Smart Farmer - IoT Enabled Smart Farming Application

SPRINT 1

Connecting Sensors with Arduino using C++ code

```
#include "Arduino.h"
#include "dht.h"
#include "SoilMoisture.h"

#define dht_apin A0
const int sensor_pin = A1; //soil moistureint
pin_out = 9;
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); //tempraturefloat
h=DHT.humidity;
float t=DHT.temperature;
 delay(5000);
 Serial.begin(9600);
 float moisture_percentage;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);           //closepump
  }
  if(c>=0)
  {
  mySerial.begin(9600);
  delay(15000);
  Serial.begin(9600);
  delay(1000);
  Serial.print("\r");
  delay(1000);

  Serial.print((String)"update-
>"+(String)"Temprature="+t+(String)"Humidity="+h+(String
)"Moisture="+m);
  delay(1000);
    }

}
```

Circuit Diagram