUIT DIAGRAM



OUTPUT

Serial Monitor

```
Water Partially Flows
Soil Moisture value:0
Temperature value:24.71
Water Partially Flows
Soil Moisture value:0
Temperature value:24.71
Water Partially Flows
Soil Moisture value:0
Temperature value:24.71
Water Partially Flows
Soil Moisture value:0
Temperature value:24.71
Water Partially Flows
```

SIMULATION LINK

https://www.tinkercad.com/things/9T64ABJ1hL6-brilliant-jofo/editel?tenant=circuits