

SPRINT 1-REPORT

SMART FARMER-IoT BASED SMART FARMING APPILCATION

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SPRINT 1 – SIMULATION CREATION

Connect sensor Arduino with python code

CODE:

```
//include libraries
#include <dht.h>
#include <SoftwareSerial.h>

//define pins
#define dht_apin A0 // Analog Pin sensor is connected
SoftwareSerial mySerial(7,8);//serial port of gsm
const int sensor_pin = A1; // Soil moisture sensor O/P pin
int 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 OUTPUT
  pinMode(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 OFF
    delay(100);
  }
  Serial.begin(9600);
  delay(1000);
  DHT.read11(dht_apin); //temprature
  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=\"+XXXXXXXXXX\" \r"); //replace X with 10 digit mobil
e number
delay(1000);
Serial.print((String)"update-
>"+(String)"Temprature="+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 Mode
delay(1000);

```

```
    mySerial.println("AT+CMGS=\"+XXXXXXXXXX\"\\r"); //replace X with 10 digit
mobile 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++;

}

}
```

Circuit Diagram:



