RANDOM KEYPAD AND FACE RECOGNITION AUTHENTICATION MECHANISM

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Abstract - *Authenticating user is the important aspect in ATM security. Password is most important thing to provide security in any system password having two way first is text way and second is graphical way. We proposing both security feature text base word and graphical password graphical password include face recognition for detect the face but it is second process .The first process is text password which include random number.*

We design this system to minimize the shoulder surfing attack with the help of random keypad and face recognition method. It works as ATM system this type of keypad more powerful as compare to normal keypad

***Key Words*: Authentication, Recognition, Random, Detect, Security.**

1. INTRODUCTION

We are providing security using Random keyboard and face recognition system. The touch screen interfaces on modern devices such as ATMs has enabled the concept of the randomized keypad. It digital camera is on 24 hours a day, and its computer will automatically initiate a face recognition procedure. Whenever the computer detects a human face in camera the computer compares the image of your face to the images of registered customers in its database.

1.1 Random keypad

Numeric keypads are popular input methods for personal identification numbers (PINs) for many applications, including automated teller machines (ATM), security screening systems within financial organizations, point-of-sale systems, and home/car door locks. However, the threat of "shoulder surfing" or observing private information from the well-known layout of numeric keys has inspired the idea of randomizing the layout of keys.

The proliferation of touch screen interfaces on modern devices such as ATMs has enabled the concept of the randomized keypad. However, very little is known about the overall usability of the randomized numeric keypad. Although research has focused on the prevention of shoulder surfing and the use of picture-based keypads the usability of randomized keypads is not covered in the literature.

1.2 Face Recognition System

Face recognition technology analyze the unique shape, pattern and positioning of the facial features. Face recognition is very complex technology and is largely software based. This Biometric Methodology establishes the analysis framework with tailored algorithms for each type of biometric device. Face recognition starts with a picture, attempting to find a person in the image. This can be accomplished using several methods including movement, skin tones, or blurred human shapes. The face recognition system locates the head and finally the eyes of the individual. A matrix is then developed based on the characteristics of the individual's face. The method of defining the matrix varies according to the algorithm. This matrix is then compared to matrices that are in a database and a similarity score is generated for each comparison.

Artificial intelligence is used to simulate human interpretation of faces. In order to increase the accuracy and adaptability, some kind of machine learning has to be implemented.

2. LITERATURE SURVEY

Mainly the password problem arises from limitation of humans Long Term Memory. Once the password has been chosen and learned the user must be able to recall it to log in. But usually people forget the password. Graphical Authentication Techniques are categorized into three groups:

1. Pure Recall Based: In this system Users reproduce their passwords, without having the chance to use the reminder marks of system. Although easy and convenient, it appears that users do not quite remember their passwords.

2. Cued Recall Based: Here, the system provides a framework of reminders, hints and gestures for the users to reproduce their passwords or make a reproduction that would be much more accurate.

3. Recognition Based: Here, users select pictures, icons or symbols from a bank of images. During the authentication process, the users have to recognize their registration choice from a grid of image. Research has shown that 90% of users can remember their password after one or two months. [1]

4. Holistic Matching Methods: In holistic approach, the complete face region is taken into account as input data into face catching system. One of the best example of holistic methods are Eigen faces [8] (most widely used method for face recognition), Principal Component Analysis, Linear Discriminant Analysis [7] and independent component analysis etc.

Most authentication methods involve pressing keys on a keyboard or selecting objects on a screen, and both the screen and the keyboard are visible to the authorized user as well as to the shoulder surfer. This paper will present and analyze the performance of a graphical screen oriented password entry system that greatly reduces the threat of shoulder surfing.

Authentication methods based on physical access cards are vulnerable to theft or loss. Unless the physical card is combined with other authentication means, a person who steals or finds a lost card would have full unrestricted access to the protected information.[5]

3. PROPOSED SYSTEM

The below figure show the overall working of our project When user enter in the system display screen appear on that include one button that is transection button after clicking on that button next page appear that Random keypad page if user is already register on system they can enter pin and proceed if the user is not register than one link show on page that is registration link after clicking on that registration form open that form including field like user name , account number , date of birth , address ,contact number and gender.

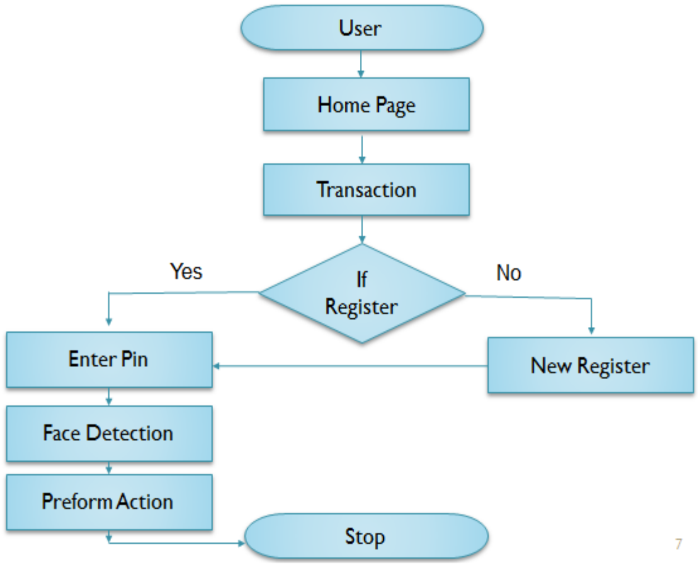

Fig -1: Flow chart

After entering pin user proceed for the next activity that activity include following operation:

1. Balance Inquire
2. Change Pin
3. Withdraw

By using balance inquire activity user check balance of their account and using change pin operation user can change their account pin for that user have to enter same fields that is old pin, new pin and confirm pin.

Withdraw operation is use for withdraw money for same amount can be enter by user after performing operation user can logout.

4. METHODOLOGY

RAD [Rapid Application Development]: This methodology fallows the system development life cycle that in a sequential and structural way.

Phases of RAD model are as follows:

1. Requirement
2. Design
3. Construction
4. Coding and Testing
5. Implementation

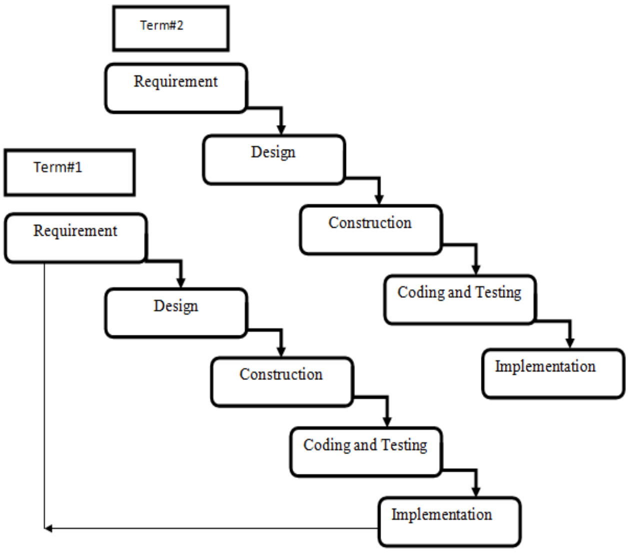

Fig 2: RAD model

The virtual shuffling of keypad and face reorganization is mainly designed either on resistive screen on login page. It provide the user which uses in order to enter password for their required purpose, after the user enter the password and face recognition performed then user can able to perform their operation like withdraw, change password and so on.

The purpose of using waterfall development is that it allow for departmentalization and managerial control. Development moves from concept through designed, implementation, testing, operation and maintenance.

5. RESULT AND SCREEN SHOT

There are four modules in our project as follows:

1. Registration module
2. Random keypad module
3. Face recognition Module
4. Main menu module

5.1 Registration module:

The first module of our project is registration module which include page

1. Home Page: it consists of transaction button when user click on this button directly switch on login page.

2. Registration Page: The new user can fill the information with help of registration page.

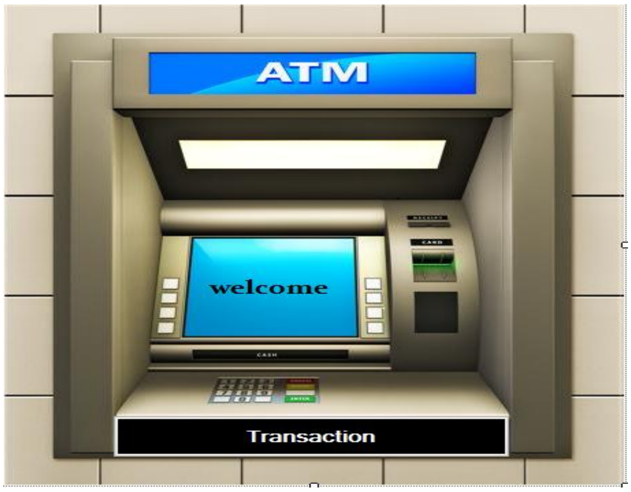

Fig 3: - Home Page

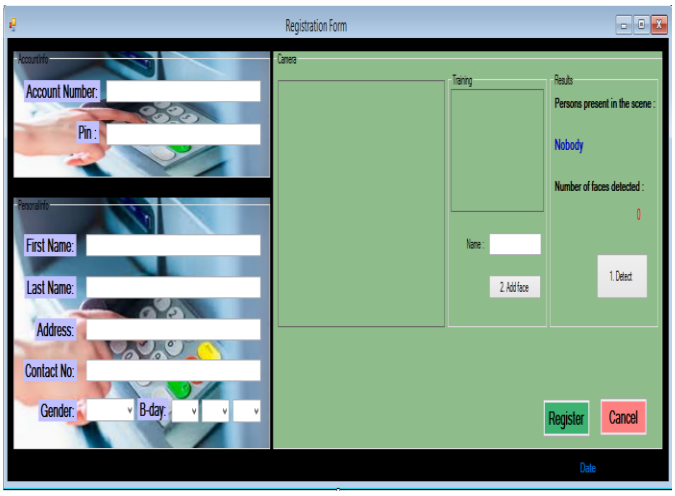

Fig 4:- Registration page

5.2 Random keypad module:

Module 2 has a random keypad generator and main menu form perform the operation like withdraw, balance enquiry and change password .Random keypad is an vritual keypad on the display screen random keypad means the numbers button of keypad that suffled with every transection .Virtual keypad used to provide an alternative input for user with hand mobility or ATM to use a random keypad. Designing a random keypad to overcome the shoulder surfing.

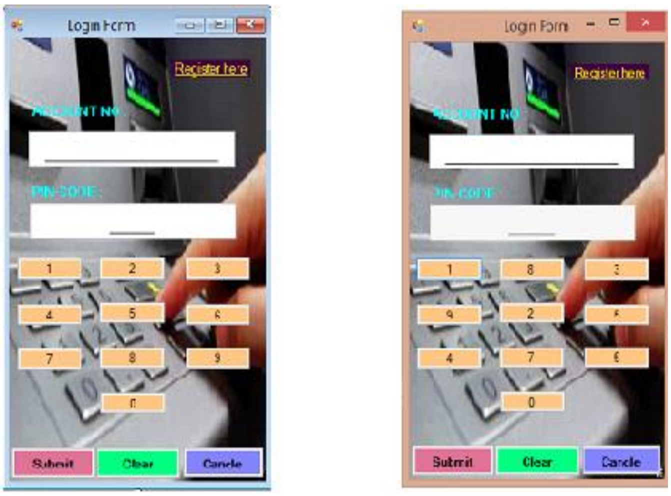

Fig 5:- Normal and Random Keypad generator

5.3 Face recognition

Face recognition is an important part of the capability of human perception system and is a routine task for humans, while building a similar computational model of face recognition. The computational model not only contribute to theoretical insights but also to many practical applications like automated crowd surveillance, access control, design of human computer interface (HCI), content based image database management, criminal identification and so on.

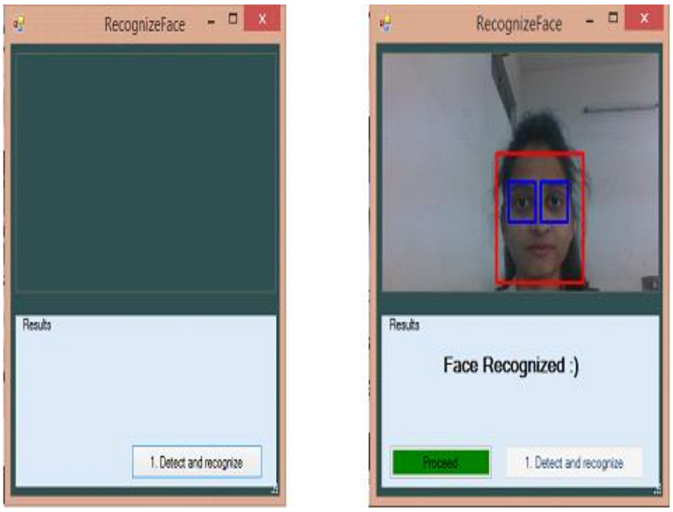

Fig 6:- Face Recognition

5.4 Main menu module

In main menu module their four operation are include that is

1. Balance inquire operation
2. Withdraw operation
3. Deposit operation
4. Change pin operation

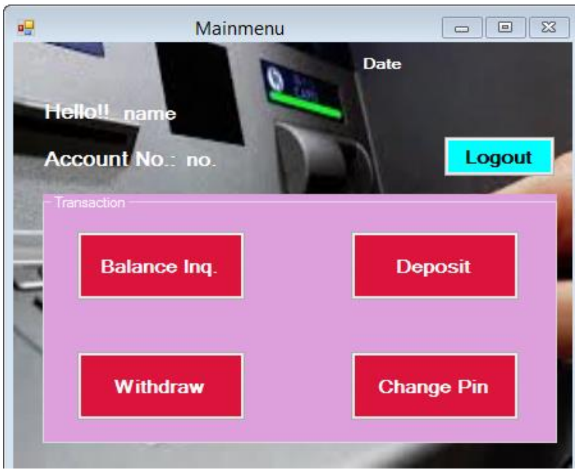

Fig 7:- Main Menu

6. CONCLUSION

This paper recognizes a model for the modification of existing ATM systems by virtual shuffling of keypad and wireless password communication provide an effective way of preventing PIN theft. The Proposed idea will confuse the Password guessing and password thieving in future from unauthorized person. Therefore this kind of additional technique preventing pin theft in future. Face recognition technologies have been associated generally with very costly top secure applications. Today the core technologies have evolved and the cost of equipment's is going down dramatically due to the integrations and the increasing processing power.

In future the advancement in hardware and software and remove its problem and make more efficient.

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