

Madhav Institute of Technology & Science

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PROJECT REPORT

on

Password based door locking system

A project report submitted in partial fulfilment of the requirement of the degree of

BACHELOR OF TECHNOLOGY

Electronics and telecommunication engineering

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Minor Project

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Submitted to:

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CERTIFICATE

This is certified that **we** has submitted the project report titled **Password based door locking system** under the mentorship of **Prof. Madhav Singh** in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in **Electronics and Telecommunication** from Madhav Institute of Technology and Science, Gwalior.

Prof. Madhav Singh
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Professor and Head,
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DECLARATION

I hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of Bachelor of Technology in Information Technology at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of **Prof. .Madhav Singh, Assistant Professor, ET Department.**

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.

Date:

Place: Gwalior

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Password Security Lock System Using Arduino

In this project, we have learned how to make the Password-Based Security System Using Arduino & Keypad.

As thefts are increasing day by day security is becoming a major concern nowadays. So a digital code lock can secure your home or locker easily. It will open your door only when the right password is entered.

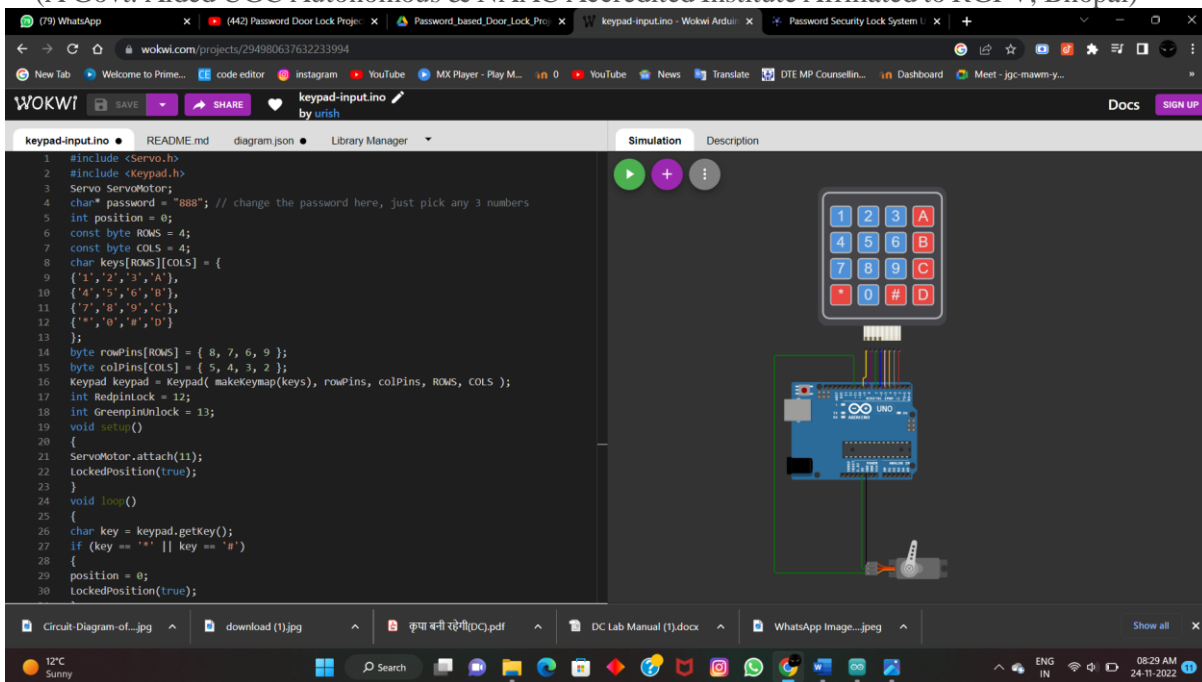
The circuit of this project is very simple which contains Arduino, keypad module, buzzer, Servo Motor, and LCD. Arduino controls the complete processes like taking a password from the keypad module, comparing passwords, driving buzzer, rotating servo motor,

COMPONENTS REQUIRED

Audino	Audino uno
Servo motor	SG90
Jumper wires	MALE TO MALE
4*4 keyboard	
Audino IDE	

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CONNECTION DIAGRAM OF THE PROJECT

First of all, we will make a **connection with 4 × 4 keypads**. We are using digital pin **D2 to D9** for a keypad connection with Arduino. Connect all **Eight pins of the Keypad** to **Arduino's pin D2 ~ D9**.

Keypad -----> Audino

- 1 -----> 2
- 2 -----> 3
- 3 -----> 4
- 4 -----> 5
- 5 -----> 9
- 6 -----> 6
- 7 -----> 7
- 8 -----> 8

To connect the servo motor to the Arduino, use the **Arduino's digital pin D11** to output the **servo motor's PWM pin**. Now connect the **positive wire** of the servo to the **pin 5volt of Arduino** and the **negative wire** to the **ground**.

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WORKING

At first, Arduino is initialized in stand by mode where it asks the user to enter the password to unlock the door. In this **Password Security Lock System Using Arduino project**, we have defined the **default password in Arduino as "888"**. However, we can change this via coding later. When users enter the **"#"**

" key it will allow the user to **enter the password**. Now, it checks the password stored in this Arduino **EEPROM**. If it is correct then the **door is opened**.

Similarly, in **Arduino Password Security Lock System**, if the user press **"*"** it will ask for the code. Now, if the entered **code is incorrect then it will get back to standby mode**. and if it is correct it will ask the user to enter the **new password and confirm the password by retyping it**. Here, the Arduino will compare the code, if it is incorrect then again it will get back to standby mode. But, if it is correct then it **will change your current password**.

Source code/program:

```
#include <Servo.h>
#include <Keypad.h>
Servo ServoMotor;
char* password = "888"; // change the password here, just pick any 3 numbers
int position = 0;
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] = { 8, 7, 6, 9 };
byte colPins[COLS] = { 5, 4, 3, 2 };
Keypad keypad = Keypad( makeKeymap(keys), rowPins, colPins, ROWS, COLS );
int RedpinLock = 12;
int GreenpinUnlock = 13;
void setup()
{
  ServoMotor.attach(11);
  LockedPosition(true);
}
void loop()
{
  char key = keypad.getKey();
  if (key == '*' || key == '#')
  {
    position = 0;
    LockedPosition(true);
  }
}
```


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```
if (key == password[position])
{
    position ++;
}
if (position == 3)
{
    LockedPosition(false);
}
    delay(100);
}
void LockedPosition(int locked)
{
    if (locked)
    {
        digitalWrite(RedpinLock, HIGH);
        digitalWrite(GreenpinUnlock, LOW);
        ServoMotor.write(11);
    }
    else
    {
        digitalWrite(RedpinLock, LOW);
        digitalWrite(GreenpinUnlock, HIGH);
        ServoMotor.write(90);
    }
}
```