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Research Paper

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A Review Paper on Design of Highly Secured Automatic Teller Machine System by using Aadhaar card and Fingerprint

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Abstract: The primary aim of this project is to design a system that will improve the authentication of customers using Automatic Teller Machine. In most country existing ATM system use magnetic card reader. The customer is identifying by inserting an ATM card with magnetic card that contain unique information such as card number and some security parameters. By entering a personal identification number, the customer is authenticated first then can access bank account in order to make cash withdraw or other services provided by the bank. Cases of card fraud are another problem once the user's bank card is missing and the password is stolen, or simply steal a customer's card & PIN the criminal will draw all cash in very short time, which will being tremendous financial losses in customer, this type of fraud has spread globally. So to rectify this issue we are implementing this system using ARMCONTROLLER on "BIOMETRICS" and "AADHAAR CARD" in order to improve authentication of customer using ATM machine and confidence in the banking sector.

Keywords: Microcontroller, Fingerprint module, Aadhaar card scanner, GSM module.

I. INTRODUCTION

In the real world, today people are concerned about their safety, for their valuable things. Old concepts and devices are getting modified as per requirement of people. In day to day life we need to seek new security system. So we develop to provide the maximum level security system. Money transactions play an important role in the nature of trade. Enormously growing banking technology has changed the way banking activities are dealt with.

With an ATM, a client is able to conduct many banking activities such as cash withdrawal, paying electricity & phone bills, money transfer, beyond official hours and physical interaction with bank staff. An ATM (known by other names such as an automated banking machine, cash point, cash machine or a hole in the wall) is a mechanical system that has its roots embedded in the accounts and records of a banking institution. Today, Credit cards & ATM are used for this purpose, the authentication of these transactions are totally unsecure. Existing system of ATM client authentication example NCR personas series 77 & 86 ATMs there is a magnetic card reader, client using the ATM require Bank card and password which provide customers with the convenient banknote withdraw and other services. A newer high-tech method of operating sometimes called card cloning to entangle the installation of a magnetic card reader over the ATM's card slot & the use of a wireless surveillance camera to keep the user's Personal Identification Number. Real Card data are then cloned into a duplicate card & the criminal attempts to cash withdrawal. To overcome this piracy in money transactions, I proposed the idea using fingerprints & AADHAARCARD of customers as password along with the traditional pin number.

Biometrics and Aadhaar card can be defined as a measurable physiological and behavioral characteristic that can be subsequently compared & captured with another instance at the time of verification. These technologies are a secure way of authentication because data of both technologies are unique, cannot be shared, cannot be copied and cannot be overlooked. GSM is used for sending a message to higher authorities when fingerprint and Aadhaar card recognition false also type wrong password.

Our project secures the money along with minimum risk factor. Continue with it, it gives a master password for the use of long Businesses chain with the use of it; we can use one ATM on a large scale with more security.

The proposed block diagram of the ATM security system as shown below:

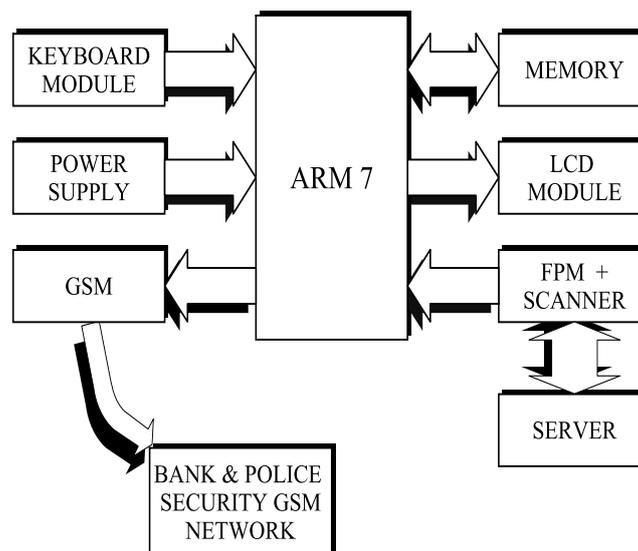


Fig. 1 Basic block diagram of ATM security system

II. RELATED WORK

Jain et al. Suggest that earlier security for ATM is not very much efficient. In an earlier ATM machine only password provided by bank to user, but it is not safety for customers. Because of some limitation, therefore they research a biometric method for more verification. [1]

Mr. Wang et al. Expresses his view like that now a day ATM with magnetic strip authenticated only by inserting password on the ATM machine. But according to today's scenario, cases of fraud are another problem. So they provided fingerprint for more security. Now a days we are directing towards the pile of new powerful, intelligent, auto rated system, which will give us easy to do the work smoothly, Thus systems are not dependant on human support, one of these 'ATM SECURITY SYSTEM' which we have evolved. [2]

M. Subha and S. Vanithaasri's they proposes ATM access with biometric security system which is highly authenticated to the client. For authentication fingerprint static points are applied in the related works by conventional way. The minutiae points of fingerprint, ridge features, and iris are considered in the proposed system for increasing the matching scores against the occurrence of distortions and non-linear deformations. Consecutive steps are processed in the proposed system. Hence, the authentication is high in the proposed application of ATM access. [3]

Mr. Aru et al. Suggests that Today, ATM systems use PIN & access card for identity verification. The recent advance in biometric identification techniques, retina scanning, including fingerprinting, and facial recognition has made a great effort to rescue the unsafe situation at the ATM. This research investigated the development of a scheme that integrates facial recognition technology into the verification process used in ATMs. An ATM system that is reliable in providing more security by using facial recognition is proposed. The development of such a scheme would help to protect clients & financial institutions

alike from intruders and identity thieves. This paper concentrates on an ATM security system that would combine a physical access card, a Personal Identification Number, & electronic facial recognition that will go as far as withholding the fraudster's card. Nevertheless, it's obvious that man's biometric features cannot be replicated, this proposal will go a long way to solve the problem of Account safety making it possible for the actual account owner alone have access to his accounts. The combined biometric features approach is to serve the purpose both the identification and authentication that card and PIN do. [4]

Lasisi et al, H express their thought in proposed paper like that Access control has been a concern in this Information and Communication Technology era. The certain resources & information has been taken seriously by the Information and Communication Technology community for control access which is essential. This author believes that no single security method. Hence a combination of multiple security compliments is compulsory to provide a high level of security against fraud. This paper combines two security components which are the fingerprint recognition & magnetic stripe card. It goes over the complications of magnetic-stripe card authentication combined with a PIN (Personal Identification Numbers) or passwords widely used on Automated Teller Machines (ATMs) today. As a result, the paper proposes a framework for user authentication & identification in Automatic Teller Machines (ATMs) using Personal Identification Numbers (PIN), fingerprints and magnetic stripe cards as opposed to magnetic stripe cards & PIN authentication method. [5]

III. CONCLUSION

From review of various papers I conclude that the growth in the electronic transaction scheme has resulted in a greater demand for accurate & fast user identification and authentication. An embedded fingerprint biometric authentication scheme for ATM banking systems is proposed in this paper. Along with AADHAARCARD authentication for more security; also included in this paper. Finally, conclusions are drawn out after observing the AADHAR CARD & Fingerprint Biometric Authentication scheme results.

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