



ONE TOUCH MULTI-BANKING TRANSACTION ATM SYSTEM USING BIOMETRIC AND GSM AUTHENTICATION

Kesthara V¹, Vinay Kumar .S², Deepika .L³, Chandana .G⁴, Chethana .S⁵

^{2,3,4,5} Students, Dept. Of ECE, Dr.Ambedkar Institute of Technology, Bengaluru, India

¹Asst.Professor Dept. Of ECE, Dr .Ambedkar Institute of Technology, Bengaluru, India

Abstract: Every individuals has multiple bank accounts in different banks, people's need to carry multiple ATM cards for transaction, there may be different PIN's for every account. In traditional system, ATM terminal customer recognition systems only rely on bank cards, security pin number, and such identity verification methods which measures are not perfect and functions are too single and at times there are incidents where we forget our security PIN number, lose our cards, cards get stolen, stolen PIN numbers. To overcome the bugs in traditional ATM system, introducing a new ATM terminal customer recognition system, "One touch Multi-banking Transaction system using Biometric and GSM Authentication". Biometric based fingerprint authentication technique is one of the most secure systems, unauthorized accesses are restricted, as this makes fingerprint a unique identification for everyone. This system also assures a secure GSM (OTP :- One time Password) based transaction. Here the proposed system has no risk overhead in managing multiple account transactions and achieves high security as compare to the traditional ATM system

Index Terms - ATM, One touch Multi-banking, Biometric, OTP, GSM.

I. INTRODUCTION

An ATM (Automated Teller Machine) is a machine that enables bank account holders to complete transaction at any time without human intervention. In an ATM system customer authenticate themselves by using a plastic card on which magnetic stripe is mounted known as ATM card. The magnetic stripe carry details related to customer. Sometimes it happens that data on magnetic stripe can be easily destroyed by strong magnetic fields. About PINs (Personal Identification Number), each account has distinct PINs in traditional ATM system occasionally we forget PINs or chance to get confused. So the ATM card have number of drawbacks like breaking card, losing card, stolen card, losing PIN, forgot PINs, etc. due to such issues there are maximum chances of frauds. All the users of ATM always finding to keep their every transaction under the secure surveillance in the case of finance still sometime security becoming major problem, While considering the ATM machines, the main concern is physical security that focuses on ensuring restriction of access, Recognition and Validation. The traditional approach for banking transaction authentication of user which is based upon PIN is becoming scanty now days. Biometric technique is based upon user's physical attribute that is unique and permanent for everyone. The uniqueness of fingerprint of every individual makes the fingerprint recognition as the most secure system. This prevents the illegal access to the bank account of a customer. It acts as a latch which opens only if correct key i.e. authorized fingerprint is found. Biometric authentication has been proved its accuracy because the skin on our hands and feet show a stream arrangement of hills on every tip of the finger which is exclusive. Over the past few years, extensive research has been done on the field of face recognition which is one of the best ways to finding the human identity. Face recognition from images is a popular research in biometric. One of the most useful applications of face recognition

understands the image analysis, there are many biometric methods like finger analysis and retinal scan for human identification, they need human cooperation. Whereas, human identification from facial images do not need it. Hence, the method of face recognition plays a crucial role in finding the human being identity as it does not require the human cooperation which is the unique advantage of face recognition from other biometric methods.



II. PROBLEM STATEMENT :

Every individual has multiple bank accounts in different banks, people need to carry multiple ATM cards for transaction, there may be different PINs for every account. At times it happens that we forget our PINs, lose our cards, cards get stolen, stolen PINs such scenario are faced in our daily life, so to overcome these problem, “One Touch Multi-banking Transaction System using biometric and GSM authentication” is proposed.

III. METHODOLOGY:

Fingerprint is one of the type of biometric system. Instead of using ATM card, here we are using fingerprint and facial expression for accessing the ATM machine for transaction. The working process of ATM's fingerprint deal with accessing the data from server. Bank employee scan fingerprint using biometric machine. Biometric machine extract the feature of fingerprint and store into database this complete process is called enrolment process. When customer want to do transaction then the facial expression will be compared with already saved expression, then the person is allowed for transaction otherwise it will not allow further process.

IV. SCOPE FOR FUTURE WORK:

Changes to software are must. Changes could be to improve the performance of the system. All projects are bound to time constraints and are feasible if infinite time and abundant resources are given. The following are the features that can be added to our system: - Performance can be increased in terms of speed and memory. This can be achieved by using an alternative for the SMS gateway. SMS gateway has a delay issue. Further enhancement can be done by focusing on speed at which messages are sent and received. A speaking voice alarm can be used to indicate unauthorized person accessing the ATM. An unauthorized person should be warned. The warning can include a speaking voice alarm at the security sector outside the ATM.

V. SCOPE OF PROJECT

The scope of this project is to enhance the security of the existing ATM (Automated Teller Machine) system by integrating the fingerprint of the user into the bank's database as to further authenticate it. This is achieved by modeling and building an ATM system which has a fingerprint scanner.

RESULT



If the person who is operating ATM passes two levels of security system without any authentication problem. Then he/ she will be allowed to transaction.



Otherwise transaction will be canceled

VI. CONCLUSION:

In the proposed one touch Multi-banking Transaction ATM system, replaces the traditional ATM system. It has advantages such as saves manufacturing cost of cards and overcomes drawbacks of the traditional system like carrying multiple cards, losing of card, losing PINs, remembering multiple PINs, fraud calls related to ATM card, etc. and provides high security by using authentication like fingerprint, face recognition and OTP system; therefore making it easy to use multiple bank account transaction in a single touch

VII. REFERENCES:

1. Khatmode Ranjit P, Kulkarni Ramchandra V, "ARM7 Based Smart ATM Access and Security System Using Fingerprint Recognition and GSM Technology", International Journal of Emerging Technology and Advanced Engineering, Vol.4, Issue 2, Feb. 2014.
2. G.Udaya Shree, M. Vinusha "Real Time SMS-Based Hashing Scheme for Securing Financial Transactions on ATM terminals", International Journal of Scientific Engineering and Technology Research, Vol.2 Issue 12. Sep.2013.
3. Ritu Jindal, Gagandeep Kaur, "Biometric Identification System Based on Iris, palm and Fingerprint for 4. Security Enhancements", International Journal of Engineering Research and Technology, Vol.1, Issue 4, June 2012.
4. Deepa Malviya, "Face Recognition Technique : Enhanced Safety Approach for ATM", International Journal of Scientific and Research Publications, Volume 4, Issue 12, December 2014.
5. Matsoso Samuel Monaheng, Padmaja Kuruba, "Iris Recognition Using Circular Hough Transform", International Journal of 413 Innovative Research in Science, Engineering and Technology, Vol.2, Issue 8, Aug.2013.
6. Fakir Sharif Hossain, Ali Nawaz, Khan Md. Grihan, "Biometric Authentication Scheme for ATM Banking System using AES Processor", International Journal of Information and Computer Science Volume 2 Issue 4, May 2013.
7. Mohsin Karvaliya, Saifali Karedia, Sharad Oza, Dr.D.R.Kalbande, "Enhanced Security for ATM machine with OTP and facial recognition features", International Conference on Advanced Computing Technologies and Applications (ICATA-2015).

8. R. Wildes, J. Asmuth, G. Green, S. Hsu, R. Kolczynski, J. Matey and S. McBride, "A system for automated iris recognition", Proceedings IEEE Workshop on Applications of Computer Vision, Sarasota, FL, pp. 121-128, 2011
9. Ravi.J. et al, "Fingerprint Recognition using Minutiae Score matching", International Journal of Engineering Science and Technology Vol.1(2), 2009, 35-42.
10. JinXin Xu "An Online Biometric Identification System Based on Two Dimensional Fisher Linear Discriminant", 978-1-4673-9098-9/15/\$31.00 ©2015IEEE
11. Abdul Razaque, Fathi H. Amsaad, Chaitanya Kumar Nerella, Musbah Abdulgader, Harsha Saranu, "Multi-Biometric System Using Fuzzy Vault ", 978-1-4673-9985-2/16/\$31.00 ©2016 IEEE
12. H . Lasisi and A A. Ajisafe, "Development of stripe biometric based Fingerprint Authentications Systems in Automated Teller Machines," 2012, IEEE, ISBN. 978-1 -4673-2488-5, pp. 1 72- 175.
13. K. K. Nair, Albert Helberg, Johannes van der Merwe "An Apporach to Improve the Match-on-Card Fingerprint Authentication System Security," ISBN:978-1-4673-9609-7 ©2016 IEEE.
14. Yun Yang , JiaMi, "ATM terminal design is based on fingerprint recognition," 978-1-4244-6349 7/10/\$26.00 ©201 0 IEEE.
15. Ekberjan Derman#1, Y. Koray Gecici#2, Albert Ali Salah*, "SHORT TERM FACE RECOGNITION FOR AUTOMATIC TELLER MACHINE (ATM) USERS," 978-1-4799-3343-3/13/\$31.00 ©2013IEEE.16. K. Ratha, S. Chikkerur, J.H. Connell and R.M. Bolle. "Generating Cancelable Fingerprint Templates", IEEE Transaction on Pattern Analysis and Machine Intelligence, vol. 29, no. 4, 2007

