 Security Code for Gate

#include <Wire.h>

#include <LiquidCrystal\_I2C.h>

#include<Servo.h>

#include <Keypad.h>

Servo myservo;

Int pos =0;

#include <SPI.h>

#include <MFRC522.h>

#define SS\_PIN 10

#define RST\_PIN 9

String UID =”13 42 9A CD”;

Byte lock = 0;

LiquidCrystal\_I2C lcd(0x27, 20, 4);

MFRC522 rfid(SS\_PIN, RST\_PIN);

// Define keypad layout

Const byte ROWS = 4;

Const byte COLS = 4;

Char keys[ROWS][COLS] = {

{‘1’,’2’,’3’,’A’},

{‘4’,’5’,’6’,’B’},

{‘7’,’8’,’9’,’C’},

{‘\*’,’0’,’#’,’D’}

};

Byte rowPins[ROWS] = {0,8,2,4}; // Connect to the row pinouts of the keypad

Byte colPins[COLS] = {5,6,7,1}; // Connect to the column pinouts of the keypad

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

Char correctCode[] = “123”; // Change this to your desired code

Char enteredCode[5]; // Buffer to store entered code

Int codeIndex = 0;

Void setup() {

Lcd.clear();

Lcd.init();

Lcd.backlight();

Lcd.print(“Enter code:”);

Myservo.aƩach(3);

Serial.begin(9600);

SPI.begin();

Rfid.PCD\_Init();

pinMode(7,OUTPUT);

pinMode(A0,OUTPUT);

}

Void loop() {

Char key = keypad.getKey();

If (key) {

If (key == ‘#’) {

If (strcmp(enteredCode, correctCode) == 0) {

Lcd.clear();

Lcd.setCursor(0, 0);

Lcd.print(“Correct Code”);

analogWrite(A0,0);

delay(1000);

lcd.clear();

lcd.setCursor(0, 0);

lcd.print(“Enter code:”);

resetCode();

for(pos=90;pos>=0;pos-=1)

{myservo.write(pos);

Delay(15);

// break;

//myservo.write(0);

}

Delay(3000);

For(pos=0;pos<=90;pos+=1)

{myservo.write(pos);

Delay(15);

}

} else {

Lcd.clear();

Lcd.setCursor(0, 0);

Lcd.print(“Incorrect Code”);

analogWrite(A0,255);

delay(2000);

lcd.clear();

lcd.setCursor(0, 0);

lcd.print(“Enter code:”);

resetCode();

}

} else {

enteredCode[codeIndex++] = key;

lcd.setCursor(codeIndex – 1, 1);

lcd.print(‘\*’);

if (codeIndex == 5) {

codeIndex = 0;

}

}

}

Lcd.setCursor(0, 2);

Lcd.print(“Tap Your Card”);

If ( ! rfid.PICC\_IsNewCardPresent())

Return;

If ( ! rfid.PICC\_ReadCardSerial())

Return;

Lcd.clear();

Lcd.setCursor(0, 2);

Lcd.print(“Scanning”);

Serial.print(“NUID tag is :”);

String ID = “”;

For (byte I = 0; I < rfid.uid.size; i++) {

Lcd.print(“.”);

ID.concat(String(rfid.uid.uidByte[i] < 0x10 ? “ 0” : “ “));

ID.concat(String(rfid.uid.uidByte[i],HEX));

Delay(300);

}

ID.toUpperCase();

If (ID.substring(1) == UID && lock == 0 ) {

For(pos=0; pos<=150; pos+=1){

Myservo.write(pos);

Delay(15);

}

Lcd.clear();

Lcd.setCursor(0, 2);

Lcd.print(“Door is locked”);

analogWrite(A0,0);

delay(1500);

lcd.clear();

lock = 1;

} else if (ID.substring(1) == UID && lock == 1 ) {

For(pos=150; pos>=0; pos-=1){

Myservo.write(pos);

analogWrite(A0,0);

delay(15);

}

Lcd.clear();

Lcd.setCursor(0, 2);

Lcd.print(“Door is open”);

Delay(1500);

Lcd.clear();

Lock = 0;

} else {

Lcd.clear();

Lcd.setCursor(0, 2);

Lcd.print(“Wrong card!”);

analogWrite(A0,255);

delay(1500);

lcd.clear();

}

}

Void resetCode() {

Memset(enteredCode, 0, sizeof(enteredCode));

codeIndex = 0;

lcd.setCursor(0, 1);

lcd.print(“ “); // Clear the code display

}