ISSN: 2321-7782 (Online)
e-ISJN: A4372-3114
Impact Factor: 6.047

Volume 5, Issue 4, April 2017

International Journal of Advance Research in Computer Science and Management Studies

Research Article / Survey Paper / Case Study

Available online at: www.ijarcsms.com

A Review Paper on ATM Transaction

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Abstract: ***Data security is the critical problem in the current scenario of banking and financial institution. So primary criteria to design this system to provide the security for data which is transmitted during the ATM transaction. In this paper we will discuss the two kind of mechanism which is used for the ATM transaction. In the first mechanism while data transmission it will be in the encrypted form then unauthorized user can't access it. And in the second mechanism is Light-Fidelity (Li-Fi), remove the issue of the slow rate of data transmission. In this paper define concept of Li-Fi on ATM transaction. As suggested by germen physicist Harald Haas It is the technique to taking the fibber out of fiber optic by sending data through an LED light bulb that is used to flickers the intensity of light faster than the human eye. In this technique a concept of LED and visible light is used for data transmission. And during ATM transaction used an encrypted LiFi transfer pin, which is providing security for data transmission. While data transmission system fail or not working then we easily install a new app and easily transmit data. So the both the technique provide the massive security while data transmission for ATM transaction.***

Keywords: ATM Card, PIN, Encryption Technique, Li-Fi, VLC (Visible Light Communication).

I. INTRODUCTION

An ATM (Automated Teller Machine) is a computerized device that allows the cardholder or client of the banking and financial institute to perform the financial transaction relate to their accounts. In the present time there are two types of the ATMs: first, used only for the simple transaction like withdraw and general information about the account balance. And second one is complex types that have some extra functionality like the deposit and money deposit in account or other transfer other account. Some kind of banking institute provides both functionality in a single ATM. from the recent decade lot of techniques and method apply on the ATM transaction, but what level of ATM transaction is secure through these techniques. And these methods are the two factors Authentication, Three factor authentication, and Biometric identification and apply some encryption techniques. These all kind of the methods has their respective drawbacks. In the two factors authentication used the ATM card and PIN (Personal Identification Number). This no longer success because in this techniques some issue and problems are skimming attack, Card trapping, pin cracking, phishing attack, ATM malware, ATM Hacking, Physical attack and intruder try to identify ATM PIN and after limited uses magnetic strip of ATM Card doesn't work. And in the three factor authentication biometric techniques used like the facial recognition, finger print and retinal scanning all of these have the some drawbacks. In the facial recognition identification system didn't identify the image on the different angel, in the retinal scanning problems high blood pressure and eye disease then system does not identify the actual pattern of retina and in the and in the finger print scanning problem is the bad influence when all of user used the same scanner because some user have the skin problem. And the different encryption technique provide the different level of security it is depend of what mechanism used in the encryption algorithm.

In this paper proposed an idea using the Encrypted Li-Fi Communication. In this technique we transmit data through Li-fi and data is in the encrypted form then no one can't easily predict it. Encryption techniques used to convert the simple text in the unreadable code by using a suitable algorithm. Different type Encryption algorithm provides the different level security. Li-Fi used as a bidirectional, high speed network for wireless communication, using visible light communication (VLC). And VLC used for indoor communication by switching LED ON/OFF. Where LED light used for the transmitter and photodiodes and image sensor used as a receiver. Li-Fi is transmission by taking the fiber out of fiber optics by sending data through an LED bulb that varies in intensity faster than the human eye can't follow.

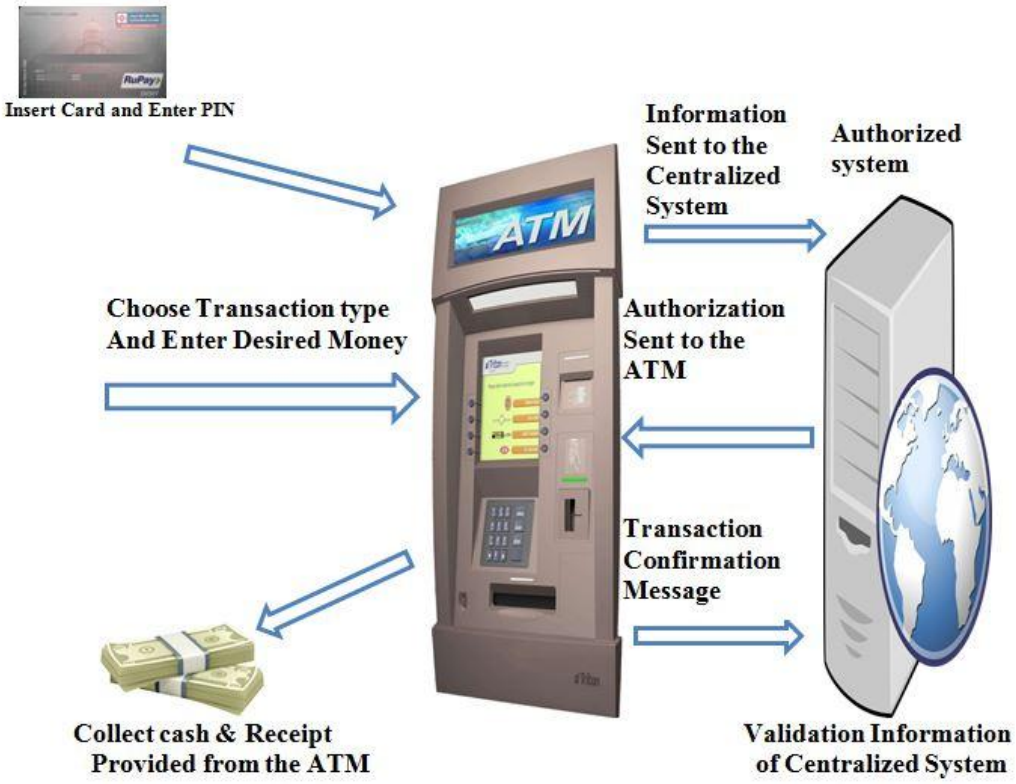

Fig. 1 Existing ATM transaction system

II. LITERATURE SURVEY

[1] Few years ago purposed of paper to describe the three-factor authentication in ATM transaction when two-factor authentication no longer success. In the two- factor authentication security concept are ATM card and PIN (Personal identification number). Two factor authentications not provided valid level of security then need for more secure mechanism. And purposed method combined of ATM card, user PIN and biometric technique for three-factor authentication.

[3] The main purpose of this research paper to provide the biometric security in the ATM transaction. And for this purpose used biometric identification (finger print) with the mobile number. When the customers open an account in the branch meanwhile provide the fingerprint or mobile number. And when the customer access the ATM machine then place finger on the figure print module then system generate 4-digit code and send it to the customer's registered mobile number. And if customer valid 4-digit Code then successfully accesses the account or if entered wrong digit then system not allow accessing the account.

[4] In research paper define that data security is important concept in banking sector when the data transmit from ATM machine to bank server. This data transmit in the Encrypted form then unauthorized user cannot access it. And define the encryption techniques, that what level of data security provided by these algorithm. And explain two important encryption algorithms Data Encryption Standard and Advanced Encryption Algorithm.

[11] Explain in this research paper that LiFi is providing us bidirectional high-speed network and wireless mobile communication using the LED light. And remind that this technique replace radio frequency waves with visible light, infrared or ultraviolet. Explain that it is much faster than the Wi-Fi and provide best solution compare to Wi-Fi with respect security, human health and bandwidth. In which concept VLC used for data transmission And VLC works on by switching ON/OFF which is too faster than human eye can't noticed transmission of data.

TABLE 1. Comparison between the current concepts of ATM transaction

Sr. No.	Author with Publication Year	Technique Adopted	Significance	Limitations
1.	Jane Ngozi Oruh (2014)	Three-factor Authentication for Automated teller Machine	In this paper author used smart card, user PIN and fingerprint authentication as a three factor Authentication	Some kind of attack like skimming attack, phishing attack, card stolen issue and No backup method in fingerprint failure situation and OTP Method
2.	Milind Nemade[1], Laukik Karnavat[2], Prachi Dharu[3], Ruchika Desure[4], Sejal Gandhi[5]	A Review Paper on Improving Security of the ATM System	The purposed system used in this paper consist three security levels which are card with PIN, fingerprint as a biometric identification and last one is the OTP.	Purposed system used the RFID reader which contains the radio frequency spectrum, which is harmful for health or intruder easily read data from the RFID spectrum. Issue on card and PIN are attacks. skin diseases are the bad influence using fingerprint identification.
3.	V. Meena Mphil (2015)	Facial Recognition Technology for use in the ATM transactions	User facial image verified during ATM transaction which is stored in the banking database.	Sometime system didn't recognized facial image in different situation like camera distance in facial image clarity, different face angles and lighting condition.
4.	Joyce Soares[1], Dr. A. N. Gaikwad[2] (2016)	A Survey on the Security of an ATM transaction	In this paper techniques used biometrics (fingerprint and Iris Recognition), GSM and image quality.	Iris recognition have high installation or maintenance cost, GSM techniques not feasible for everyone

III. CONCLUSION

ATM machine is important to perform banking operation regarding account anytime anywhere. There are lot of transaction regarding to money that happen during in a single day using ATM machine. There are many fraud occur in ATM transaction due to poor security level of ATM. encrypted Li-Fi Communication provide better security and fast transaction. So the proposed system ATM transaction through encrypted Li-Fi communication improves the security level on the transaction. If Li-Fi put into the practical use then every bulb can be used to transmit wireless data. When data transmit then device not worked then install app in another device and connect it to the Encrypted LiFi transfer pin and send data. Due to the uniqueness authentication the entire cost, time and effort reduced for financial institute and its user.

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