New Authentication Scheme to Reducing Shoulder Surfing Using Graphical Password Scheme

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ABSTRACT

In every system it is necessary to give the password for security purpose. Computer security is the main part of the authentication process. the most common method is to used alphabetical password but by using this Method security of authentication get fails By the shoulder surfing attack. To overcome this attack we propose advance version of combination of text & graphical password strategy by using colour. In the proposed strategy user can used the system easily.

Keyword : *Authentication , Shoulder Surfing , Graphical password .*

1. INTRODUCTION

Current authentication strategy experience from lots of weekness and the weekness of the strategy like hacking the password , attack on information , droping etc are well known. By the survey it's prove that User give the priority to small password for easy to remember. Long password and random password make the system more secure. But main problem it is difficult to remember so the user choose the small password. Unsuccessfully this textual password easily guessed or cracked.

1.2 Existing system

There is also security strategy in Biomatrix such as fingerprint is scan and facial recognization but it is not accepted widely because of expensiveness & slow process. There are many graphical scheme has been proposed. Password can be hack by shoulder surfing attack. This attack can be happened in public place. In this attack the hacker can see the password easily over the user's shoulder. By the survey it is known that user are more familiar with the alphabetical password than the graphical password.

1.3 Proposed system

In this paper two new scheme are propose for ATM. We will improve textual shoulder surfing resistant graphical password scheme by using colour. Function of the proposed strategy is simple and easy to use. User can easily handle the system without using any physical keyboard and virtual keyboard. The propose authentication scheme used text & colour for generating password.

This paper is organise as follows : in section ii. we will review related works. in section iii. We will describe the propose strategy are introduce. Security analysis is done in sec iv. Finally conclusion are made in sec v.

2. RELATED WORKS

In 2009 Dr. omar Binzakaria & Dr. Rosli saleh survey on different problem on graphical password strategy From 2005 to 2009 . in this paper author find out the solution for the graphical password strategy is as textual password. To overcome the shoulder surfing attack without additional complexity into authentication operation.

In 2009 M. Anirudh & v. Manoj kumar introduce the graphical password strategy alternative technology to the textual password. textual password can be hack by shoulder surfing attack. To solve this problem

Password can be use combination of alphanumeric and images or for authorization. sessional Password can be called as one time password(OTP).each time new OTP is generated this is used for PDA.

3. PROPOSED SCHEME

In this section we will explain easy and efficient method to overcome the shoulder surfing attack based on colour. In this new authentication strategy text can be used such as 26 (A-Z) & 26 (a-z) 10 decimal digit (0-9) . and / symbol.This scheme include 64 char it contain two phases :

a) Registration Phase.
b) Login Phase.

3.1 Registration Phase:

In this phase user submit his text base password suppose N having the length L (8<=L<=15) char and user has to choose one colour from the other & colour given by the system. User choose only one colour at a time. User has to give a email add for reactivate his deactivated account. This phase can be done in environment in which shoulder surfing attack cannot be happened. for the advance security one of the secure channel can be created between system & the user at the time of registration phase. SSL & TLS are used for the security channel all the users information & password can be stored In the database which is encrypted by the private key .

3.2 Login phase:

In Login phase display a circle which is divided into eight sector and each sector have different colour. First of all 64 character. Place randomly in eight sector when user want to login to the system following circle can be display.

Fig.1 An Example of login screen

All the 64 character at a time rotated clockwise or anticlockwise. In this system clockwise button is provided to press that button character can be rotate or shuffle in clockwise direction. It also provided anticlockwise button to shuffle the characters in anticlockwise direction. Shuffling operation can be perform using mouse.

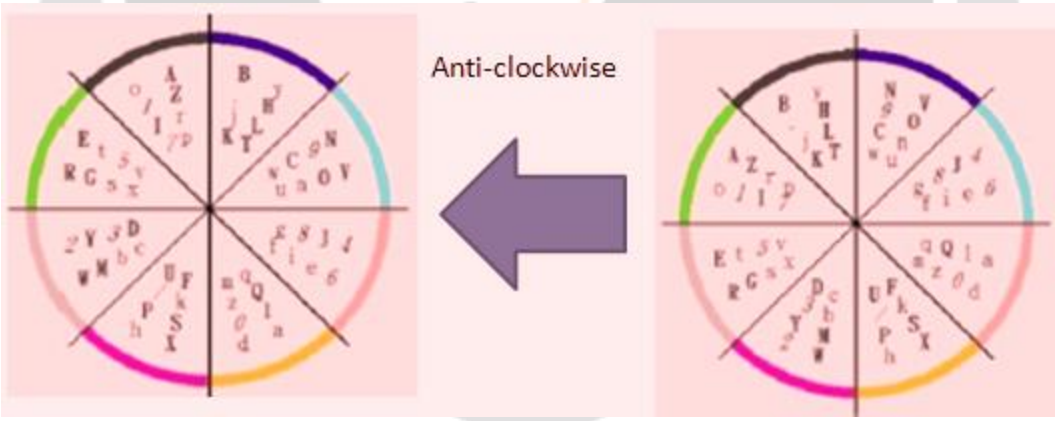

Fig.2 An example of Rotation Operation

To reduce the time these 64 character differentiated like 26(A-Z in bold type) 26(a-z,.,/in regular format) 0-9 digit in italic form confirm button and login button also provide on login screen. User has to rotate the sector which contains i'th pass character of his password N & it is denoted as Ni & then press the confirm.

If the account Is unsuccessful for the authentication process then that account is disable and system send the mail on the users registration mail address and this mail consist one of the secret link which can help to reenable his disable account.

The login phase of this new authentication strategy is shown in following fig.

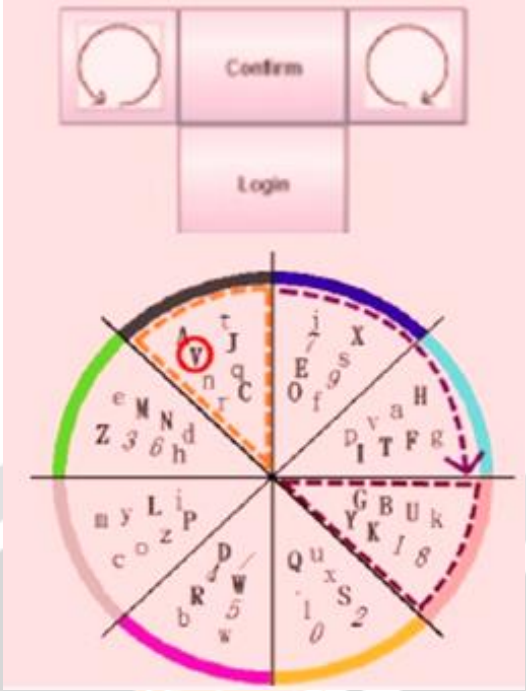

Fig.3 An Example of Rotating Sector containing k_i pass color sector

Example: if our password contain the char A & choose the colour red but currently A is present in blue colour then user has to analyze on which direction the blue colour is near to the red colour and then press the button clockwise or anticlockwise respectively.

4. CONCLUSIONS

In this paper we have proposed a new authentication scheme to reducing shoulder surfing using graphical password scheme ,in which user can easily and efficiently complete login operation reducing the shoulder surfing attack .The process of the propose system is simple and efficient to learn to user familiar with the textual password. User can login the system without using the physical or virtual keyboard . Lastly we analyzed the resistance of the authentication strategy to accidental login to and shoulder surfing .

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