#include "DHT.h"

#define DHTPIN 4 // Digital pin connected to the DHT sensor

#define DHTTYPE DHT11 // DHT 11

DHT dht(DHTPIN, DHTTYPE);

const int ledPin = 16;

// setting PWM properties

const int freq = 5000;

const int p = 0;

const int resolution = 8;

// the number of the LED pin

const int ledPin1 = 17;

// setting PWM properties

const int freq1 = 5000;

const int p1 = 0;

const int resolution1 = 8;

#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(9600);

Serial.println(F("DHTxx test!"));

dht.begin();

// configure LED PWM functionalitites

ledcSetup(p1, freq1, resolution1);

// attach the channel to the GPIO to be controlled

ledcAttachPin(ledPin1, p1);

Serial.println("oled test");

if(!display.begin(SSD1306\_SWITCHCAPVCC, 0x3C)) {

Serial.println("SSD1306 allocation failed");

for(;;);

}

delay(2000);

}

void loop(){

// increase the LED brightness

int a=analogRead(15);

Serial.println(a);

delay(500);

if(a<400)

{

ledcWrite(p1, 0);

}

if(a<1000&&a>400)

{

ledcWrite(p1, 10);

}

if(a<2000&&a>1000)

{

ledcWrite(p1, 50);

}

if(a>1000&&a<3500)

{

ledcWrite(p1, 100);

}

if(a>3500)

{

ledcWrite(p1, 255);

}

display.clearDisplay();

display.setTextSize(1);

display.setTextColor(WHITE);

display.setCursor(0, 10);

// Display static text

display.print("LDR VALUE IS ");

display.print(a);

display.display();

delay(600);

float h = dht.readHumidity();

// Read temperature as Celsius (the default)

float t = dht.readTemperature();

// Read temperature as Fahrenheit (isFahrenheit = true)

float f = dht.readTemperature(true);

// Check if any reads failed and exit early (to try again).

// Compute heat index in Fahrenheit (the default)

float hif = dht.computeHeatIndex(f, h);

// Compute heat index in Celsius (isFahreheit = false)

float hic = dht.computeHeatIndex(t, h, false);

Serial.print(F("Humidity: "));

Serial.println(h);

Serial.print(F("% Temperature: "));

Serial.println(t);

Serial.print(F("°C "));

Serial.println(f);

Serial.print(F("°F Heat index: "));

Serial.println(hic);

Serial.print(F("°C "));

Serial.print(hif);

Serial.println(F("°F"));

if(t<18)

{

ledcWrite(p, 0);

}

if(t<21&&t>=18)

{

ledcWrite(p, 10);

}

if(t<26&&t>=21)

{

ledcWrite(p, 50);

}

if(t>=26&&t<30)

{

ledcWrite(p, 100);

}

if(t>=30)

{

ledcWrite(p, 255);

}

display.setTextSize(1);

display.setTextColor(WHITE);

display.setCursor(1, 10);

// Display static text

display.println();

display.print("TEMPERATURE IS ");

display.print(t);

display.println("HUMIDITY IS ");

display.print(h);

display.display();

}