Assignment-3

Smart Home Automation project using ESP32.

CODE:

#include “DHT.h”

#include <Wire.h>

#include <Adafruit\_GFX.h>

#include <Adafruit\_SSD1306.h>

#define DHTPIN 4

#define DHTTYPE DHT11

DHT dht(DHTPIN, DHTTYPE);

#define SCREEN\_WIDTH 128 // OLED display width, in pixels

#define SCREEN\_HEIGHT 64 // OLED display height, in pixels

Adafruit\_SSD1306 display(SCREEN\_WIDTH, SCREEN\_HEIGHT, &Wire, -1);

void setup()

{

Serial.begin(9600);

Serial.println(F(“DHTxx test!”));

Dht.begin();

Serial.begin(115200);

delay(1000);

Serial.println(“oled testing”);

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

Serial.println(“SSD1306 allocation failed”);

for(;;);}

delay(2000);

display.clearDisplay();

display.setTextSize(1);

display.setTextColor(WHITE);

display.setCursor(0, 10);

display.println();

display.display();

pinMode(2,OUTPUT);

pinMode(13,OUTPUT);

Serial.begin(9600);

}

void loop() {

delay(2000);

float h = dht.readHumidity();

float t = dht.readTemperature();

float f = dht.readTemperature(true);

if (isnan(h) || isnan(t) || isnan(f)) {

Serial.println(F(“Failed to read from DHT sensor!”));

Return;

}

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

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

int a= analogRead(15);

delay(2000);

delay(2000);

display.clearDisplay();

display.setTextSize(1);

display.setTextColor(WHITE);

display.setCursor(0, 10);

display.print(F(“Humidity: “));

display.print(h);

display.print(F(“% Temperature: “));

display.print(t);

display.print(F(“°C “));

display.print(f);

display.print(F(“°F Heat index: “));

display.print(hic);

display.print(F(“°C “));

display.print(hif);

display.println(F(“°F”));

display.println(“the ldr value is”);

display.println(a);

If(a<=2500)

{

digitalWrite(2,HIGH);

display.println(“LIGHT is ON”);

}

Else

{

digitalWrite(2,LOW);

display.println(“ LIGHT is OFF”);

}

If(f>28)

{

digitalWrite(13,HIGH);

display.println(“FAN is ON”);

}

else{

digitalWrite(13,LOW);

display.println(“FAN is OFF”);

}

}

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