

Sprint – 1

Team ID	PNT2022TMID24462
Project Name	Smart Farmer – IOT Enabled Smart Farming Application

Aurdino code :

```
//include libraries
#include <dht.h>
#include <SoftwareSerial.h>
//define pins
#define dht_apin A0 // Analog Pin sensor is connectedSoftwareSerial
mySerial(7,8);//serial port of gsm
const int sensor_pin = A1; // Soil moisture sensor O/P pinint
pin_out = 9;
//allocate variables
dht DHT;
int c=0;

void setup()
{
  pinMode(2, INPUT); //Pin 2 as INPUT
  pinMode(3, OUTPUT); //PIN 3 as
  OUTPUTpinMode(9, OUTPUT);//output
  for pump
}
void loop()
{
  if (digitalRead(2) == HIGH)
  {
    digitalWrite(3, HIGH); // turn the LED/Buzz ON
    delay(10000); // wait for 100 msecond digitalWrite(3,
    LOW); // turn the LED/Buzz OFFdelay(100);
  }
}
```

```

Serial.begin(9600);
  delay(1000);
  DHT.read11(dht_apin); //temperature
float h=DHT.humidity;
float t=DHT.temperature;
  delay(5000);
  Serial.begin(9600);
  float moisture_percentage;//moisture
int
sensor_analog;
sensor_analog = analogRead(sensor_pin);
moisture_percentage = ( 100 - ( (sensor_analog/1023.00) * 100 ) );
float m=moisture_percentage;delay(1000);
if(m<40)//pump
{
  while(m<40)
  {
    digitalWrite(pin_out,HIGH);//open pump
    sensor_analog = analogRead(sensor_pin);
    moisture_percentage = ( 100 - ( (sensor_analog/1023.00) * 100 ) );
    m=moisture_percentage;
    delay(1000);
  }
  digitalWrite(pin_out,LOW);//close pump
}
if(c>=0)
{
  mySerial.begin(9600);
  delay(15000);
  Serial.begin(9600);
  delay(1000); Serial.print("\r");
  delay(1000);
  Serial.print("AT+CMGF=1\r"
);delay(1000);
  Serial.print("AT+CMGS=\"+XXXXXXXXXXXX\"\\r"); //replace X with 10 digit
mobile number
  delay(1000);

```

```

  Serial.print((String)"update-
>"+(String)"Temperature="+t+(String)"Humidity="+h+(String)"Moisture="+m);

```

```

delay(1000);
Serial.write(0x1A);
delay(1000);
mySerial.println("AT+CMGF=1");//Sets the GSM Module in Text
Modedelay(1000);
mySerial.println("AT+CMGS=\"+XXXXXXXXXX\"\\r"); //replace X with 10
digitmobile number
delay(1000);
mySerial.println((String)"update-
>"+(String)"Temprature="+t+(String)"Humidity="+h+(String)"Moisture="+m);//
message format
mySerial.println();
delay(100);
Serial.write(0x1A);
delay(1000);
c++;

}

}

```

