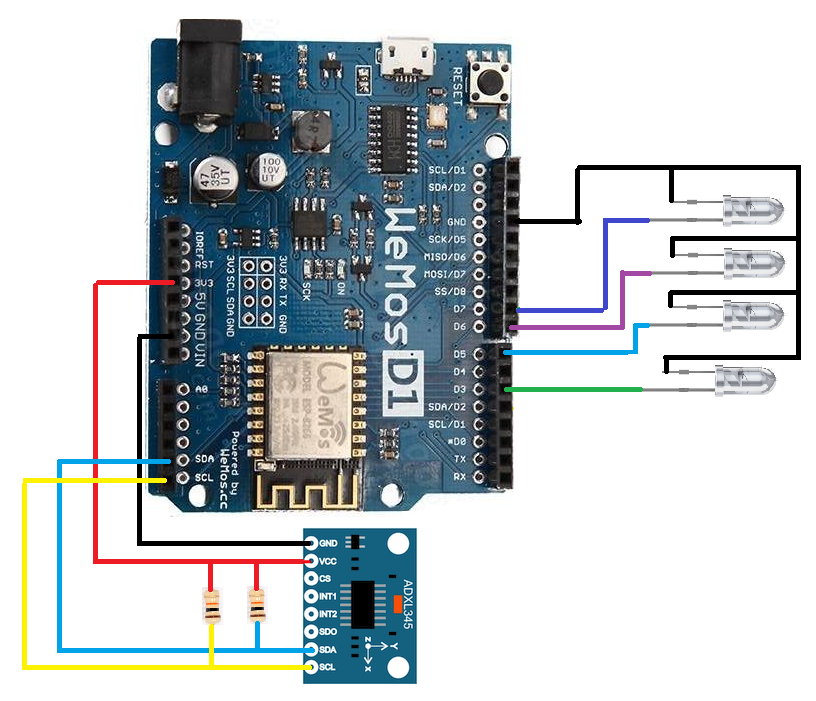
Arduino版9&11(D1)

元件:ADXL345三軸感應 LED\*4



連線IP 192.168.60.204看IOT狀態

透過GET <http://192.168.60.204/openLED> 打開LED閃爍

透過GET <http://192.168.60.204/openLED>2 打開LED繞圈閃爍



#include <Wire.h> //調用arduino自帶的I2C庫

#include <ESP8266WiFi.h>

#include <ESP8266WebServer.h>

const char\* ssid = "ASUS\_iot\_2G";

const char\* password = "1121314151";

ESP8266WebServer server(80);

void homepage() {

server.send(200, "text/html", SendHTML());

Serial.println("同學開啟了網頁");

}

#define Register\_ID 0

#define Register\_2D 0x2D

#define Register\_X0 0x32

#define Register\_X1 0x33

#define Register\_Y0 0x34

#define Register\_Y1 0x35

#define Register\_Z0 0x36

#define Register\_Z1 0x37

int LED3=D3;

int LED5=D5;

int LED6=D6;

int LED7=D7;

int LED8=D8;

int ADXAddress = 0xA7>>1; //轉換為7位地址

int reading = 0;

int val = 0;

int X0,X1,X\_out;

int Y0,Y1,Y\_out;

int Z1,Z0,Z\_out;

double Xg,Yg,Zg;

double Xglast = 0;

double Yglast = 0;

double Zglast = 0;

void setup()

{

Serial.begin(9600);

Wire.begin(); //初始化I2C

delay(100);

Wire.beginTransmission(ADXAddress);

Wire.write(Register\_2D);

Wire.write(8);

Wire.endTransmission();

pinMode(LED3, OUTPUT);

pinMode(LED5, OUTPUT);

pinMode(LED6, OUTPUT);

pinMode(LED7, OUTPUT);

pinMode(LED8, OUTPUT);

randomSeed(analogRead(A0));//亂數種子

//初始化網絡

WiFi.mode(WIFI\_STA);

WiFi.begin(ssid, password);

WiFi.config(IPAddress(192,168,60,204), // IP位址

IPAddress(192,168,60,254), // 閘道（gateway）位址

IPAddress(255,255,255,0)); // 網路遮罩（netmask）

while (WiFi.status() != WL\_CONNECTED) {

delay(500);

Serial.print(".");

}

Serial.println("");

Serial.print("IP Address: ");

Serial.println(WiFi.localIP());

//初始化WebServer

server.on("/", homepage);

server.on("/openLED", ledallblink);//開啟led

server.on("/openLED2", ledcircle);//開啟led2

server.begin();

Serial.println("HTTP server started");

ledcircle();

}

void loop()

{

Wire.beginTransmission(ADXAddress);

Wire.write(Register\_X0);

Wire.write(Register\_X1);

Wire.endTransmission();

Wire.requestFrom(ADXAddress,2);

if(Wire.available()<=2);

{

X0 = Wire.read();

X1 = Wire.read();

X1 = X1<<8;

X\_out = X0+X1;

}

Wire.beginTransmission(ADXAddress);

Wire.write(Register\_Y0);

Wire.write(Register\_Y1);

Wire.endTransmission();

Wire.requestFrom(ADXAddress,2);

if(Wire.available()<=2);

{

Y0 = Wire.read();

Y1 = Wire.read();

Y1 = Y1<<8;

Y\_out = Y0+Y1;

}

Wire.beginTransmission(ADXAddress);

Wire.write(Register\_Z0);

Wire.write(Register\_Z1);

Wire.endTransmission();

Wire.requestFrom(ADXAddress,2);

if(Wire.available()<=2);

{

Z0 = Wire.read();

Z1 = Wire.read();

Z1 = Z1<<8;

Z\_out = Z0+Z1;

}

Xg = X\_out/256.00;//把輸出結果轉換為重力加速度g,精確到小數點後2位。

Yg = Y\_out/256.00;

Zg = Z\_out/256.00;

Serial.print("X:");

Serial.print(Xg);

Serial.print("\t");

Serial.print("Y:");

Serial.print(Yg);

Serial.print("\t");

Serial.print("z:");

Serial.print(Zg);

Serial.print("\t");

int i = random(2);

Serial.print("亂數:");

Serial.print(i);

if(abs(Xglast-Xg+Yglast-Yg+Zglast-Zg) >5 ){//這邊數值可以調，越低靈敏度越高

Serial.print("振動");

if(i==0){

ledcircle();

}

else if(i==1){

ledallblink();

}

}

Serial.println();

Xglast = Xg;

Yglast = Yg;

Zglast = Zg;

//監聽客戶請求並處理

server.handleClient();

delay(200); //延時0.3秒，刷新頻率這裡進行調整

}

void ledcircle(){

server.send(200, "text/html", SendHTML());

Serial.print("ledcircle");

for(int i=1;i<4;i++){

digitalWrite(LED3, HIGH);

delay(100);

digitalWrite(LED5, HIGH);

delay(100);

digitalWrite(LED6, HIGH);

delay(100);

digitalWrite(LED7, HIGH);

delay(100);

digitalWrite(LED8, HIGH);

delay(200);

digitalWrite(LED3, LOW);

delay(100);

digitalWrite(LED5, LOW);

delay(100);

digitalWrite(LED6, LOW);

delay(100);

digitalWrite(LED7, LOW);

delay(100);

digitalWrite(LED8, LOW);

delay(200);

}

}

void ledallblink(){

server.send(200, "text/html", SendHTML());

Serial.print("ledallblink");

for(int i=1;i<5;i++){

digitalWrite(LED3, HIGH);

digitalWrite(LED5, HIGH);

digitalWrite(LED6, HIGH);

digitalWrite(LED7, HIGH);

digitalWrite(LED8, HIGH);

delay(100);

digitalWrite(LED3, LOW);

digitalWrite(LED5, LOW);

digitalWrite(LED6, LOW);

digitalWrite(LED7, LOW);

digitalWrite(LED8, LOW);

delay(100);

}

}

String SendHTML(){

String ptr = "<!DOCTYPE html> <html>\n";

ptr +="<head><meta name=\"viewport\" content=\"width=device-width, initial-scale=1.0, user-scalable=no\"><meta charset=\"UTF-8\">\n";

ptr +="<title>雲端控制器</title>\n";

ptr +="<style>html { font-family: Helvetica; display: inline-block; margin: 0px auto; text-align: center;}\n";

ptr +="body{margin-top: 50px;} h1 {color: #444444;margin: 50px auto 30px;} h3 {color: #444444;margin-bottom: 50px;}\n";

ptr +=".button {display: block;width: 80px;background-color: #1abc9c;border: none;color: white;padding: 13px 30px;text-decoration: none;font-size: 25px;margin: 0px auto 35px;cursor: pointer;border-radius: 4px;}\n";

ptr +=".button-on {background-color: #1abc9c;}\n";

ptr +=".button-on:active {background-color: #16a085;}\n";

ptr +=".button-off {background-color: #34495e;}\n";

ptr +=".button-off:active {background-color: #2c3e50;}\n";

ptr +="p {font-size: 14px;color: #888;margin-bottom: 10px;}\n";

ptr +="</style>\n";

ptr +="</head>\n";

ptr +="<body>\n";

ptr +="<h1> ESP8266 網頁伺服器</h1>\n";

ptr +="<h3>勞動部勞動力發展署中彰投分署</h3>\n";

ptr +="X:"+String(Xg)+"Y:"+String(Yg)+"z:"+String(Zg)+"<br>";

ptr +="<a class=\"button button-off\" href=\"/openLED\">開啟led閃爍</a>\n";

ptr +="<a class=\"button button-on\" href=\"/openLED2\">開啟led繞圈</a>\n";

ptr +="<hr><h3>power by kunlex ,davidou 2019 </h3>\n";

ptr +="</body>\n";

ptr +="</html>\n";

return ptr;

}