

# MORSE CODE BASED SECURED AUTHENTICATION SYSTEM

46S\_BE\_4052

**Name of the College :** RYM ENGINEERING COLLEGE ,

**Department :** COMPUTER SCIENCE ENGINEERING

**Name of the Guide :** NAGAASHWINI NAYAK V J

**Name of the Students :** M AKSHITHA

MAHENDRAKAR VIJAYA

## 1. Introduction / background :

“ MORSE CODE ” is a method used in telecommunication to encode text characters as standardized sequences of two different signal durations, called as dots and dashes. Using this MORSE CODE we have developed a secured authentication system for the users in order to allow only themselves from securing their system.

**2. Objectives :** Main objective of this project is to avoid frauds happening in bank or any government zones. Eye trackers provide better security compared to any biometric identification. Eye trackers are the instruments that measure the visual activities. This makes it possible for physically disabled users to interact with computers using their eyes. Our main motivation is provide authentication process for people from kids to old people, which incorporates physically challenged people. Our project creates a secure system to authenticate users who are’nt completely blind. Creates a secure password authentication system which uses Morse code.

## 3. Methodology :

### **Materials :**

Software Requirements :

- Operating system : Windows XP 10
- Coding Language : Python

- Software : Anaconda or Python 3.7
- IDE : Python
- Packages : OpenCv

Hardware Requirements :

- System : Pentium IV 2.4 GHz/ intel i3/i4
- Hard Disk : 500 GB.
- Ram : 8 GB

**Methods :**

1. Registration
2. Login
3. Forgot Password
4. Further Work
5. Telegram Page

**Work carried out :**

Test 1: Registration

Steps	Test Data	Expected Results	Observed Results	Remarks
Step 1	Enter Username	Successful	Successful	Pass
Step 2	Enter Password	Successful	Successful	Pass
Step 3	Enter Keyword	Successful	Successful	Pass

Test 2: Login

Steps	Test Data	Expected Results	Observed Results	Remarks
Step 1	Enter Username	Successful	Successful	Pass
Step 2	Enter Password	Successful	Successful	Pass

Test 3: Forgot Password

<b>Steps</b>	<b>Test Data</b>	<b>Expected Results</b>	<b>Observed Results</b>	<b>Remarks</b>
Step 1	Enter Keyword	Successful	Successful	Pass
Step 2	Enter New Password	Successful	Successful	Pass

## Registration

This module consists the first page that the user sees to enter his/her credentials. The entered credentials (Username, Password and keyword) will be stored in a separate text file. This module is represented by using front end implementation of the project.

## Login

In this module, the user or the admin enters his/her credential as per the details given in the register module. If the login process is a success, the user can authenticate through gaze based authentication. The conversion of eye blinks to morse code is represented by using back end implementation of the project.

## Forgot Password

In this module, if the user forgets his/her password, he/she can create a new password by entering the keyword presented in register module.

## Further Work

In this module, the user will be able to send the text secretly through the morse code authenticated text page.

## Telegram Page

In this module, the texted message will be received here in the telegram page and further conversation can be carried out without third person involvement.

**Snapshots of work carried out :**

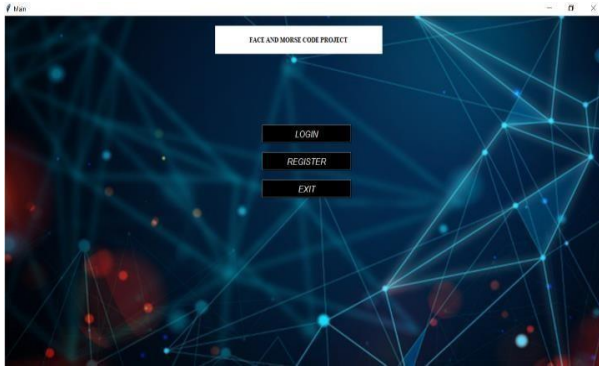


Fig 1: Main Menu

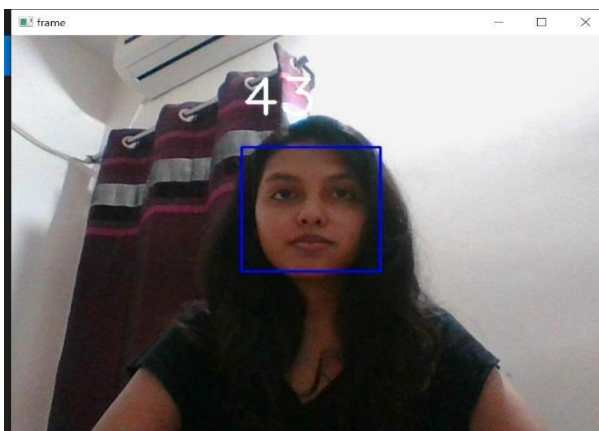


Fig 2 : Face Recognition Page

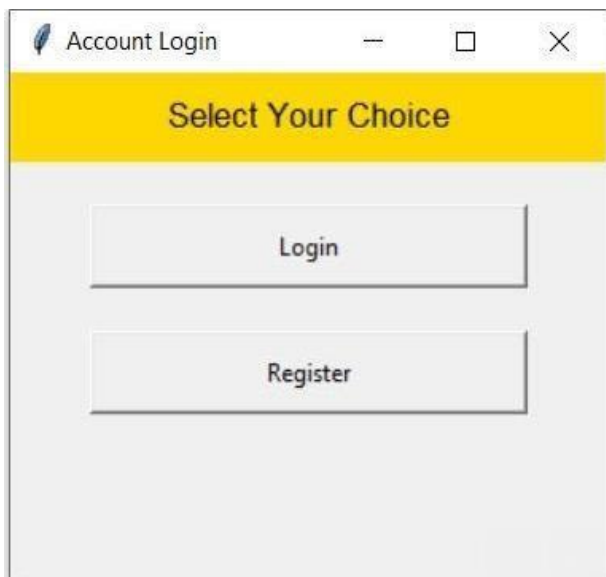


Fig 3 : Account Login Page



Fig 4 : Registration Page



Fig 5 : Login Page

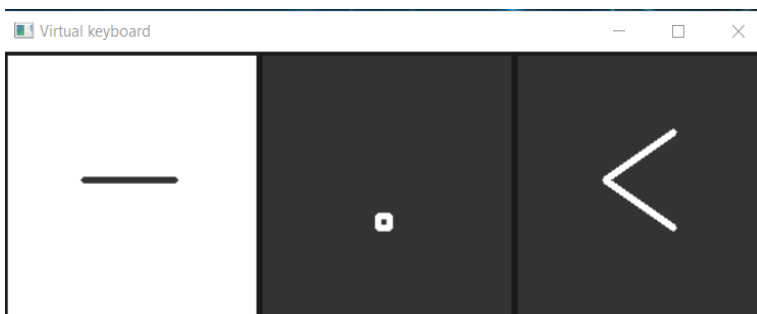


Fig 6 : Virtual Keyboard Page

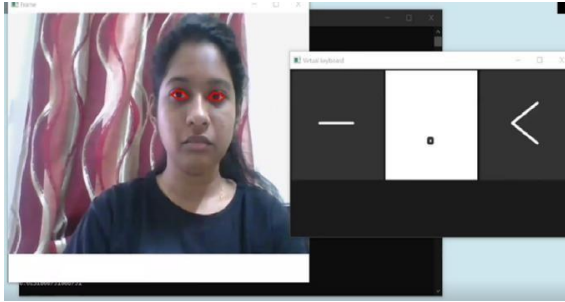


Fig 7 : Morse Code Password Input Page

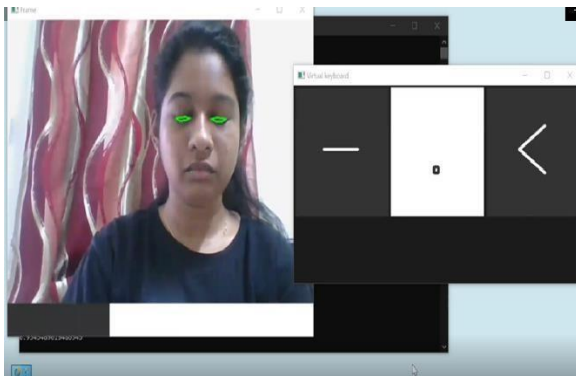


Fig 8 : Morse Code Password Accepted Page

```
0.7913669064748201
0.7919767441860466
0.8210526318789474
0.7593900166715701
0.7904002352162887
0.8296276844070962
1.2352777623310904
2.4681962901439647
2.5850426805962545
2.661578947368421
2.11679469273743
2.0123106727721027
2.4637955182072828
3.4103725046305824
2.064860681114551
text1 ['.', '.', '.', '.', '.']
Selection of Single no is completd
<class 'str'>
Selected no ['.', '.', '.', '.', '.']
not ,matched
Not MAtched char [5, 5, 5, 5]
password [5, 5, 5, 5]
Got the password and i. [5, 5, 5, 5]
[0, 0, 0]
>>>
password Not Recognised
Enter the Security Answer
Pet name or nick name
|
```

Fig 9 : Wrong Password Page

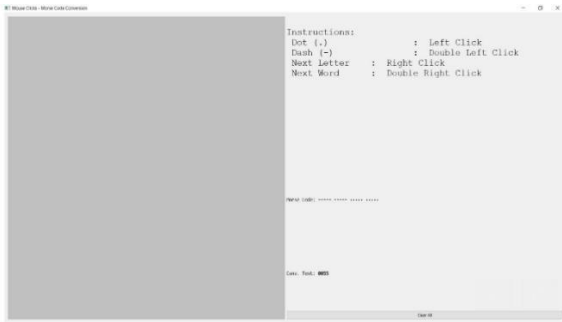


Fig 10 : Password Reset Using Morse Code Page

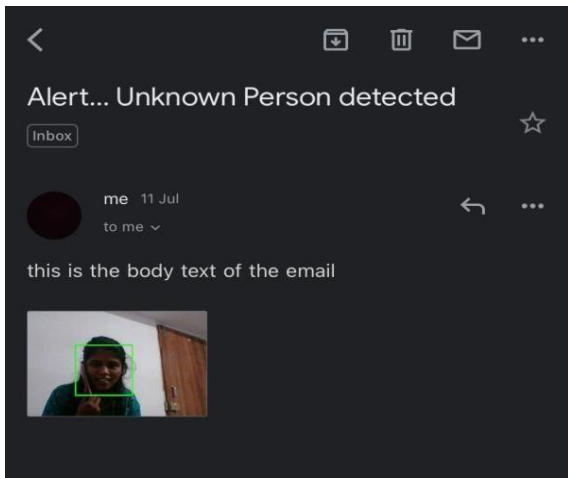


Fig 11 : Warning Email Page

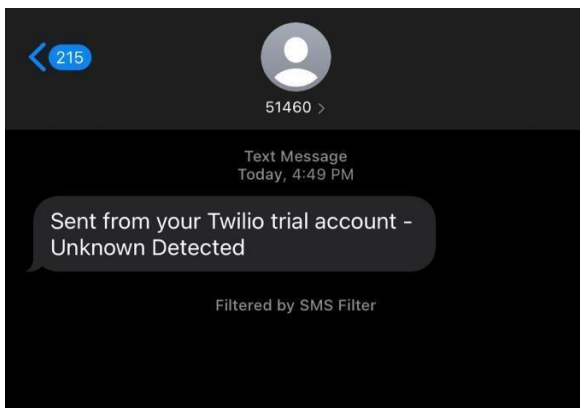


Fig 12 : Warning Message Page



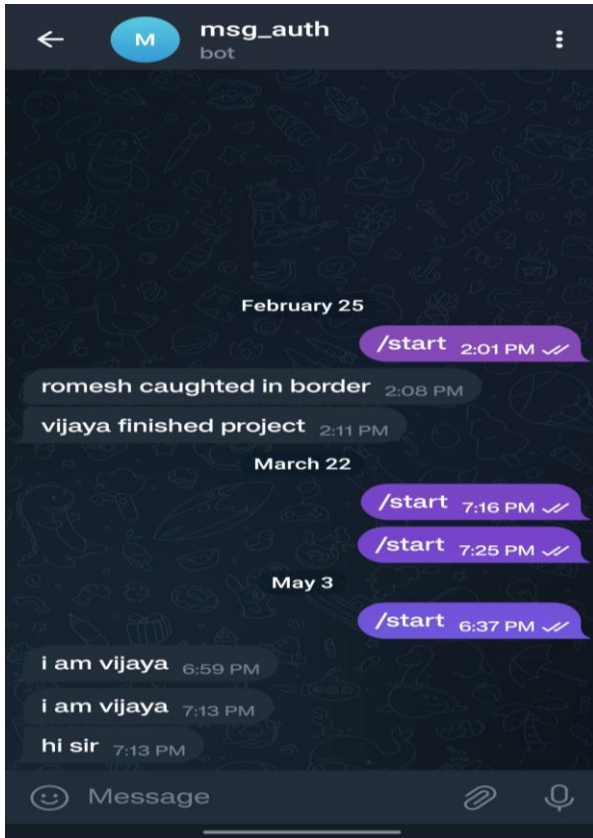


Fig 13 : Telegram Page

## **4. Results and Conclusions :**

### **Result :**

Registration : Initially a user will register themselves using ‘ User Name’, ‘Password’ and ‘Nickname’. After registration is successful, a window will pop up showing that “Registration Successful” the user will be able to login into the model.

Login : By using the ‘User Name’ and ‘Password’ the user can login into the model, which accesses the web camera of the device and starts capturing the moments of the user’s face. It captures upto 121 images of the user’s face, which further will be useful for the device to recognize the user to login.

Forgot Password : If any user forgets the password, then he/she will be able to change the old password by entering the ‘Nick Name’ that was given during registration process. After entering the nick name, the user will be able to create a new password that can be used further.

Further Work : After logging in, the user will get a page, which leads the user to text a secret message for the person they want to send. Here the user will be able to select the person with whom they want to converse. After confirming the person, the user can know whether the message is successfully sent or no by the help of a pop up window, which shows that “ Message sent to the Person” .

Telegram Page : This is where the other person receives the secret text from the user. This person will be able to see the secret text sent by the user and this person can also interact with the user in the same account. The user will in return get a text back from the other person like we chat in normal texting apps.

Overall a secured authentication system is created using the “MORSE CODE” , which helps the users whoever uses it to maintain a secured system. This system can only be accessed and used by the user and hence this system is safe enough than any other systems that provide temporary safety measures. As this system uses morse code for authenticating, only the user whoever registers and logins will be able to handle the system whereas the other person whoever steals the username and password will also not be able to use this system as the user’s face will be captured and recognized during the process of logging in.

**Conclusion :** Our project basically provides two factor authentication. Two factor authentication is actually providing two layer of security guard an account or system. Here we are making use of gaze based authentication and click on so on convert numbers or ASCII document thereby increasing the security. Since most of the people in the world are facing problems in the field of authentication and security. There is no safety for our devices or accounts that we handle now a days. Even though each and everything is encrypted with a password or pin, there will always be an issue. We are able to provide a real time eye tracing for password authentication for people who authenticate themselves using Morse code. Overall benefit of this project is it allows the user to authenticate their accounts or devices with the help of gaze based authentication from getting attacked by frauds.

**5. Scope for future work :** Our projects is additionally helpful for disabled people to authenticate. People from kids to old people can make use of this model who have basic knowledge on morse code. For blind people, there are keyboards with braille dots present on each button. Concerning the long run enhancement we attempt to implement face recognition for each user, there will be no need to enter the password within the least. We are also trying to deploy this model in government sectors, with less number of steps required for authentication . This project can be implemented in ATM machines for entering our PIN, can be implemented for sharing one time password (OTP) for others without the knowledge for third person in between, etc. As “MORSE CODE” is used for user’s login purpose, no other person can login into the system.