PROJECT DEVELOPMENT DELIVERY OF SPRINT-1

TEAM ID	PNT2022TMID52180
PROJECT NAME	IoT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

SPRINT-1

```
#include"DHTStable.h"  // DHT library test sketch for DHT22/DHT11 && Arduino "AUTHOR: Rob Tillaart"
                    // URL: https://qithub.com/RobTillaart/DHTstable
                    // Initialize the DHT Library


DHTStable DHT;
int HUM = 0;
int TEMP = 0;
/**********************************************
/
```

```
/*******************OLED************************
/
#include <Wire.h>
#include <Adafruit_GFX.h>
#include <Adafruit_SSD1306.h>
#define SCREEN_WIDTH 128 //OLED display width, in pixels
#define SCREEN_HEIGHT 64 //OLED display height, in pixels
// Declaration for an SSD1306 display connected to I2C (SDA,SCL pins)
Adafruit_SSD1306 display(SCREEN_WIDTH, SCREEN_HEIGHT,&Wire, -1);
/*****************************************/


void setup()
{
  serial.begin(115200);
  if(!display.begin(SSD1306_SWITCHCAPVCC, 0x3C)) {// Adress 0x3D for 128x64
    Serial.println(F("SSD1306 allocation failed"));
```

```
    for(;;);
  };
}
void loop()
{
  /***** For DHT22*******/
  //int chk = DHT.read22(DHTPIN);
  /**********************/
  /***** For DHT11*******/
  int chk = DHT.read11(DHTPIN);
  /**********************/
  HUM = DHT.getHumidity();     // Read the humidity
  TEMP = DHT.getTemperature(); // Read the
temperature

  /**** Display Data ****/
  Serial.print("Humidity");Serial.println(HUM);
  Serial.print("Temperature");Serial.println(TEMP);
  display.cleardisplay();
  oledDisplayHeader();
```

```
  oledDisplay(3,5,28,HUM,"&");    // Display humidity
  oledDisplay(2,70,16,TEMP,"C");  // Display
temperature
  display.display();
  /**********************/
  delay(2000);
}

/************ Generate OLED Header
***************/
void oledDisplayHeader()
{
  display.setTextSize(1);
  display.setTextColor(WHITE);
  display.setCursor(0, 0);
  display.print("Humidity");
  display.setCursor(60, 0);
  display.print("Temperature");
}
```

```
/************** Generate OLED Display **************/
void oledDisplay(int size, int x,int y, float value, String unit)
{
  int charLen = 12;
  int xo      = x + charLen*3.2;
  int xunit   = x + charLen*3.6;
  int xbal    = x;
  display.setTextSize(size);
  display.setTextColor(WHITE);

  if (unit=="%"){
    display.setCursor(x, y);
    display.print(value,0);
    display.print(unit);
  }else {
    if(value>99){ xval  = x;  }
    else        { xval  = x + charLen; };
    display.setCursor(xval, y);
    display.print(value,0);
```

```
    display.drawCircle(xo, y + 2, 2, WHITE);     // Print
degree symbols
    display.setCursor(xunit, y);
    display.print(unit);
  };
}


  }
  }
```