ASSIGNMENT -3

# Smart Home Automation project using ESP32.

CODE:

#include "DHT.h"

#define DHTPIN 4

#define DHTTYPE DHT11

DHT dht(DHTPIN, DHTTYPE);

#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);

#define L 2 //led1

#define F 13//led2

void setup() {

Serial.begin(9600);

Serial.println("DHTxx test!");

dht.begin();

Serial.begin(115200);

delay(2000);

Serial.println("oled test");

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();

delay(1000);

pinMode(L,OUTPUT);

pinMode(F,OUTPUT);

Serial.begin(9600);

}

void loop()

{

delay(2000);

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).

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

{

Serial.println("Failed to read from DHT sensor!");

return;

}

delay(1000);

int ldrval=analogRead(15);

Serial.print("the LDR value is:");

Serial.println(ldrval);

Serial.print("Humidity: ");

Serial.print(h);

Serial.print("% Temperature: ");

Serial.print(t);

Serial.print("°C ");

delay(1000);

display.setTextSize(1);

display.setTextColor(WHITE);

display.setCursor(0, 10);

display.print("ldr=");

display.println(ldrval);

display.print("humidity=");

display.print(h);

display.println("%");

display.print("temperature=");

display.print(t);

display.println("°C");

display.display();

delay(1000);

if(ldrval<700)

{

digitalWrite(L,HIGH);

display.clearDisplay();

display.setTextSize(1);

display.setTextColor(WHITE);

display.setCursor(0, 10);

display.println("light is on");

display.display();

delay(1000);

}

else

{

digitalWrite(L,LOW);

delay(1000);

}

if(t>28||h>40||(t>28 && h>40) )

{

digitalWrite(F,HIGH);

display.clearDisplay();

display.setTextSize(1);

display.setTextColor(WHITE);

display.setCursor(0, 10);

display.println("Fan is on");

display.display();

delay(1000);

}

else

{

digitalWrite(F,LOW);

delay(1000);

}

}

SUBMITTED BY

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