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Iris Acknowledgement Based Confirmation Framework in ATM

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Abstract: In this advanced world, all residents having their record in any of the banks and all are getting compensations or sparing their cash in their ledgers. At the point when need of cash happens, essentially get executed from ATM machines. ATM utilizes secret key security set by proprietor yet at the same time numerous wrongdoings are occurring in which getting looter is unrealistic as ATM machine is not have any insight of recognizing whether the exchange is done in some weight or not. Numerous procedures are available to handle the state of ATM card lost yet at the same time no arrangement of getting the card proprietor circumstance amid exchange of cash. To handle such kind of wrongdoings, bank database will store all relatives eye iris output and after that the primary verification of card holder by Stick and second confirmation will be eye iris of card holder. Camera mounted over machine will first output eye iris to confirm and after confirmation it will check the development of eye iris of ATM client. In the event that client eye iris development is static then ATM machine will bear on the further strides for exchange of cash or else work. In any case, if checked eye iris demonstrates any development and not static then it will take into consideration same technique yet machine at end will show zero cash in ledger or card administration is debilitated. The execution of this insight will diminish the criminal cases in certain circumstance.

Keywords: ATM machine, ATM card, Transaction, IRIS.

1. INTRODUCTION

The antiquated and customary society did not have any money related instruments, thus the whole trade of products and stock was overseen by the “bargain framework” [1]. The present day society however began utilizing financial instruments as a unit of trade which now supplanted the bargain framework. In this way, cash in different divisions was currently utilized as the sole buying power as against the deal framework. The contemporary time has supplanted these customary fiscal instruments from a paper and metal based coin to “plastic cash” as Visas, platinum cards, and so forth [2]. This has realized the extending usage of Automated Teller Machine (ATM) wherever all through the world. ATMs are electronic saving money machines situated in better places and the clients can make essential exchanges without the assistance of bank staffs. With the assistance of ATM the client can play out a few keeping money exercises like cash exchange, money withdrawal, charge card instalment, paying different home use charges like power and telephone charge. [3]

It is a more supportive for customers to get to their records and to lead financial trades. The record holder will be given the ATM card and private Stick (Individual Distinguishing proof Number) or mystery scratch Stick number or secret word is a critical perspective in ATM framework, which is usually used to secure and ensure money related data of clients. Stick number should be recollected by the card proprietor and it ought not to be imparted to others to counteract unapproved get to [4]. Wrongdoing which is occurring in ATM turned into a difficult issue that influences clients as well as bank administrators. Security is a significant issue in ATM framework. ATM trick includes criminals putting a thin, clear, unbending plastic sleeve into the ATM card opening. By doing this way, when you enter your card, the machine can't read the strip, so it will be continue asking you to re-enter your PIN number [5]. The ATM machine has card reader and keys as information devices and show screen, cash compartment, receipt printer, speaker as yield gadgets. ATMs are taking up with a host processor, which is a run of the mill entryway through which distinctive ATM frameworks get the chance to be available to customers. Different banks, free administration suppliers possessed this host processor.

2. CURENT SENARIO

The expansion of robotized teller machine (ATM) fakes has incited the improvement of new confirmation systems to defeat security issues of individual distinguishing proof numbers (PIN). These verification components are generally evaluated in view of speed, security, and update capacity in correlation with conventional PIN section frameworks [6]. The biometric affirmation methodology is from every angle the most pervasive creating alternative segment as against Stick based ATM check. This approval system however is defective. Fingerprints, for instance, are special yet they are not privileged insights. We abandon them wherever with all that we touch, subsequently, they can without much of a stretch be fashioned with a film [7]. The fingerprints on a man can get harmed furthermore; it changes with age [8]. Despite this, another honest to goodness imperfection with the fingerprints is that the theft of a man's biometric prompts some real issues as re-enrolment is improbable not in the slightest degree like the resetting or changing of Stick.

The present ATM structure checks trades by method for the card and Stick based system. Starting there, it endowments access to bank customers to a couple of organizations, for instance, cash withdrawal and stores, record to record trades, alter enquiry, best up purchases and administration charges portion. The ATM system ponders the Stick entered against the set away endorsement Stick for every ATM customers. If there is a match, the system confirms the customer and stipends access to each one of the organizations available by method for the ATM. If there is a perplex on the other hand, the customer approval plan misses the mark and the customer is given two more opportunities to enter a right Stick. If an off base Stick is entered for the third time, the card gets blocked and held by the ATM.

An instance of cash withdrawal on the present ATM system is depicted in the move plot in Figure 1. Segment of a right Stick is tasteful to check a customer to the bank structure and starting there permit access to the system for withdrawal as depicted in Figure 1. The present system furthermore holds ATM cards after section on a wrong Stick thrice in this way taking out further attempts to increment unapproved get to.

3. PROPOSED METHODOLOGY

The proposed structure is containing step-wise confirmation of the ATM client to know the circumstance or case in which exchange or transaction is occurring. ATM confirmation through ATM stick is a static procedure which can't have the capacity to carry on wisely however in proposed strategy one more verification is presented which will act smartly with the assistance of the ATM client. Proposed system will act or presented after the primary validation through ATM stick or secret word. In the wake of entering ATM stick, all machines will convey camera inserted inside them which is difficult distinguishable by client and that camera will note and output the eye iris of ATM client in the wake of entering the right ATM stick. Amid the exchange procedure if ATM machine find that iris is not coordinating then exchange will get crossed out naturally by indicating verification issue. In eye iris database, it will firstly store all relatives eye iris for coordinating and if the match is not get covered with any of five then the validation issue will emerge amid exchange. This will act as a second validation prepare for expanding well-being over the ATM machine.

Furthermore, the insight that will work behind to know or catch ATM client circumstance, the development of iris will likewise get followed by same installed camera and that camera will contains a property that, if the ATM client's iris development is all the more then it will detect or regard that condition as terrible circumstance of ATM client and will act intelligently, it will permit the machine to take after the best possible strides of exchange however toward the end it will indicate message of inadequate adjust or server issue blunder. So if there should be an occurrence of cash loaning over the purpose of firearm will most likely get fizzled and client can spare cash however in the event that ATM camera is not ready to track any development i.e. in the event that there is no development of eye iris then the machine will loan cash to ATM client. ATM client is assuming an essential part as the development of iris is absolutely reliant on the client and will furthermore by ATM camera then after knowledge some portion of ATM machine will prepare.

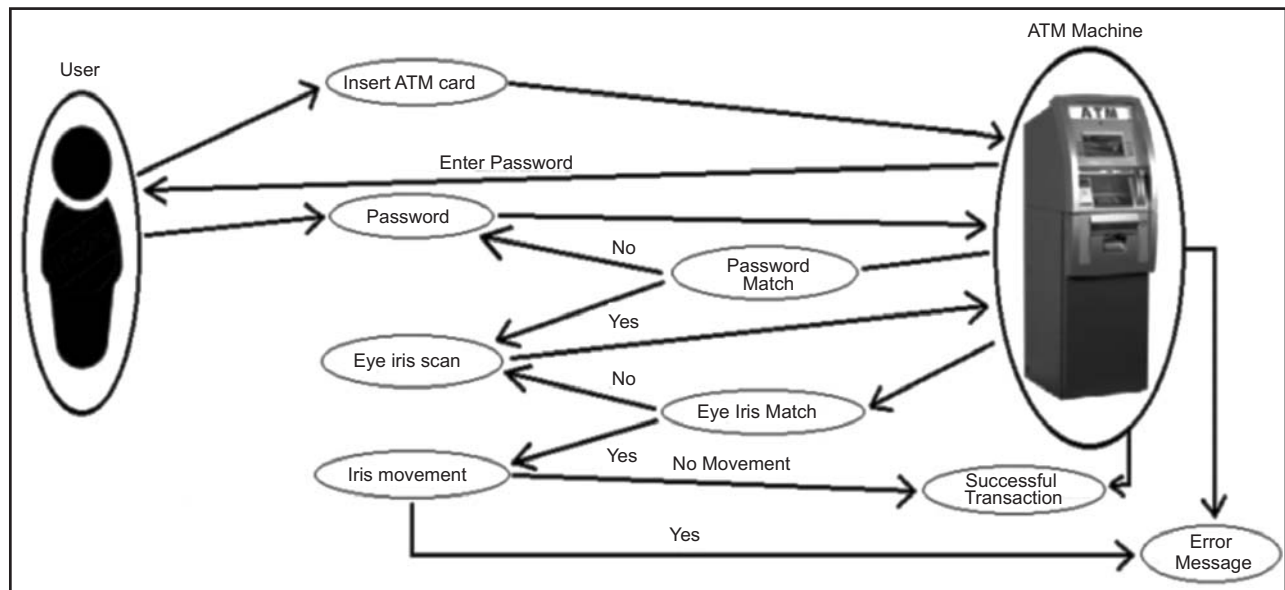


Figure 1: Flow of Proposed System

The above figure describes the flow of how ATM machine will act smartly to achieve more security over the money of user. Up to password verification, the system will run in the same current flowing ATM machine process and after the verification of password, another new verification will also be done that is user eye iris scan and matching output with stored information in database. If not matched then it will again scan up to three times and after maximum trial the machine will automatically end up the process. If the eye iris got matched, then movement of eyes will be traced while transaction process is running in parallel. If there is lot of movement will be traced by iris scanner then Error Message will get displayed over the screen of ATM machine after whole normal process and if movement is static then transaction will get successful and money will be landed to the user.

The below figure (fig. 2) shows the scanning of the Iris for authentication before making the transaction. The pre-processing stages are:

1. The scanner scans the inner and outer border of the eye and matches with the image (eye) that is already stored in the database.
2. Iris segmentation
3. Iris normalization and image enhancement. If this process is successful then it proceeds further.



Figure 2: Scanning of Iris

During this process the brightness should not vary of change otherwise authentication becomes difficult. The scanner scans the whole eye and then processes further. This is the key component of the iris system and determines the system's performance to a large extend. It produces correct result by extracting features of the input image and matching these features with known pattern in the feature database.

4. STEPS OF IRIS WORKING

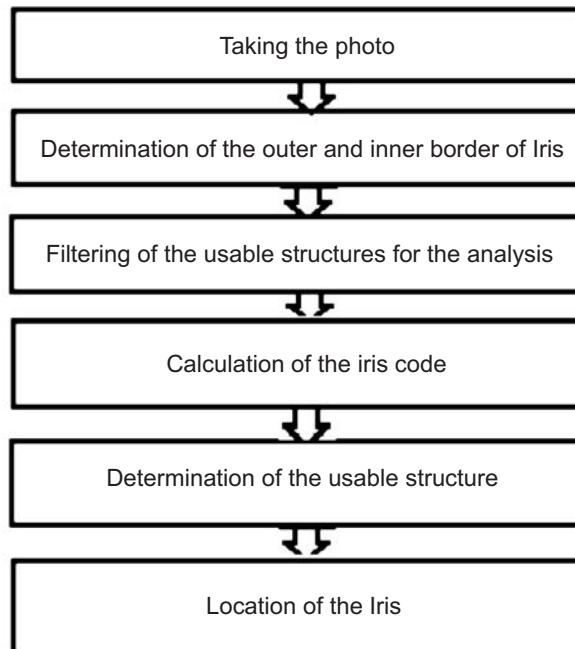


Figure 3

4.1. Advantages

1. Provides strong authentication.
2. More secured.
3. Ideal for Indian rural masses.
4. Flexible account access allows service users to access their accounts as per their convenience.
5. Less vulnerable to threats.
6. It can be used to reduce fraudulent attempts.

4.2. Disadvantages

1. Flash of the camera should not become so bright.
2. Sometimes False acceptance and rejections.

5. CONCLUSION

With the execution of proposed philosophy, cash arriving over the firearm point or in any criminal circumstance will get to be more secure with contrasted with current situation as proposed strategy contain the twofold confirmation of client which ought to be coordinated with the subtle elements of ATM proprietor spared in database. In second confirmation, eyes iris coordinating will go about as one of the best check of ATM client and even after that to decide the circumstance of client, insight of following eye iris development will likewise there which manufacture entire framework to prepare in savvy way. So the framework will expand its security by changing or upgrading the procedure of exchange and if the iris development is more than the procedure of exchange will stream in parallel and will drop message with the goal that client won't ready to get the shrewdness of process.

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REFERENCES

- [1] Jimoh, R.G. and Babatunde, A. N., *Enhanced Automated Teller Machine using Short Message Service authentication verification. World Academy of Science, Engineering and Technology. International Journal of Computer, Information Science and Engineering 2014.*
- [2] Muhammad-Bello, Alhassan , Ganiyu “*An Enhanced ATM Security System using Second-Level Authentication*”, *International Journal of Computer Application, 2015.*
- [3] Kande Archana and Dr. A.Govardhan “*Enhance the Security in the ATM System with Multimodal Biometrics and Two-Tier Security*” , *International Journal of advanced research in computer science and software engineering, 2013.*
- [4] S.S.Das and Debbarma “*Designing a Biometric Strategy fingerprint Measure for enhancing ATM Security in Indian e-banking system*”,*International Journal of Information and Communication Technology Research*,volume.1,2011.
- [5] Jain A.K, Ross A. and Prabhakar S. *IEEE Transactions on Circuits and Systems for Video Technology, 2009.*
- [6] De Luca, A., Langheinrich, M. & Hussmann, H. (2010). *Towards Understanding ATM Security – A Field Study of Real World ATM Use.*
- [7] Kyle, C., *Biometrics: An In Depth Examination. SANS Institute Information Security Reading Room. SANS Institute 2004.*
- [8] Liu, N. Y., *Bio Privacy: Privacy Regulations and the Challenge of Biometrics.* Taylor & Francis 2013.