#include <LCD.h>

#include <LiquidCrystal.h>

#include <LiquidCrystal\_I2C.h>

#include <LiquidCrystal\_SI2C.h>

#include <Servo.h> //includes the servo library

#include <Wire.h>

LiquidCrystal\_I2C lcd(0x27, 2, 1, 0, 4, 5, 6, 7, 3, POSITIVE);

Servo myservo;

#define ir\_enter 2

#define ir\_back 4

#define ir\_car1 5

#define ir\_car2 6

#define ir\_car3 7

#define ir\_car4 8

#define ir\_car5 9

#define ir\_car6 10

int S1=0, S2=0, S3=0, S4=0, S5=0, S6=0;

int flag1=0, flag2=0;

int slot = 6;

void setup(){

Serial.begin(9600);

pinMode(ir\_car1, INPUT);

pinMode(ir\_car2, INPUT);

pinMode(ir\_car3, INPUT);

pinMode(ir\_car4, INPUT);

pinMode(ir\_car5, INPUT);

pinMode(ir\_car6, INPUT);

pinMode(ir\_enter, INPUT);

pinMode(ir\_back, INPUT);

myservo.attach(3);

myservo.write(90);

lcd.begin(20, 4);

lcd.setCursor (0,1);

lcd.print(" Refa's Car parking ");

lcd.setCursor (0,2);

lcd.print(" System ");

delay (2000);

lcd.clear();

Read\_Sensor();

int total = S1+S2+S3+S4+S5+S6;

slot = slot-total;

}

void loop(){

Read\_Sensor();

lcd.setCursor (0,0);

lcd.print(" Have Slot: ");

lcd.print(slot);

lcd.print(" ");

lcd.setCursor (0,1);

if(S1==1){lcd.print("S1:Fill ");}

else{lcd.print("S1:Empty");}

lcd.setCursor (10,1);

if(S2==1){lcd.print("S2:Fill ");}

else{lcd.print("S2:Empty");}

lcd.setCursor (0,2);

if(S3==1){lcd.print("S3:Fill ");}

else{lcd.print("S3:Empty");}

lcd.setCursor (10,2);

if(S4==1){lcd.print("S4:Fill ");}

else{lcd.print("S4:Empty");}

lcd.setCursor (0,3);

if(S5==1){lcd.print("S5:Fill ");}

else{lcd.print("S5:Empty");}

lcd.setCursor (10,3);

if(S6==1){lcd.print("S6:Fill ");}

else{lcd.print("S6:Empty");}

if(digitalRead (ir\_enter) == 0 && flag1==0){

if(slot>0){flag1=1;

if(flag2==0){myservo.write(180); slot = slot-1;}

}else{

lcd.setCursor (0,0);

lcd.print(" NO SPACE FOR PARK ");

delay(1500);

}

}

if(digitalRead (ir\_back) == 0 && flag2==0){flag2=1;

if(flag1==0){myservo.write(180); slot = slot+1;}

}

if(flag1==1 && flag2==1){

delay (1000);

myservo.write(90);

flag1=0, flag2=0;

}

delay(1);

}

void Read\_Sensor(){

S1=0, S2=0, S3=0, S4=0, S5=0, S6=0;

if(digitalRead(ir\_car1) == 0){S1=1;}

if(digitalRead(ir\_car2) == 0){S2=1;}

if(digitalRead(ir\_car3) == 0){S3=1;}

if(digitalRead(ir\_car4) == 0){S4=1;}

if(digitalRead(ir\_car5) == 0){S5=1;}

if(digitalRead(ir\_car6) == 0){S6=1;}

}