#include<Servo.h>

const int pingPin = 7;

int servoPin = 8;

Servo servo1;

void setup() {

// initialize serial communication:

Serial.begin(9600);

servo1.attach(servoPin);

pinMode(2,INPUT);

pinMode(4,OUTPUT);

pinMode(11,OUTPUT);

pinMode(12,OUTPUT);

pinMode(13,OUTPUT);

pinMode(A0,INPUT);

digitalWrite(2,LOW);

digitalWrite(11,HIGH);

}

void loop() {

long duration, inches, cm;

pinMode(pingPin, OUTPUT);

digitalWrite(pingPin, LOW);

delayMicroseconds(2);

digitalWrite(pingPin, HIGH);

delayMicroseconds(5);

digitalWrite(pingPin, LOW);

// The same pin is used to read the signal from the PING))): 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(pingPin, INPUT);

duration = pulseIn(pingPin, HIGH);

// convert the time into a distance

inches = microsecondsToInches(duration);

cm = microsecondsToCentimeters(duration);

//Serial.print(inches);

//Serial.print("in, ");

//Serial.print(cm);

//Serial.print("cm");

//Serial.println();

//delay(100);

servo1.write(0);

if(cm < 40)

{

servo1.write(90);

delay(2000);

}

else

{

servo1.write(0);

}

// PIR with LED starts

int pir = digitalRead(2);

if(pir == HIGH)

{

digitalWrite(4,HIGH);

delay(1000);

}

else if(pir == LOW)

{

digitalWrite(4,LOW);

}

//temp with fan

float value=analogRead(A0);

float temperature=value\*0.48;

Serial.println("temperature");

Serial.println(temperature);

if(temperature > 20)

{

digitalWrite(12,HIGH);

digitalWrite(13,LOW);

}

else

{

digitalWrite(12,LOW);

digitalWrite(13,LOW);

}

}

long microsecondsToInches(long microseconds) {

return microseconds / 74 / 2;

}

long microsecondsToCentimeters(long microseconds) {

return microseconds / 29 / 2;

}

HOME AUTOMATION

/////////////////////////////////////////////////////////////////////////////////////

float temp;

float vout;

float vout1;

int LED = 13;

int gasSensor;

int piezo = 7;

void setup()

{

pinMode(A0,INPUT);

pinMode(A1, INPUT);

pinMode(LED,OUTPUT);

pinMode(piezo,OUTPUT);

Serial.begin(9600);

}

void loop()

{

vout=analogRead(A1);

vout1=(vout/1023)\*5000;

temp=(vout1-500)/10;

gasSensor=analogRead(A0);

if (temp>=80)

{

digitalWrite(LED,HIGH);

}

else

{

digitalWrite(LED,LOW);

}

if (gasSensor>=100)

{

digitalWrite(piezo,HIGH);

}

else

{

digitalWrite(piezo,LOW);

}

Serial.print("in DegreeC= ");

Serial.print(" ");

Serial.print(temp);

Serial.print("\t");

Serial.print("GasSensor= ");

Serial.print(" ");

Serial.print(gasSensor);

Serial.println();

delay(1000);

}

FIRE ALARM

/////////////////////////////////////////////////////////////////

#include <Servo.h>

#include <Keypad.h>

#include <LiquidCrystal.h>

Servo Gate;

const byte ROWS = 4;

const byte COLS = 4;

char hexaKeys[ROWS][COLS] = {

{'1','2','3','A'},

{'4','5','6','B'},

{'7','8','9','C'},

{'\*','0','#','D'}

};

byte rowPins[ROWS] = {7, 6, 5, 4};

byte colPins[COLS] = {A2, A3, A4, A5};

Keypad keypad = Keypad( makeKeymap(hexaKeys), rowPins, colPins, ROWS, COLS);

const int rs = 8, en = 9, d4 = 10, d5 = 11, d6 = 12, d7 = 13;

LiquidCrystal lcd(rs, en, d4, d5, d6, d7);

const int gate = 0, GLed = 1, RLed = 2, SW = 3;

char key, UserPass[16], NewPass[16], DefPass[16] = {'0', '0', '0', '0'};

int F1 = 0; //For Changing Password Modes.

int F2 = 0; //For Checking On Old Password Before Changing.

int F3 = 0; //For Printing Messages (1).

int F4 = 0; //For Printing Messages (2).

int i1 = 4, i2 = i1, j = 0, k = 0, q = 0, x = 0, Error = 0, p, Rsw;

void setup()

{

Gate.attach(gate);

pinMode(GLed,OUTPUT);

pinMode(RLed,OUTPUT);

pinMode(SW,INPUT);

lcd.begin(16, 2);

Gate.write(0);

lcd.cursor();

}

void loop()

{

key = keypad.getKey();

Rsw = digitalRead(SW);

/\*\*/

if(Rsw == 1 && F2 == 0){

if(F3 == 0){

lcd.clear();

lcd.print("Old Password:");

lcd.setCursor(0, 1);

Error = 0, F3 = 1, F4 = 0, q = 0, x = 0;

digitalWrite(GLed, LOW);

digitalWrite(RLed, LOW);

Gate.write(0);

for(k = 0; k < 16; k++)

UserPass[k] = ' ';

}

if(key == '\*') F3 = 0;

else if(key == '#'){

if(i1 > q)p = i1;

else p = q;

for(k = 0; k < p; k++){

if (UserPass[k]!= DefPass[k]){

Error = 1, F3 = 0;

break;

}

}

if(Error == 0){ F1 = 0, F2 = 1, F3 = 0;}

}

else if(key && x <= 16){

lcd.write(key);

UserPass[q] = key;

q++, x++;

}

}

/\*\*/

else if(Rsw == 1 && F1 == 0 && F2 == 1){

if(F3 == 0){

lcd.clear();

lcd.print("New Password:");

lcd.setCursor(0, 1);

digitalWrite(RLed, LOW);

i1 = 0, x = 0, F3 = 1, F4 = 0;

for(k = 0; k < 16; k++)

NewPass[k] = ' ';

}

if (key == '\*') F3 = 0;

else if(key == '#'){

if(i1 < 4 && F4 == 0){

F4 = 1;

lcd.clear();

lcd.print(" Error Password ");

lcd.setCursor(0, 1);

lcd.print(" is too short ");

digitalWrite(RLed, HIGH);

i1 = 0;

for(k = 0; k < 16; k++){

NewPass[k] = ' ';

}

}

else if (i1 >= 4){

for(k = 0; k < i1; k++)

DefPass[k] = NewPass[k];

F1 = 1, F3 = 0, F4 = 0, i2 = i1;

}

}

else if(key && x <= 16){

lcd.write(key);

NewPass[i1] = key;

i1++, x++;

}

}

/\*\*/

else if (Rsw == 1 && F1 == 1 && F3 == 0){

lcd.clear();

lcd.print("Password CHANGED");

lcd.setCursor(0, 1);

lcd.print(" GO back");

digitalWrite(GLed, HIGH);

F3 = 1;

}

/\*\*/

else if(Rsw == 0){

if(F4 == 0){

lcd.clear();

lcd.print("Enter Password:");

lcd.setCursor(0, 1);

Error = 0, F1 = 0, F2 = 0, F3 = 0, F4 = 1, j = 0, i1 = i2, x = 0;

digitalWrite(GLed, LOW);

digitalWrite(RLed, LOW);

Gate.write(0);

for(k = 0; k < 16; k++)

UserPass[k] = ' ';

}

if (key == '\*') F4 = 0;

else if(key == '#'){

if(i1 > j)p = i1;

else p = j;

for(k = 0; k < p; k++){

if (UserPass[k]!= DefPass[k]){

Error = 1;

break;

}

}

if(Error == 0)Error = 2;

}

else if (key && x <= 16){

lcd.write(key);

UserPass[j] = key;

j++, x++;

}

}

/\*\*\*/

if(Error == 1 && F3 == 0){

lcd.clear();

lcd.print(" Wrong Password ");

lcd.setCursor(0, 1);

lcd.print(" Press \* ");

digitalWrite(RLed, HIGH);

Gate.write(0);

F3 = 1;

}

else if(Error == 2 && F3 == 0){

lcd.clear();

lcd.print("CORRECT Password");

lcd.setCursor(0, 1);

lcd.print(" Welcome... ");

digitalWrite(GLed, HIGH);

Gate.write(180);

delay(5000);F4 = 0;

}

}

SECURITY DOOR

//////////////////////////////////////////////////////////////////////