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| Date: | 15th November 2022 |
| Team ID | PNT2022TMID27964 |
| Project Name | Project – Smart Farmer- IoT based SmartFarming Application |

**SPRINT 1**

**Connecting Sensors with Arduino:**

**AIM:**

To connect the necessary sensors to the arduino board.

**MATERIALS USED:**

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| **COMPONENTS** | **DEVICE NAME** |
| 1. MCU | ARDUINO UNO R3 |
| 1. WATER PUMP | SUBMERSIBLE WATER POOL PUMP |
| 1. SOIL MOISTURE | SOIL MOISTURE SENSOR |
| 1. TEMPERATURE AND HUMIDITY | DHT 22/11 SENSOR |

**PROGRAM:**

#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 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;

int sensor\_analog;

sensor\_analog = analogRead(sensor\_pin);

moisture\_percentage = ( 100 - ( (sensor\_analog/1023.00) \* 100 ) );

float m=moisture\_percentage;

delay(1000);

if(m=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 DESIGN:**

