Sprint Delivery – 1

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Project Title: SmartFarmer – IoT enabled smart farming applications.

Connecting Sensors with Arduino:

```
#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); // turn ON the LED
		delay(1000); // wait for 1000 ms
		digitalWrite(3, LOW); // turn OFF the LED
		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;
	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: