#include <ESP8266WiFi.h>

#include <WiFiClient.h>

#include <ESP8266WebServer.h>

//SSID and Password to your ESP Access Point

const char\* ssid = "Robot Wifi";

const char\* password = "87654321";

#define ENA 4 // Enable/speed motors Right GPIO4(D2)

#define IN\_1 0 // L298N in1 motors Right GPIO0(D3)

#define IN\_2 2 // L298N in2 motors Right GPIO2(D4)

#define IN\_3 12 // L298N in3 motors Left GPIO12(D6)

#define IN\_4 13 // L298N in4 motors Left GPIO13(D7)

#define ENB 15 // Enable/speed motors Left GPIO15(D8)

#define Light 16 // Light GPIO16(D0)

String command; //String to store app command state.

int speedCar = 150; // 0 to 255

int speed\_low = 60;

ESP8266WebServer server(80);

void setup() {

Serial.begin(115200);

pinMode(ENA, OUTPUT);

pinMode(IN\_1, OUTPUT);

pinMode(IN\_2, OUTPUT);

pinMode(IN\_3, OUTPUT);

pinMode(IN\_4, OUTPUT);

pinMode(ENB, OUTPUT);

pinMode(Light, OUTPUT);

// Connecting WiFi

WiFi.mode(WIFI\_AP); //Only Access point

WiFi.softAP(ssid, password); //Start HOTspot removing password will disable security

IPAddress myIP = WiFi.softAPIP();

Serial.print("AP IP address: ");

Serial.println(myIP);

// Starting WEB-server

server.on ( "/", HTTP\_handleRoot );

server.onNotFound ( HTTP\_handleRoot );

server.begin();

}

void loop() {

server.handleClient();

command = server.arg("State");

if (command == "F") goForword();

else if (command == "B") goBack();

else if (command == "L") goLeft();

else if (command == "R") goRight();

else if (command == "I") goForwordRight();

else if (command == "G") goForwordLeft();

else if (command == "J") goBackRight();

else if (command == "H") goBackLeft();

else if (command == "W")digitalWrite(Light, HIGH); // light is on

else if (command == "w")digitalWrite(Light, LOW); // light is off

else if (command == "0") speedCar = 100;

else if (command == "1") speedCar = 120;

else if (command == "2") speedCar = 140;

else if (command == "3") speedCar = 160;

else if (command == "4") speedCar = 180;

else if (command == "5") speedCar = 200;

else if (command == "6") speedCar = 215;

else if (command == "7") speedCar = 230;

else if (command == "8") speedCar = 240;

else if (command == "9") speedCar = 255;

else if (command == "S") stopRobot();

}

void HTTP\_handleRoot(void) {

if( server.hasArg("State") ){

Serial.println(server.arg("State"));

}

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

delay(1);

}

void goForword(){

digitalWrite(IN\_1, HIGH);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, HIGH);

analogWrite(ENB, speedCar);

}

void goBack(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, HIGH);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, HIGH);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar);

}

void goRight(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, HIGH);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, HIGH);

analogWrite(ENB, speedCar);

}

void goLeft(){

digitalWrite(IN\_1, HIGH);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, HIGH);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar);

}

void goForwordRight(){

digitalWrite(IN\_1, HIGH);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar-speed\_low);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, HIGH);

analogWrite(ENB, speedCar);

}

void goForwordLeft(){

digitalWrite(IN\_1, HIGH);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, HIGH);

analogWrite(ENB, speedCar-speed\_low);

}

void goBackRight(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, HIGH);

analogWrite(ENA, speedCar-speed\_low);

digitalWrite(IN\_3, HIGH);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar);

}

void goBackLeft(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, HIGH);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, HIGH);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar-speed\_low);

}

void stopRobot(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar);

}

#define ENA 14 // Enable/speed motors Right GPIO14(D5)

#define ENB 12 // Enable/speed motors Left GPIO12(D6)

#define IN\_1 15 // L298N in1 motors Right GPIO15(D8)

#define IN\_2 13 // L298N in2 motors Right GPIO13(D7)

#define IN\_3 2 // L298N in3 motors Left GPIO2(D4)

#define IN\_4 0 // L298N in4 motors Left GPIO0(D3)

#include <ESP8266WiFi.h>

#include <WiFiClient.h>

#include <ESP8266WebServer.h>

String command; //String to store app command state.

int speedCar = 800; // 400 - 1023.

int speed\_Coeff = 3;

const char\* ssid = "NodeMCU Car";

ESP8266WebServer server(80);

void setup() {

pinMode(ENA, OUTPUT);

pinMode(ENB, OUTPUT);

pinMode(IN\_1, OUTPUT);

pinMode(IN\_2, OUTPUT);

pinMode(IN\_3, OUTPUT);

pinMode(IN\_4, OUTPUT);

Serial.begin(115200);

// Connecting WiFi

WiFi.mode(WIFI\_AP);

WiFi.softAP(ssid);

IPAddress myIP = WiFi.softAPIP();

Serial.print("AP IP address: ");

Serial.println(myIP);

// Starting WEB-server

server.on ( "/", HTTP\_handleRoot );

server.onNotFound ( HTTP\_handleRoot );

server.begin();

}

void goAhead(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, HIGH);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, HIGH);

analogWrite(ENB, speedCar);

}

void goBack(){

digitalWrite(IN\_1, HIGH);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, HIGH);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar);

}

void goRight(){

digitalWrite(IN\_1, HIGH);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, HIGH);

analogWrite(ENB, speedCar);

}

void goLeft(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, HIGH);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, HIGH);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar);

}

void goAheadRight(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, HIGH);

analogWrite(ENA, speedCar/speed\_Coeff);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, HIGH);

analogWrite(ENB, speedCar);

}

void goAheadLeft(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, HIGH);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, HIGH);

analogWrite(ENB, speedCar/speed\_Coeff);

}

void goBackRight(){

digitalWrite(IN\_1, HIGH);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar/speed\_Coeff);

digitalWrite(IN\_3, HIGH);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar);

}

void goBackLeft(){

digitalWrite(IN\_1, HIGH);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, HIGH);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar/speed\_Coeff);

}

void stopRobot(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar);

}

void loop() {

server.handleClient();

command = server.arg("State");

if (command == "F") goAhead();

else if (command == "B") goBack();

else if (command == "L") goLeft();

else if (command == "R") goRight();

else if (command == "I") goAheadRight();

else if (command == "G") goAheadLeft();

else if (command == "J") goBackRight();

else if (command == "H") goBackLeft();

else if (command == "0") speedCar = 400;

else if (command == "1") speedCar = 470;

else if (command == "2") speedCar = 540;

else if (command == "3") speedCar = 610;

else if (command == "4") speedCar = 680;

else if (command == "5") speedCar = 750;

else if (command == "6") speedCar = 820;

else if (command == "7") speedCar = 890;

else if (command == "8") speedCar = 960;

else if (command == "9") speedCar = 1023;

else if (command == "S") stopRobot();

}

void HTTP\_handleRoot(void) {

if( server.hasArg("State") ){

Serial.println(server.arg("State"));

}

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

delay(1);

}

node\_mcu\_car\_code.ino

Displaying node\_mcu\_car\_code.ino.

#include <ESP8266WiFi.h>

#include <WiFiClient.h>

#include <ESP8266WebServer.h>

//SSID and Password to your ESP Access Point

const char\* ssid = "Akshay\_Car";

const char\* password = "7032130504";

#define ENA 4 // Enable/speed motors Right GPIO4(D2)

#define IN\_1 0 // L298N in1 motors Right GPIO0(D3)

#define IN\_2 2 // L298N in2 motors Right GPIO2(D4)

#define IN\_3 12 // L298N in3 motors Left GPIO12(D6)

#define IN\_4 13 // L298N in4 motors Left GPIO13(D7)

#define ENB 15 // Enable/speed motors Left GPIO15(D8)

#define Light 16 // Light GPIO16(D0)

String command; //String to store app command state.

int speedCar = 150; // 0 to 255

int speed\_low = 60;

ESP8266WebServer server(80);

void setup() {

Serial.begin(115200);

pinMode(ENA, OUTPUT);

pinMode(IN\_1, OUTPUT);

pinMode(IN\_2, OUTPUT);

pinMode(IN\_3, OUTPUT);

pinMode(IN\_4, OUTPUT);

pinMode(ENB, OUTPUT);

pinMode(Light, OUTPUT);

// Connecting WiFi

WiFi.mode(WIFI\_AP); //Only Access point

WiFi.softAP(ssid, password); //Start HOTspot removing password will disable security

IPAddress myIP = WiFi.softAPIP();

Serial.print("AP IP address: ");

Serial.println(myIP);

// Starting WEB-server

server.on ( "/", HTTP\_handleRoot );

server.onNotFound ( HTTP\_handleRoot );

server.begin();

}

void loop() {

server.handleClient();

command = server.arg("State");

if (command == "F") goForword();

else if (command == "B") goBack();

else if (command == "L") goLeft();

else if (command == "R") goRight();

else if (command == "I") goForwordRight();

else if (command == "G") goForwordLeft();

else if (command == "J") goBackRight();

else if (command == "H") goBackLeft();

else if (command == "W")digitalWrite(Light, HIGH); // light is on

else if (command == "w")digitalWrite(Light, LOW); // light is off

else if (command == "0") speedCar = 100;

else if (command == "1") speedCar = 120;

else if (command == "2") speedCar = 140;

else if (command == "3") speedCar = 160;

else if (command == "4") speedCar = 180;

else if (command == "5") speedCar = 200;

else if (command == "6") speedCar = 215;

else if (command == "7") speedCar = 230;

else if (command == "8") speedCar = 240;

else if (command == "9") speedCar = 255;

else if (command == "S") stopRobot();

}

void HTTP\_handleRoot(void) {

if( server.hasArg("State") ){

Serial.println(server.arg("State"));

}

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

delay(1);

}

void goForword(){

digitalWrite(IN\_1, HIGH);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, HIGH);

analogWrite(ENB, speedCar);

}

void goBack(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, HIGH);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, HIGH);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar);

}

void goRight(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, HIGH);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, HIGH);

analogWrite(ENB, speedCar);

}

void goLeft(){

digitalWrite(IN\_1, HIGH);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, HIGH);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar);

}

void goForwordRight(){

digitalWrite(IN\_1, HIGH);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar-speed\_low);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, HIGH);

analogWrite(ENB, speedCar);

}

void goForwordLeft(){

digitalWrite(IN\_1, HIGH);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, HIGH);

analogWrite(ENB, speedCar-speed\_low);

}

void goBackRight(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, HIGH);

analogWrite(ENA, speedCar-speed\_low);

digitalWrite(IN\_3, HIGH);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar);

}

void goBackLeft(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, HIGH);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, HIGH);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar-speed\_low);

}

void stopRobot(){

digitalWrite(IN\_1, LOW);

digitalWrite(IN\_2, LOW);

analogWrite(ENA, speedCar);

digitalWrite(IN\_3, LOW);

digitalWrite(IN\_4, LOW);

analogWrite(ENB, speedCar);

}