Nguyễn Nhật Trường 2111903

A computer circuit board with different components

Description automatically generated with medium confidence

Cảm biến chất lượng không khí

A computer screen shot of a computer

Description automatically generated

#include <LiquidCrystal.h>

int sensorValue;

const int rs = 12, en = 11, d4 = 5, d54, d6 3, d7 = 2;

LiquidCrystal lcd(rs, en, d4, d5, d6, d7);

void setup() { lcd.begin(16, 2);

Serial.begin(9600);

}

void loop() (sensorValue = analogRead(0);

Serial.print("AirQua=");

Serial.print(sensorValue, DEC);

Serial.println(" PPM");

lcd.setCursor(0,0);

lcd.print("ArQ=");

lcd.print(sensorValue, DEC);

lcd.print(" PPM");

lcd.println(" ");

lcd.print(" ");

if (sensorValue>=500)

{

lcd.setCursor(0,1);

lcd.print("ArQ Dat Chuan");

}

else if (sensorValue<500)

{

lcd.setCursor(0,1);

lcd.print("ArQ K Dat Chuan");

}

Cảm biến lượng mưa

A diagram of a computer project

Description automatically generated with medium confidence

#include <LiquidCrystal.h>

int FAN 6:

LiquidCrystal lcd (13, 11, 10, 9, 8,7):

void setup() [

Serial.begin(9600);

pinMode (2, INPUT);

lcd.begin(16, 2);

pinMode (FAN, OUTPUT);

void loop() {

int rain digitalRead(2);

if (rain==1)

Serial.println("RAIN");

lcd.setCursor(0, 0);

lcd.print("RAIN

");

lcd.setCursor(0, 1);

lcd.print("MOTOR ON

");

digitalWrite (FAN, HIGH);

delay(50);

else if(rain==0)

Serial.println("NO RAIN");

lcd.setCursor(0, 0);

lcd.print("NO RAIN ");

lcd.setCursor(0, 1);

lcd.print("MOTOR OFF

digitalWrite(FAN, LOW);

");

delay (50);

}

}

Cảm biến độ ẩm đất

A computer screen shot of a circuit board

Description automatically generated

#include <LiquidCrystal\_I2C.h>

LiquidCrystal\_I2C lcd (0x27, 20, 4);

#define sensor Al

#define led 13

#define motor 8

void setup() {

Serial.begin(9600);

lcd.init();

pinMode (sensor, INPUT);

pinMode (led, OUTPUT);

pinMode (motor, OUTPUT);

lcd.setCursor(0, 0);

lcd.print("--VUON TU DONG----");

lcd.setCursor(0, 1);

lcd.print("Do am dat: %");

}

void loop() {

int value = analogRead(sensor);

value map (value, 0, 1023, 0, 100);

lcd.setCursor (11, 1);

lcd.print(value);

if (value < 100) {

lcd.setCursor (13, 1);

lcd.print('');

} else if (value < 10) {

lcd.setCursor (12, 1);

lcd.print('');

}

}

Cảm biến độ ẩm

A computer screen shot of a circuit board

Description automatically generated

#include <DHT.h>

#define DHT\_SENSOR\_PIN D7 // The ESP8266 pin D7 connected to DHT11 sensor

#define DHT\_SENSOR\_TYPE DHT11

DHT dht\_sensor(DHT\_SENSOR\_PIN, DHT\_SENSOR\_TYPE);

void setup() {

Serial.begin(9600);

dht\_sensor.begin(); // initialize the DHT sensor

}

void loop() {

// read humidity

float humi = dht\_sensor.readHumidity();

// read temperature in Celsius

float temperature\_C = dht\_sensor.readTemperature();

// read temperature in Fahrenheit

float temperature\_F = dht\_sensor.readTemperature(true);

// check whether the reading is successful or not

if ( isnan(temperature\_C) || isnan(temperature\_F) || isnan(humi)) {

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

} else {

Serial.print("Humidity: ");

Serial.print(humi);

Serial.print("%");

Serial.print(" | ");

Serial.print("Temperature: ");

Serial.print(temperature\_C);

Serial.print("°C ~ ");

Serial.print(temperature\_F);

Serial.println("°F");

}

// wait a 2 seconds between readings

delay(2000);

}

Cảm biến ánh sáng

A computer screen shot of a circuit board

Description automatically generated

#include <LiquidCrystal.h>

LiquidCrystal lcd (13,12,11,10,9,8):

int DEN 7:

void setup() {

Serial.begin(9600);

lcd.begin(16, 2);

icd.clear();

lcd.setCursor(1,0);

lcd.print("Cuong Do= ");

pinMode (DEN, OUTPUT):

void loop()

{

int Idr analogRead(AO):

lcd.setCursor(10,0): lcd.print(1dr):

if (ldr<500)

digitalWrite(DEN, HIGH);

lcd.setCursor(0,1);

lcd.print("LED ON"):

Serial.println("Den Dang Sang"):

else if (ldr>-500)

digitalWrite(DEN, LOW);

lcd.setCursor(0,1);

lcd.print("LED OFF"):

Serial.println("Den Dang Sang"):

}

}