

SPRINT – 1

Date	02 November 2022
Team Id	PNT2022TMID48172
Project name	Smart Farmer - IoT Enabled Smart Farming Application

Sensors Connections with Arduino using C Program

```
#include 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 Senso

r 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,from LOW ,from HIGH ,to LOW ,to HIGH )

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)

{

```

```
digitalW rite(10,0);

digitalW rite(11,0);

digitalW rite(12,1);

s.w rite(180);

digitalW rite(m otorP in, H I G H);

Serial.println("W ater Fully Flow s");

}

else if (t>30 & data<30)

{

digitalW rite(10,1);

digitalW rite(11,1);

digitalW rite(12,0);

s.w rite(90);

digitalW rite(m otorP in, H I G H);

Serial.println("W ater Partially Flow s");

}

else if (data<50)

{

digitalW rite(10,0);

digitalW rite(11,1);

digitalW rite(12,1);

s.w rite(90);
```

```
digitalW rite(m otorPin, H I G H );

Serial.println("W ater P artially F low s");

}

E lse

{

digitalW rite(10,1);

digitalW rite(11,0);

digitalW rite(12,0);

s.w rite(0);

digitalW rite(m otorPin, L O W );

Serial.println("W ater D oes N ot F low ");

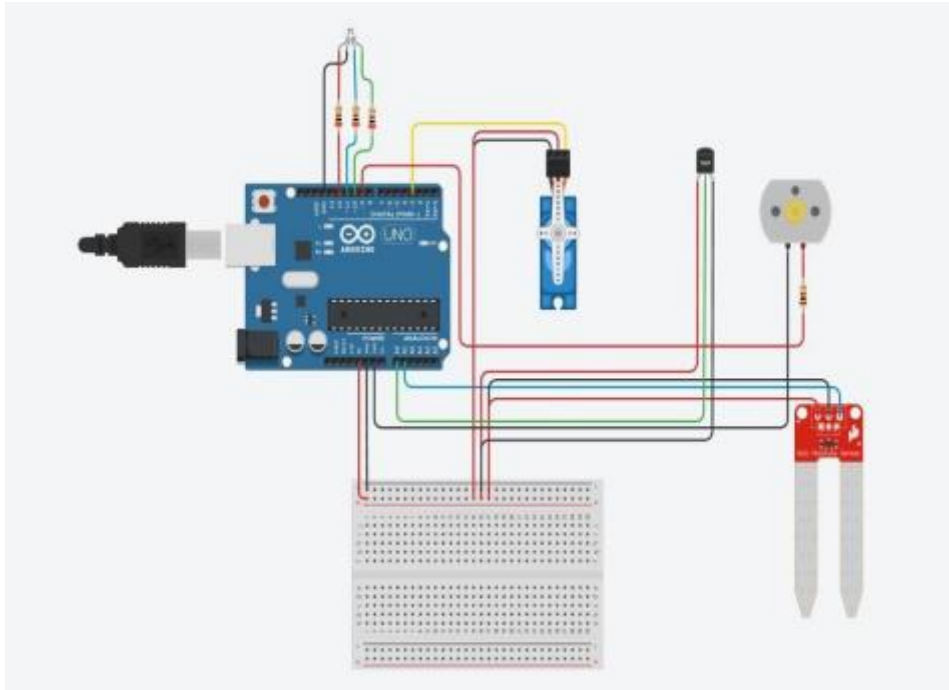
}

Serial.println("-----");

delay(1000);

}
```

Circuit diagram



Component used

Name	Quantity	components
U N O	0 1	A rduino uno R 3
s e r v o m s	0 1	P o s i t i o n a l m i c r o s e r v o
D l e d	0 1	L E D R G 8
R 2 R 3 R 4	0 3	2 0 0 o h m r e s i s t o r
S E N S M S	0 1	S o i l m o i s t u r e s e n s o r
M S m a l 6 v D C m o t o r	0 1	D c m o t o r
R R	1	1 k o h m r e s i s t o r
U T S	1	T e m p e r a t u r e s e n s o r [T m p 3 6]

Schematic view

