PROJECT DEVELOPMENT PHASE
DELIVERY OF SPRINT-1

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PROJECT TITLE	SmartFarmer - IoT Enabled Smart Farming Application

TESTED CODE FOR 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 moisture
int 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);
delay(10000);
digitalWrite(3, LOW
delay(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;
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)"Moistu
re="+m); delay(1000);
}
}
```

CIRCUIT DIAGRAM: