**Smart Parking**

**Wokwi Project:**

Downloaded from https://wokwi.com/projects/379656554689311745

Simulate this project on <https://wokwi.com>

**Carkpark.ino:**

#include<ThingSpeak.h>

#include <Servo.h>

#include <LiquidCrystal\_I2C.h>

char ssid[]="Wokwi-Guest";

unsigned long mychannelID= 2327702;

const char\* writeAPIKey="Z0GO6WDXMM626AUJ";

uint8\_t indoor1 = 6;

uint8\_t indoor2 = 8;

uint8\_t outdoor1 = 7;

uint8\_t outdoor2 = 9;

uint8\_t buzzer   = 12;

uint8\_t sncar[]={22,23,24,25};

uint8\_t outputgreen[]={26,27,28,29};

uint8\_t outputred  []={30,31,32,33};

int count1 = 0;

boolean enablecount = false;

byte datax = 0b0000;

byte indexcar = 0x00;

LiquidCrystal\_I2C lcd(0x27,16,2);

Servo myservo1;

Servo myservo2;

void setup() {

**Serial**.begin(9600);

**Serial**.println("program start");

 for(uint8\_t index =  0; index<4; index+=1){

  pinMode(sncar[index],INPUT);

  pinMode(outputgreen[index],OUTPUT);

  pinMode(outputred[index],OUTPUT);

  digitalWrite(sncar[index],LOW);

  digitalWrite(outputgreen[index],LOW);

  digitalWrite(outputred[index],LOW);

 }

  pinMode(indoor1,INPUT);

  pinMode(indoor2,INPUT);

  pinMode(outdoor1,INPUT);

  pinMode(outdoor2,INPUT);

  pinMode(buzzer,OUTPUT);

  myservo1.attach(10);

  myservo2.attach(11);

  lcd.init();                      // initialize the lcd

  lcd.backlight();

  lcd.clear();

  delay(100);

}

void loop() {

 /\* static unsigned long timer1 = millis();

  if((millis()-timer1)>=1000){

    timer1 = millis();

    Serial.print("timeq1 = ");

    Serial.print(timer1/1000);

    Serial.println(" sec");

  }\*/

  if(enablecount==true){

   // Serial.println("yeet");

     count1+=1;

     if(count1>=100){

       myservo1.write(90);

       enablecount = false;

**Serial**.println("ok");

       count1=0;

     }

  }

  for(byte i =0; i<4;i+=1){

    bitWrite(datax,i,digitalRead(sncar[i]));

}

  for(byte i =0; i<4;i+=1){

    bitWrite(datax,i,digitalRead(sncar[i]));

      //Serial.print(bitRead(datax,i),BIN);

       indexcar = indexcar+!bitRead(datax,i);

      if(i==3){

        //Serial.println("");

       lcd.setCursor(0,0);

       lcd.print("Total : "+String(indexcar)+" car");

       lcd.setCursor(0,1);

       if(indexcar==4){

       lcd.print(String(!bitRead(datax,0))+" "+String(!bitRead(datax,1))+" "+String(!bitRead(datax,2))+" "+String(!bitRead(datax,3))+" "+"FULL CAR");

       }

       else{

       lcd.print(String(!bitRead(datax,0))+" "+String(!bitRead(datax,1))+" "+String(!bitRead(datax,2))+" "+String(!bitRead(datax,3))+" "+"Emptycar");

       }

        indexcar = 0;

      }

}

  if(digitalRead(indoor1)==0 && datax!= 0b0000){

  myservo1.write(180);

  count1=0;

  }

  if(digitalRead(outdoor1)==0 || datax == 0b0000 ){

  enablecount = true;

  }

  if(digitalRead(indoor2)==0){

  myservo2.write(180);

  }

  if(digitalRead(outdoor2)==0){

  myservo2.write(90);

   }

   for(uint8\_t index =  0; index<4; index+=1){

  digitalWrite(outputgreen[index],!digitalRead(sncar[index]));

  digitalWrite(outputred[index],digitalRead(sncar[index]));

 }

   delay(10);

}

**Diagram.json:**

{

  "version": 1,

  "author": "Jenifer R",

  "editor": "wokwi",

  "parts": [

    { "type": "wokwi-arduino-mega", "id": "mega", "top": 197.28, "left": -14.43, "attrs": {} },

    {

      "type": "wokwi-buzzer",

      "id": "bz1",

      "top": 86.14,

      "left": 126.88,

      "attrs": { "volume": "0.2" }

    },

    {

      "type": "wokwi-lcd1602",

      "id": "lcd1",

      "top": 27.26,

      "left": 372.32,

      "attrs": { "pins": "i2c", "background": "blue", "color": "white" }

    },

    {

      "type": "wokwi-pushbutton",

      "id": "btn4",

      "top": 1.31,

      "left": 267.73,

      "attrs": { "color": "red" }

    },

    {

      "type": "wokwi-pushbutton",

      "id": "btn5",

      "top": 0.84,

      "left": 173.2,

      "attrs": { "color": "green" }

    },

    {

      "type": "wokwi-pushbutton",

      "id": "btn6",

      "top": 6.2,

      "left": -38.4,

      "attrs": { "color": "red" }

    },

    {

      "type": "wokwi-pushbutton",

      "id": "btn7",

      "top": 3.42,

      "left": -124.81,

      "attrs": { "color": "green" }

    },

    { "type": "wokwi-slide-switch", "id": "sw1", "top": 192.7, "left": 398.9, "attrs": {} },

    { "type": "wokwi-slide-switch", "id": "sw2", "top": 192.15, "left": 557.93, "attrs": {} },

    { "type": "wokwi-slide-switch", "id": "sw3", "top": 191.08, "left": 508.93, "attrs": {} },

    { "type": "wokwi-slide-switch", "id": "sw4", "top": 193.63, "left": 458.67, "attrs": {} },

    {

      "type": "wokwi-resistor",

      "id": "r1",

      "top": -58.5,

      "left": 122.24,

      "attrs": { "value": "1000" }

    },

    {

      "type": "wokwi-resistor",

      "id": "r2",

      "top": -59.02,

      "left": 260.94,

      "attrs": { "value": "1000" }

    },

    {

      "type": "wokwi-resistor",

      "id": "r3",

      "top": -58.36,

      "left": -32.96,

      "attrs": { "value": "1000" }

    },

    {

      "type": "wokwi-resistor",

      "id": "r4",

      "top": -57.7,

      "left": -127.19,

      "attrs": { "value": "1000" }

    },

    {

      "type": "wokwi-resistor",

      "id": "r5",

      "top": 412.62,

      "left": 570.89,

      "attrs": { "value": "1000" }

    },

    {

      "type": "wokwi-resistor",

      "id": "r6",

      "top": 362.48,

      "left": 510.79,

      "attrs": { "value": "1000" }

    },

    {

      "type": "wokwi-resistor",

      "id": "r7",

      "top": 336.04,

      "left": 435.75,

      "attrs": { "value": "1000" }

    },

    {

      "type": "wokwi-resistor",

      "id": "r8",

      "top": 303.1,

      "left": 396.12,

      "attrs": { "value": "1000" }

    },

    {

      "type": "wokwi-led",

      "id": "led1",

      "top": 78.27987252863988,

      "left": -196.04819410029904,

      "attrs": { "color": "red" }

    },

    {

      "type": "wokwi-led",

      "id": "led2",

      "top": 93.27987252863988,

      "left": -181.04819410029904,

      "attrs": { "color": "red" }

    },

    {

      "type": "wokwi-led",

      "id": "led3",

      "top": 108.27987252863988,

      "left": -166.04819410029904,

      "attrs": { "color": "red" }

    },

    {

      "type": "wokwi-led",

      "id": "led4",

      "top": 123.28,

      "left": -151.05,

      "attrs": { "color": "green" }

    },

    {

      "type": "wokwi-led",

      "id": "led5",

      "top": 138.28,

      "left": -136.05,

      "attrs": { "color": "green" }

    },

    {

      "type": "wokwi-led",

      "id": "led6",

      "top": 153.27987252863988,

      "left": -121.04819410029904,

      "attrs": { "color": "green" }

    },

    {

      "type": "wokwi-led",

      "id": "led7",

      "top": 168.27987252863988,

      "left": -106.04819410029904,

      "attrs": { "color": "green" }

    },

    {

      "type": "wokwi-led",

      "id": "led8",

      "top": 65.16,

      "left": -212.17,

      "attrs": { "color": "red" }

    },

    { "type": "wokwi-servo", "id": "servo1", "top": -245.3, "left": -155.87, "attrs": {} },

    { "type": "wokwi-servo", "id": "servo2", "top": -242.77, "left": 130.29, "attrs": {} }

  ],

  "connections": [

    [ "lcd1:SCL", "mega:21", "green", [ "h0" ] ],

    [ "lcd1:SDA", "mega:20", "green", [ "h0" ] ],

    [ "lcd1:GND", "mega:GND.1", "black", [ "h0" ] ],

    [ "lcd1:VCC", "mega:5V", "red", [ "h-384.61", "v332.71", "h174.72" ] ],

    [ "mega:12", "bz1:2", "green", [ "v-21.94", "h37.5" ] ],

    [ "mega:GND.1", "bz1:1", "black", [ "v-32.01", "h24.01" ] ],

    [

      "mega:22",

      "sw1:2",

      "green",

      [ "v1.52", "h-11.78", "v-26.02", "h43.83", "v46.57", "h33.56" ]

    ],

    [ "sw4:2", "mega:23", "green", [ "v16.09", "h-106.25", "v-28.52" ] ],

    [ "mega:24", "sw3:2", "green", [ "v27.2", "h54.49" ] ],

    [ "mega:25", "sw2:2", "green", [ "v2.18", "h10.18", "v32.17", "h182.28" ] ],

    [ "sw1:3", "sw4:3", "green", [ "v-0.56", "h16.85", "v-40.94", "h54.37", "v42.29" ] ],

    [ "sw3:3", "sw4:3", "green", [ "v1.74", "h10.85", "v-42.29", "h-46.31", "v42.29" ] ],

    [ "sw2:3", "sw3:3", "green", [ "v1.34", "h18.23", "v-42.29", "h-52.35", "v38.93" ] ],

    [ "sw2:3", "mega:GND.3", "green", [ "v178.98", "h-415.94" ] ],

    [ "btn7:2.r", "btn6:2.r", "green", [ "h-1.84", "v26.77", "h79.71" ] ],

    [ "btn5:2.r", "btn4:2.r", "green", [ "h5.21", "v20.49", "h77.74" ] ],

    [ "lcd1:GND", "btn4:2.r", "black", [ "h0" ] ],

    [ "btn6:2.r", "mega:GND.1", "green", [ "h11.06", "v32.59", "h63.96" ] ],

    [

      "btn7:1.l",

      "mega:6",

      "green",

      [ "h-15.56", "v-21.05", "h231.04", "v96.34", "h120.41", "v104.94", "h-25.39" ]

    ],

    [

      "btn6:1.l",

      "mega:7",

      "green",

      [ "h-12.25", "v-35.66", "h157.41", "v115.94", "h111.71", "v95.63", "h-41.47" ]

    ],

    [ "btn5:1.l", "mega:8", "green", [ "h-51.83", "v54.17", "h106.63", "v115.1", "h-58.39" ] ],

    [

      "btn4:1.l",

      "mega:9",

      "green",

      [ "h-22.8", "v-35.16", "h-126.94", "v101.56", "h123.56", "v111.71", "h-87.17" ]

    ],

    [ "r2:1", "btn4:1.l", "green", [ "v0" ] ],

    [ "r1:1", "btn5:1.l", "green", [ "v43.02", "h51.22" ] ],

    [ "r3:1", "btn6:1.l", "green", [ "v8.68", "h-15.34" ] ],

    [ "r4:1", "btn7:1.l", "green", [ "v0" ] ],

    [ "r4:2", "r3:2", "green", [ "v-21.09", "h100.23" ] ],

    [ "r1:2", "r3:2", "green", [ "v-27.43", "h-87.32" ] ],

    [ "r2:2", "r1:2", "green", [ "v-22.15", "h-124.88" ] ],

    [ "r4:2", "lcd1:VCC", "green", [ "v-19.9", "h-87.79", "v110.67" ] ],

    [ "r8:2", "r7:2", "green", [ "v10.62", "h-40.75", "v48.96", "h78.1" ] ],

    [ "r6:2", "r7:2", "green", [ "v22.34", "h-67.99" ] ],

    [ "r5:2", "r6:2", "green", [ "v33.98", "h-93.12", "v-69.94", "h31.47", "v2.33" ] ],

    [ "mega:5V", "r5:2", "red", [ "v93.51", "h6.06" ] ],

    [ "led7:A", "mega:33", "green", [ "v222.87", "h463.49" ] ],

    [ "led6:A", "mega:32", "green", [ "v243.05", "h479.34" ] ],

    [ "led5:A", "mega:31", "green", [ "v268.51", "h499.89" ] ],

    [ "led4:A", "mega:30", "green", [ "v285.63", "h510.94" ] ],

    [ "led3:A", "mega:29", "green", [ "v289.31", "h533.27" ] ],

    [ "led2:A", "mega:28", "green", [ "v311.87", "h487.53", "v-200.2" ] ],

    [ "led1:A", "mega:27", "green", [ "v336.35", "h543.2" ] ],

    [ "led8:A", "mega:26", "green", [ "v329.6", "h572.61" ] ],

    [ "led8:C", "led1:C", "green", [ "v27.73", "h-1.38" ] ],

    [ "led2:C", "led8:C", "green", [ "v11.46", "h-28.85" ] ],

    [ "led3:C", "led8:C", "green", [ "v8.3", "h-46.59" ] ],

    [ "led4:C", "led8:C", "green", [ "v8.8", "h-61.59" ] ],

    [ "led5:C", "led8:C", "green", [ "v2.91", "h-75.68" ] ],

    [ "led6:C", "led8:C", "green", [ "v2.27", "h-89.28" ] ],

    [ "led7:C", "led8:C", "green", [ "v0.97", "h-105.99" ] ],

    [ "mega:GND.2", "led7:C", "black", [ "v33.4", "h-158.84" ] ],

    [ "servo1:V+", "servo2:V+", "green", [ "h-16.79", "v-60.36", "h262.46", "v63.66" ] ],

    [ "servo1:GND", "servo2:GND", "black", [ "h-5.62", "v-68.73", "h274.74", "v55.84" ] ],

    [ "mega:10", "servo1:PWM", "green", [ "v-29.03", "h-79.19", "v-308.97", "h-218.93" ] ],

    [ "servo2:PWM", "mega:11", "green", [ "h-76.96", "v365.72", "h80.51" ] ],

    [ "lcd1:VCC", "servo2:V+", "red", [ "h-16.04", "v-335.03", "h-257.46", "v77.67" ] ],

    [ "sw1:2", "r8:1", "green", [ "v0" ] ],

    [ "r7:1", "sw4:1", "green", [ "v0.58", "h25.07" ] ],

    [ "r6:1", "sw3:2", "green", [ "v-0.73", "h22.64" ] ],

    [ "r5:1", "sw2:2", "green", [ "v-21.07", "h41.68", "v-133.13", "h-43.76" ] ]

  ],

  "dependencies": {}

}

**Libraries:**

# Wokwi Library List

# See https://docs.wokwi.com/guides/libraries

# Automatically added based on includes:

Servo

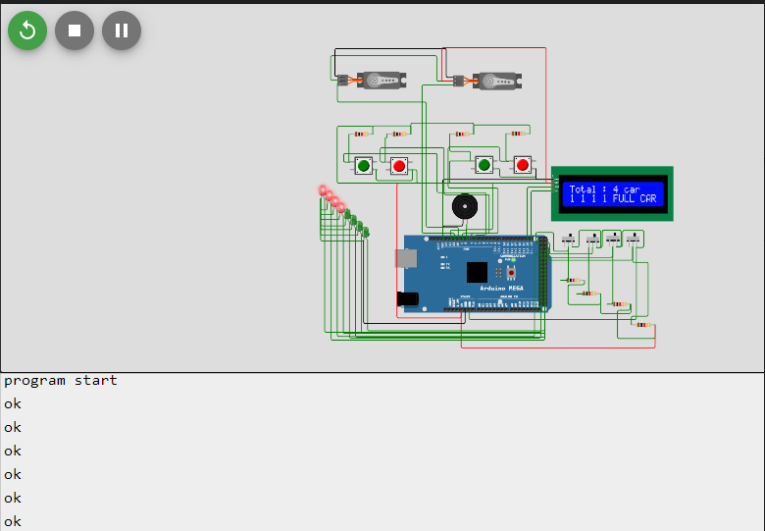
LiquidCrystal I2C

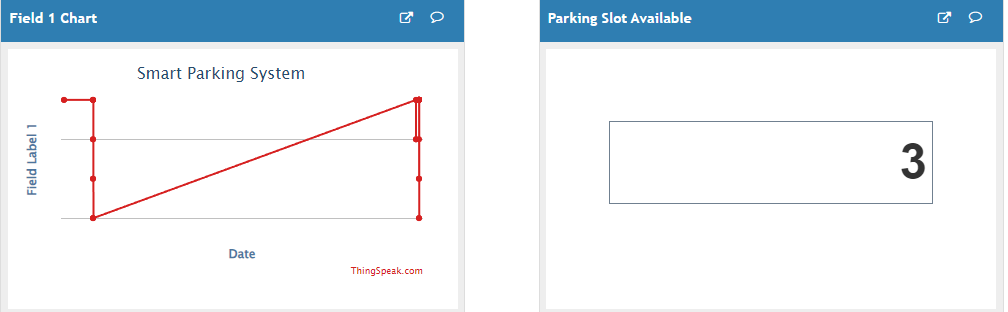
# ---

ThingSpeak

ArtnetWifi

**Simulation:**

****

****