# **3-LAYERED ADVANCED ATM SECURITY**

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#### Abstract

The advancement in new technologies has significantly resulted more perfection in authentication issues. In ATM machine, access permission is usually taking personal identification numbers (PIN) for authentication. Through this paper, this old method is being exhausted by introducing a combination of embedded 3 layered bio-metric molding to setup an ATM simulator. Finger print scanner, retina scanner followed by the onetime password (OTP) will help the user for smart and secured tractions. It will reduced the duplication and makes the ATM machine more secured compare to current version.

*Keywords: ATM*, *biometric security*, *OTP*, *duplication free*, *retina scanner*.

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## **1. INTRODUCTION**

It is the edge of smart generation who are approaching to become the citizen of a smart cities. Automated teller machine (ATM) makes the life easier by giving the facility of money withdraw, money transfer, and mini statement without banking hours <sup>[1]</sup>. Basically the ATM machine connects the customer with its bank account at any hour.

Our proposed project may the next step towards the smatter world to be the convenient way of using the ATM machine. This biometric implication will take the authentication in higher level for better tomorrow.

As it cannot be duplicated, cases of fraud money transactions<sup>[2]</sup> will be reduced in a large percentages. It also reduced the use of plastic cards, to give a positive impact in environment. In current Situation, a lost card PIN can be easily guessed by an unauthorized person. Our closed one who knows the PIN can access our account unknowingly.

## 2. OBJECTIVES

- To survey the biometric authentication process in ATMs.
- 3 layered advance security implantation on ATM machine.
- Providing the smart way to use ATMs.

## **3. LITERATURE REVIEW**

In 1975, Korea exchange bank introduced the first ATM, followed by Shinhan Bank in 1982. This processed is controlled by Korea Financial telecommunications & clearings institute (KFTCI). According to ATM industry Association (ATMIA), there are now close to 3 million ATMs in this world<sup>[3]</sup>.

According to American Bankers Association, this advanced technology will be more beneficial than the regular card and PIN system. Bill Spence, an expert in biometric says "Getting the wallet space is important".<sup>[4]</sup>

Biometric is nothing but some unique physiological characteristic that can captured and stored, farther it also can compared at the time of verification. Finger printing scanning <sup>[5][6]</sup>, eye retina scan are some of the common biometric unique ness for security purpose. We also use the OTP<sup>[7]</sup> as an advance layer of security.

### 4. WORKING OVERVIEW

This advance security system if followed by following steps:-

#### 4.1 Fingerprint

- Firstly it scans the finger print of the user and verify it with pre-saved bank database, if it is valid it will display the name and verified from the user.
- After verified by the user it goes for the 2<sup>nd</sup> layered authentication.

## 4.2 Eve Retina

- In second layer it ask for user retina scan and again verify by the bank database.
- If match found it displays the registered mobile number to confirm.
- After getting the confirmation it will go to the final security layer.

#### **4.3 OTP**

- System will automatic generate a onetime password (OTP) and send to the registered mobile number.
- It will ask user to enter that OTP.
- If it matches an authorized access will be granted.



## 5. LIMITATIONS OF EXHISTING SYSTEM

- 5.1 Without any authentication the card holder will be the owner of the account.
- 5.2 The card can lost/stolen then it may be misused.
- 5.3 Use of plastic is harmful for environment.
- 5.4 To regenerate the new card it takes more time and it is costly.
- 5.5 Overall security is less.
- 5.5 If the user have multiple accounts the person have to handle the multiple cards.

## 6. ADVANTAGES OF 3-LAYERED SECURITY

#### SYSTEM

- Highly secured authentication.
- Card free use of ATM.
- Introduce smart technology.
- Hidden banking charges reduced.
- No need to regenerate the card.
- No fear of losing the card.
- Biometric is not harmful for environment.
- Only the account holder will get access of the account.

#### 7. LIMITATIONS

- 1. This process is more costly compared to current.
- 2. A bit more time is taken for all the verification.

### 8. CONCLUSION

This 3 layered biometric project will make the city smarter by providing the peoples a bit more secured use of ATMs. It will give the user of 3 layer authentication i.e. finger print, retina scan and OTP. This concept will make the city smart.

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