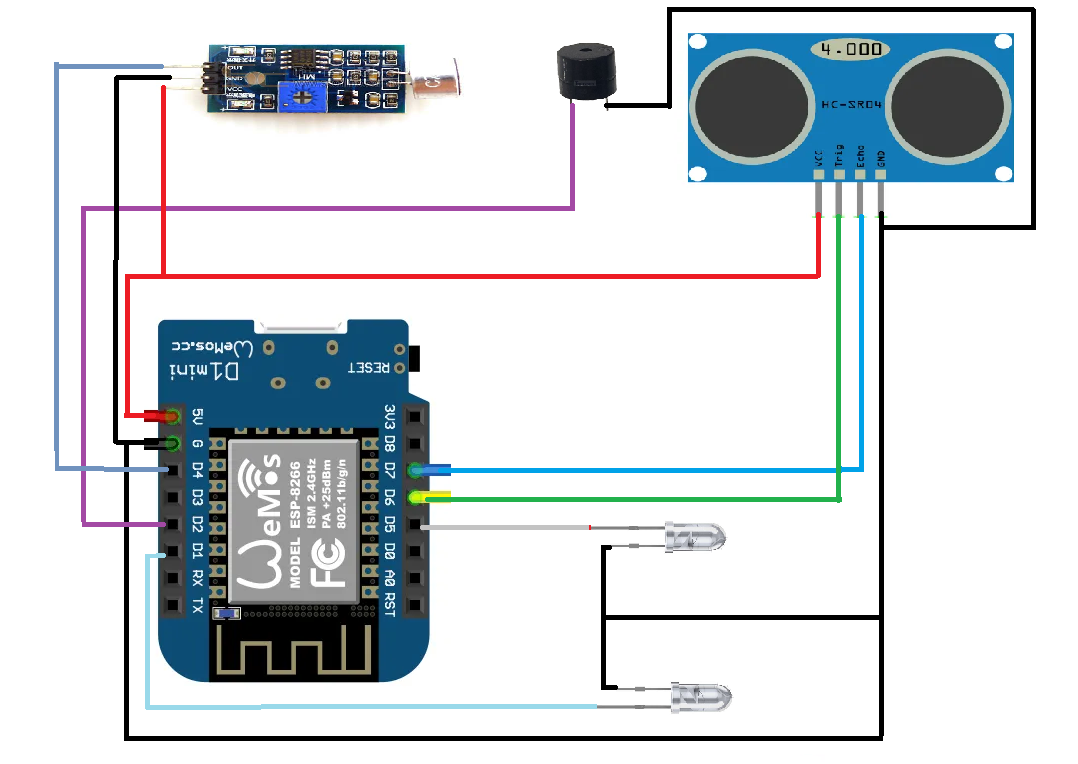
Arduino版3&11(D1 mini)

元件:蜂鳴器 超聲波 麥克風 LED



可以透過192.168.60.203看IOT狀態

透過GET <http://192.168.60.203/openmusic> 放音樂

透過GET <http://192.168.60.203/openmusicbee> 放音樂2

// 開發版選Wemos D1 R1

//此模組在上傳時 麥克風的5V要先拔掉才能上傳，不然會傳不上去

//此模組在上傳或開機時 麥克風的5V開關要先關掉才能上傳，不然會傳不上去

//czn-15e 聲音感測器

const int soundPin = 2; //D4=2 7;

int soundVal = 0;

//czn-15e 聲音感測器end

const int ledPin = 14;//14=d5

const int ledPin2 = 5;//d1=5

//beep蜂鳴器

const int buzzer = 4; //4就是d1 mini的D2

const int toneTable[7][5]={

{ 66, 131, 262, 523, 1046}, // C Do

{ 74, 147, 294, 587, 1175}, // D Re

{ 83, 165, 330, 659, 1318}, // E Mi

{ 88, 175, 349, 698, 1397}, // F Fa

{ 98, 196, 392, 784, 1568}, // G So

{110, 220, 440, 880, 1760}, // A La

{124, 247, 494, 988, 1976} // B Si

};

char toneName[]="CDEFGAB";

const char starTone[]="CCGGAAGFFEEDDCGGFFEEDGGFFEEDCCGGAAGFFEEDDC";

char beeTone[]="GEEFDDCDEFGGGGEEFDDCEGGEDDDDDEFEEEEEFGGEEFDDCEGGC";

int beeBeat[]={

1,1,2, 1,1,2, 1,1,1,1,1,1,2,

1,1,2, 1,1,2, 1,1,1,1,4,

1,1,1,1,1,1,2, 1,1,1,1,1,1,2,

1,1,2, 1,1,2, 1,1,1,1,4

};

int starBeat[]={

1,1,1,1,1,1,2, 1,1,1,1,1,1,2,

1,1,1,1,1,1,2, 1,1,1,1,1,1,2,

1,1,1,1,1,1,2, 1,1,1,1,1,1,2

};

int getTone(char symbol) {

int toneNo = 0;

for ( int ii=0; ii<7; ii++ ) {

if ( toneName[ii]==symbol ) {

toneNo = ii;

break;

}

}

return toneNo;

}

//beep 蜂鳴器end

//超聲波測距

#define echoPin D7 // Echo Pin

#define trigPin D6 // Trigger Pin

long duration, cm, inches;

//超聲波測距end

#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");

}

void setup() {

Serial.begin (9600);

pinMode(buzzer,OUTPUT);

noTone(buzzer);

pinMode(ledPin, OUTPUT);

pinMode(ledPin2, OUTPUT);

pinMode(trigPin, OUTPUT);

pinMode(echoPin, INPUT);

//初始化網絡

WiFi.mode(WIFI\_STA);

WiFi.begin(ssid, password);

WiFi.config(IPAddress(192,168,60,203), // 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("/openmusic", singstar);//打開音樂

server.on("/openmusicbee", singbee);//打開音樂 bee

server.begin();

Serial.println("HTTP server started");

pinMode(soundPin, INPUT);

}

void loop() {

// The sensor is triggered by a HIGH pulse of 10 or more microseconds.

// Give a short LOW pulse beforehand to ensure a clean HIGH pulse:

digitalWrite(trigPin, LOW);

delayMicroseconds(5);

digitalWrite(trigPin, HIGH);

delayMicroseconds(10);

digitalWrite(trigPin, LOW);

// Read the signal from the sensor: a HIGH pulse whose

// duration is the time (in microseconds) from the sending

// of the ping to the reception of its echo off of an object.

pinMode(echoPin, INPUT);

duration = pulseIn(echoPin, HIGH);

// Convert the time into a distance

cm = (duration/2) / 29.1; // Divide by 29.1 or multiply by 0.0343

inches = (duration/2) / 74; // Divide by 74 or multiply by 0.0135

Serial.print(inches);

Serial.print("in, ");

Serial.print(cm);

Serial.print("cm");

Serial.println();

soundVal = digitalRead(soundPin);

if (soundVal == HIGH)

{

Serial.println("loud");

singbee();

delay(3000);//要delay一下 以免麥克風又收到自己的聲音又開始放了

}

else

{

Serial.println("quiet");

}

if (cm <20)

{

Serial.println("move in 10cm");

Serial.println(cm);

singstar();

delay(3000);//要delay一下 以免麥克風又收到自己的聲音又開始放了

}

delay(250);

server.handleClient();//監聽客戶請求並處理

}

void singstar() {

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

// star

int ii,length,toneNo,duration;

length = sizeof(starTone)-1;

for ( ii=0; ii<length; ii++ ) {

digitalWrite(ledPin, HIGH);

digitalWrite(ledPin2, LOW);

toneNo = getTone(starTone[ii]);

duration = starBeat[ii]\*133;

tone(buzzer,toneTable[toneNo][3]);

delay(duration);

noTone(buzzer);

digitalWrite(ledPin, LOW);

digitalWrite(ledPin2, HIGH);

delay(50);

}

noTone(buzzer);

}

void singbee() {

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

// bee

int ii,length,toneNo,duration;

length = sizeof(beeTone)-1;

for ( ii=0; ii<length; ii++ ) {

digitalWrite(ledPin, HIGH);

digitalWrite(ledPin2, LOW);

toneNo = getTone(beeTone[ii]);

duration = beeBeat[ii]\*133;

tone(buzzer,toneTable[toneNo][3]);

delay(duration);

noTone(buzzer);

digitalWrite(ledPin2, HIGH);

digitalWrite(ledPin, LOW);

delay(50);

}

}

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 +="<a class=\"button button-off\" href=\"/openmusic\">放音樂</a>\n";

ptr +="<a class=\"button button-off\" href=\"/openmusicbee\">放小蜜蜂音樂</a>\n";

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

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

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

return ptr;

}