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Cardless ATM System

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Abstract: *Banks provide ATM cards to customer to avail the services like cash withdrawal, PIN change, balance inquiry etc. But physical cards have some problems. It can be stolen, skimmed, cloned, hijacked, damaged or expired. Due to this problem, we need to think an alternate way to provide better security. Many researchers are thinking about card less transaction through ATM Automated Teller Machine (ATM) transactions are found safe, reliable, and inevitable these days for fulfilling our financial commitments. Traditional approach for using ATM mandates involvement of Debit card. But however, people do experience times when their account lacks balance amount or they forget to carry card and struggle to complete transaction. We know that parallel to ATM usage, mobile phones' usage has also been an inevitable trend. Establishing a connection between these e-gadgets has ignited a simple and effective approach to withdraw cash without the involvement of debit card which can be referred to as card less cash withdrawal. Face detection and OTP is used for authentication of user. This along with Face detection comprises two levels of security. When Face and OTP are matched then customer's account will open in ATM machine.*

Keywords: Face Recognition, OTP, PIN, ATM, Transactions

I. INTRODUCTION

In today's world to secure personal data is a big problem for the common man. Leaked personal data means losing all money within a minute and this type of fraud in India is increasing rapidly. In India, bank accounts and the use of ATMs are increasing rapidly, but fraud is also increasing in this system. So, we are designing a system to improve the security of the ATM system. This system is very secure and not costly. There is only one additional step to give a live photo in the registration process. For security, people can use a face that has been unique, easy, safe, and accurate for identification. In this system, we can also give an advantage to the customer to give access to an ATM to relatives without any hesitation. For these we can add an OTP step in ATM for the guest user and OTP will send on account holder's mobile number. Facial recognition is a way of identifying or confirming an individual's identity using their face. Facial recognition systems can be used to identify people in photos, videos, or in real time. Facial recognition is a category of biometric security. Other forms of biometric software include voice recognition, fingerprint recognition, and eye retina or iris recognition. The technology is mostly used for security and law enforcement, though there is increasing interest in other areas of use.

II. METHODOLOGY

- Face detection
- Face analysis
- Converting the image to data
- Finding a match
- Password Verification

III. LITERATURE SURVEY

In recent years, cash withdrawal through ATM cards has seen an increase in the number of card related frauds; card cloning, shoulder surfing, fake keyboard, skimming etc. being a few of them.

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To combat these problems, Khushboo Yadav et al [1] proposed a Secure Card less Transaction System- a method which would eliminate the usage of ATM PIN and physical cards altogether and hence provide a secure environment for cash withdrawal. The concept of User-Generated One Time Password (OTP) has been introduced in this project. With all these modification in existing systems, the robustness of the machines will increase.

Md. Al Imran et al [2] analysed their protocol and found some flaws on this. This protocol doesn't specify what if it is off us transaction. Besides, customers get different categories of services, but this protocol cannot determine which customer will get which category of services. That is why, inspired by this protocol we have proposed a modified model for getting same transaction facilities as exists which uses BPIN that will determine the bank identity (B) and a random Personal Identification Number (PIN) and One Time Password for authentication of the customer instead of biometric fingerprint because of major disadvantage of biometric authentication. And obviously it will use no card for accomplishing the transaction.

"OTP Based Cardless Transaction using ATM" [3] proposed a secure, robust, and flexible biometric authentication system which combines two methods that use a Biometric and a proximity sensor. To increase the security level in ATM transaction this proposal integrates a biometric fingerprint technique along with a shuffling keypad method. Here the card is replaced with the fingerprint, which is registered during the opening of a bank account and PIN number is entered in a shuffling keypad. To avoid the shoulder-surfing attacks with or without concealed cameras in PIN entry, this approach uses a shuffling keypad which uses a proximity sensor to shuffle the keypad during the PIN entry. The system is tested with multiple users and has obtained 100% accuracy. This system avoids the misuse of electronic cards and supports a secure transaction.

An automated teller machine (ATM) is an electronic telecommunications device that helps customers of banking departments in transactions and transfer of money in their accounts. The customer enters their unique personal identification number (PIN), i.e., stored in the chip of the card. Due to an increase in the installation of ATM and the number of ATM cardholders, the number of cases of fraudulence has also increased radically. The advancement in technology has resulted in an increase in various skimming activities. So, developments are incorporated in the existing systems to make it more secure, convenient, and reliable. The employed secured system must have high speed and must be durable.

The design presented in [4] is unique because of biometric scanners such as Iris scanner and the two-way check with fingerprint scanner makes it more reliable. The iris scanner being the primary security check lets the system access the further steps for transaction. Fingerprint scanner embedded in the ATM card acts as the secondary security check for the system. The transaction procedure is successful only if the input data by the card holder matches with the database. It consumes less energy that makes it suitable for use. The suggested modified system is pragmatic moreover economical when correlating to the alternative existing classification and affirmation processes of ATMs.

Nowadays iris recognition is getting more popular in terms of security. Iris pattern is more stable with ages, uniqueness, and acceptability. Because of its high reliability and good rates of recognition, iris recognition is therefore used for highly secure locations. With the arrival of ATM banking has become much easier and it has also become more accessible. The product (ATM) it is manifold due to the highly increasing risk of intelligent criminals. Due to which the banking services are in danger and not secure. This situation is getting progressed as huge progress is made in biometric recognition techniques like fingerprint and iris scanning. Customers password can be encrypted using selective article points. Therefore, a system is needed which is more secure and provides safe transactions and also help from various frauds. System described in [5] is more secure and fast and helps to provide better facilities.

IV. CONCLUSION

The adoption of the ATM as an electronic banking channel has positively impacted the banking industry worldwide because it is very effective and convenient for bank customers. The advent of ATM fraud has however been a menace for many banks all over the world and many banks now aim to eradicate fraud costs to the bank. The proposed system can provide a practical and workable solution that addresses the requirements of the regulatory authority of the banks.

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