IMPROVED AUTHENTICATION FOR SECURED EMPLOYEE INFORMATION SYSTEM

Resume Zaware[1], Shraddha Sarnobat[2], Yamuna Yamgar[3], Pallavi Chandratre[4]

[1,2,3] *Student, Computer Engineering, Shivajirao S. Jondhale College of Engineering, Maharashtra, India*

[4]*Professor, Dept. of Computer Engineering, Shivajirao S. Jondhale College of Engineering, Maharashtra, India*

---***---

Abstract - *The incrimination popularity of Smartphone is rapidly incrementing day by day especially the one utilizing android operating system. Since these contrivances contain incrementing amount of personal information, it is very paramount to have better security system. In this paper we endeavor to visually perceive the different aspects that must be kept in mind while developing security in android Smartphone. We additionally discuss and compare the authentication systems which are available and develop an incipient amended authentication system that endeavors to abstract the drawbacks which are present in the current authentication systems. Our project aims is to designing an employee database system which could keep secure data of employee at organization, etc. Our application system maintains a database of employees which has the details such as their name, designation, unique id, phone number, location etc. An android mobile phone must be placed in the office of any organization. Employees in lieu of signing in the data Register, they can simply utilize this mobile application and enter their unique id.*

Key Words:Android,Security,Shuffling,Authentication, Smartphone,Pattern Lock scheme

1 INTRODUCTION

A large portion of the gadgets utilized as a part of IT administrations are quickly transforming from Computer's to tablets and PDAs. Since these gadgets contain critical individual data, better security is required. Real issues could happen if the portable is lost. So appropriate confirmation framework is critical. Diverse verification plans are accessible with the two points of interest and drawbacks. The validation plans must be made by remembering the necessities of the clients and the android engineering. As a rule worker participation administration implies dealing with the everyday record of a specific representative. A keen representative participation is one that can distinguish individuals, decipher their activities, and track their status. In this manner, a standout amongst the most essential building squares of savvy worker participation administration framework is a representative distinguishing proof framework.

1.1 Authentication Scheme for android Smartphone and systems

1) PIN Lock

It is very simple concept to keep security to our application. It is generally of 4 digits, but it can be recognize easily by anyone. It is commonly used in smartphones for screen locking. For unlocking the application we must applied the same sequence which can be easily understand.

2) Alphanumeric lock schema

Alphanumeric is a combination of alphabet and number. It is some kind of Pin but provide more security then PIN number .But sometimes it become more risky as some people apply their related information like name, birth date etc,so it can be easy for recognizing password.

3) Pattern lock

It is different than Pin and Alphanumeric lock scheme. It consist of pattern security scheme it give formation, it consist of 9 dots arranged in 3*3 matrix user must only have to recollect the formation applied to lock the application. But here is also a problem people around the user can imagine the pattern while following the hand gesture when user is applying the lock pattern.

4) Bio-metric lock

We give biometric security such as thumb-finger impression, toning, voice recognition, face recognition etc. for this security it need a sensor for sensing the biological information. It is very secure but it is too costly and it is not affordable for common peoples. Biometrics must need the biological information of the users.

2 LITERTURE SURVEY

1) Android SDK | Android Developers, Android Studio[1]

It provides the tools for building apps on every type of Android system.

2) Ms R. Srilekha and Mr D. Jayakumar, "A secure screen lock system for android smart phones using accelerometer sensor", IJSTE, Volume 1, Issue10, 2015[5].

Conception cognate to android application locking with the help of 5 colour block pattern arranged in circular utilizer interface. The color sequence of the pattern gets shuffled every time when the locked application is given an endeavour to open.

3) Development of a Student Attendance Management System Using RFID and Face Recognition: "International

Journal of Advance Research in Computer Science and Management Studies", Volume 2, Issue 8, August 2014[6]

Attendance is a daily activity performed by every institute and college to maintain the records of student's attendance. This record is then used by the faculty of the college whenever needed.

4) Kwang Il Shin, Ji Soo Park, Jae Yong Lee and Jong Hyuk Park[4]. "

For providing security to Android smartphone we have developed a circular screen locking application.

3 PROPOSED SYSTEM

After doing many studies related to security application we found many issues in that system. We have developed circular screen locking application for providing security to android smartphone or for android systems. We have bring out a method or a concept that will resolve the issues that are present in current system. On pattern system we have to apply a sequential pattern that is arranged in 3*3 matrixes with different color. We have developed an user friendly authentication security application that is more secure than current system. Our system is lock screen system based on pattern scheme. Our system consists of five color dots arranged in circular pattern. As we touch the dots always the color will be change randomly every time. Retouching is allowed. We can press our pattern or dots seven times i.e. the length is seven of this pattern. It is not necessary to follow the pattern as we set earlier. First of all we have to set our pattern than we have to set a security question and we have to register a number for OTP (One Time Password). Then we can login to our system, if we forgot our pattern then we can reset the pattern, there is a reset button on the lock screen. If we go wrong for three times then a security question will ask which we have set while setting the pattern. If we gave correct answer then lock will get unlock otherwise it will send an OTP number to our register number which we have set early. If the key space is lager, then the brute force attack is more difficult.

3.1 SECURITY PATTERN

This is our security pattern it contain five color circle which can randomly changes its color. The sequence is not necessary for setting pattern and we have to press all button.
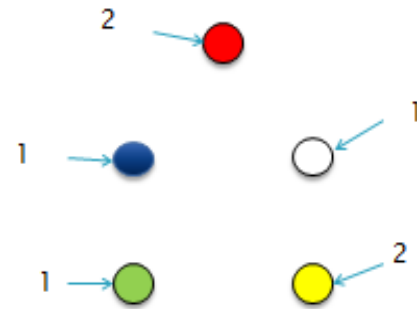

Fig .Security Pattern
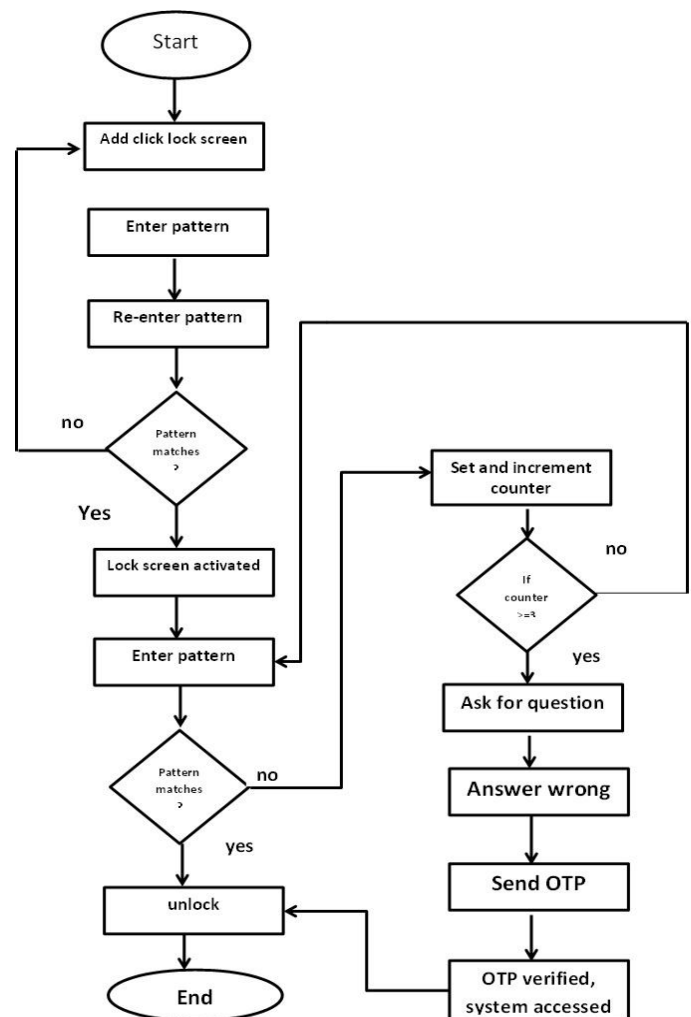
3.2 FLOWCHART FOR PROPOSED SYSTEM

Fig .Flowchart For Proposed System

4 DESIGN

ARCHITECTURE DIAGRAM

In this system we are use mobile client for security and employee data presentation to user in that two level security used i.e. press based lock system and login authentication

using MYSQL database and user register in system at one time using that username and password will get system access before that lock system use.

MOBILE client is android and webserver is apache server which XAMPP server and PHPMyAdmin use for MYSQL Database android studio use for android app development. [1]

Mobile request to web server for that using http request and using JSON encode data return to android and android read that JSON (java script object notation) and convert into String and read JSON object and array.
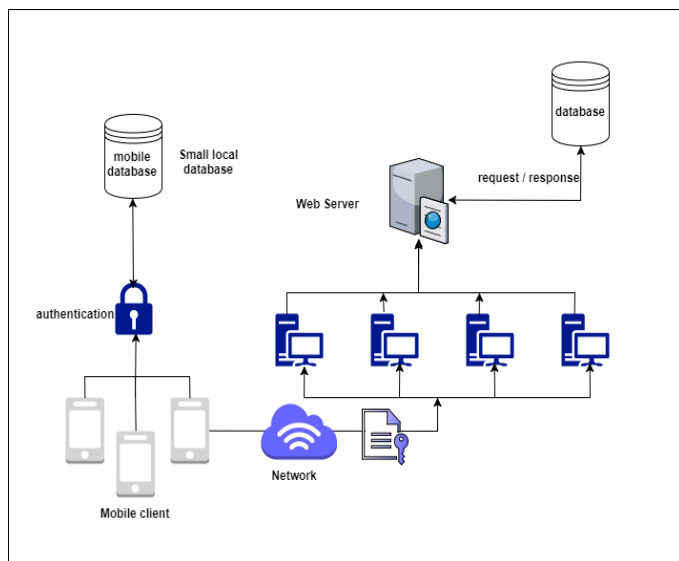

Fig. Architecture Diagram

VI CONCLUSION AND FUTURE SCOPE

In this project we have done a study on the security issues that must be kept in mind while designing the authentication schemes. We have studied the authentication schemes available along with their merits and demerits. Here we have developed an improved authentication lock scheme that provides both authentication and convenience to user. We have made comparison of our system with the current schemes and suggest that it is better in terms of security, convenience and authentication. The fundamental problem in managing and maintaining the work by the administrator is hence overcome. But by developing this mobile based application the administrator can enjoy the task, doing it easily and also by saving the valuable time. The amount of time consumption is reduced and also the manual calculations are reduced, the reports can be obtained regularly and also whenever on demand by the management. The effective utilization of the work by proper sharing and by providing the accurate results will ease the job of the operator. For future scope we can use biometrics and we can make domain server for accessing the database without any network.

REFERENCES

1) Android SDK | Android Developers http://developer.android.com/sdk/index.html

2) Wallace Jackson, "Learn Android App development", Third Edition, 2010.

3) Adarsh Singh et al, International Journal of Computer Science and Mobile Computing, Vol.5 Issue.3, March- 2016

4) Kwang Il Shin, Ji Soo Park, Jae Yong Lee and Jong Hyuk Park.

5) Ms. R. Srilekha and Mr. D. Jayakumar, "A secure screen lock system for android smart phones using accelerometer sensor", IJSTE, Volume 1, Issue10, 2015.

6)Development of a Student Attendance Management System Using RFID and Face Recognition: "International Journal of Advance Research in Computer Science and Management Studies", Volume 2, Issue 8, August 2014

7) Employee Attendance Management System Using Android ijarcsse.com/Before_August_2017/docs/papers/Volume_5/4_April2015/...