Secured M_Cash Withdrawal in GSM Technology

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ABSTRACT: ATM Card is an effective manner to do transactions and in modern times it is an integral part of the system. To carry out fraudulent transactions in this kind of purchase, an attacker has to steal the ATM card. If the cardholder does not realize the loss of card, it can lead to a substantial financial loss to the ATM card company. To prevent such kind of losses the project proposes the combination of mobile technology along with the ATM card. To commit fraud in these types of purchases, a fraudster simply needs to know the card details. Most of the time, the genuine cardholder is not aware that someone else has seen or stolen his card information. The only way to detect this kind of fraud is when the genuine user gets the bill of the account accessed financially. Another method is to analyse the spending patterns on every card and to figure out any inconsistency with respect to the "usual" spending patterns. But such mechanisms are very difficult to detect and takes time. This paper proposes the solution of sending a message to the customer and hence based on the reply message the system authorizes the user to run the data or terminate it. Further a secret question known only to the user is also incorporated into the system which enhances the ATM feature and cannot be misused with door locking and buzzer provisions.

KEYWORDS: False Rejection Rate (FRR), False Acceptance Rate (FAR).

I.INTRODUCTION

The ATM card is one of the latest additions to the world of information technology. Similar in size to today's plastic payment card, the ATM card has a microprocessor or memory chip embedded in it that, when coupled with a reader, has the processing power to serve many different applications. As an access-control device, ATM cards make personal and business data available only to the appropriate users. Another application provides users with the ability to make a purchase or exchange value. ATM cards provide data portability, security and convenience. ATM cards help businesses evolve and expand their products and services in a changing global marketplace. The scope of uses for a ATM card has expanded each year to include applications in a variety of markets and disciplines. In recent years, the information age has introduced an array of security and privacy issues that have called for advanced ATM card security applications. ATM Card-based purchases can be categorized into two types: Physical Card, Virtual Card. In a physical-card based purchase, the cardholder presents his card physically to a merchant for making a payment. To carry out fraudulent transactions in this kind of purchase, an attacker has to steal the ATM card. If the cardholder does not realize the loss of card, it can lead to a substantial financial loss to the ATM card company. In the second kind of purchase, only some important information about a card (card number, expiration date, secure code) is required to make the payment. Such purchases are normally done on the Internet or over the telephone. To commit fraud in these types of purchases, a fraudster simply needs to know the card details. Most of the time, the genuine cardholder is not aware that someone else has seen or stolen his card information. The only way to detect this kind of fraud is to analyse the spending patterns on every card and to figure out any inconsistency with respect to the "usual" spending patterns. Fraud detection based on the analysis of existing purchase data of cardholder is a promising way to reduce the rate of successful ATM card frauds. Since humans tend to exhibit specific behaviourist profiles, every cardholder can be represented by a set of patterns containing information about the typical purchase category, the time since the last purchase, the amount of money spent, etc. Deviation from such patterns is a potential threat to the system.

II. LITERATURE REVIEW

[1] Multimodal service oriented architecture based on a distributed implementation of w3c's Multimodal architecture and Interface applied to Ubiquitous computing. The specific goal is to create the platform able to provide the multimodal interactions between the people with functional diversity and several semantic services developed by third – party companies and consumed through a display ,in order to make content more accessible and interactive.[2] The wide range of public digital terminals such as ATM's, Ticket machines, wending machines etc make this technology very common in daily life situations. The low level of accessibility in existing PDTS make usage very complicated for a series of users, mainly people disabilities, but also elderly people, older workers which are also at risk of exclusion. The article analyses the current status of accessibility in PDT, which is very low mainly due to the lack of widely recognized standards and interoperable solutions. The production of widely recognized guidelines to increase PDT accessibility.[6] The main task is to determine what knowledge must be provided to ascertain that the user comprehends the plan and is able to perform it, even if the user detects unexpected obstacles plan. Presentation is guided by a model of the user's knowledge and of his capabilities to perform actions in the domain. It provide some little information unfamiliar to the user as possible.

III.EXISTING SYSTEM

In the existing system the user recognizes that some unauthorized person has stolen his money only after the bill is produced to the user. Thus the card can be used by unauthorized persons. And the card can also be skimmed and cloned in which exact cards are made and thus the user loses his money. In the existing system, we can enhance interaction with SMS of mobile communication. Also anybody try do illegal operation in ATM machine, the person is arrested ATM itself with help mobile communication either accept or reject SMS from the authorized mobile. Our demo prototype model contains Smartcard reader, GSM modem, computer, GUI software, mobile and microcontroller. Here ATM card as a Smartcard.

IV. PROPOSED SYSTEM

An ATM starts working on the transaction as soon as it can read the access card. The ATM itself is a simple computer terminal that is comprised of six devices, two for input and four for output. This computer terminal is connected to a hosting company processing computer, which will connect the ATM terminal to the bank's terminal. The hosting company's processing computer will allow the bank terminal and the ATM terminal to speak to each other. The host's processing computer will be one of two types of machines: leased-line or dial-up. Both types are used quite commonly and have their own pros and cons. Leased-in lines have a direct connection to the hosting company through one telephone line dedicated to that purpose. ATMs that are connected through dial-up are connected to a standard land telephone line that uses a telephone number to connect to the hosting company. The aim of our project is to provide security to the card holder.

IV.SYSTEM ANALYSIS AND DESIGN

A *ATM Card*
In this module, the customer gives their information to enroll a new card. The information is all about user details. As soon as the card is inserted the system reads the data. The system can then fetch the data like mobile number, user name of the ATM user.

B *GSM Modem*
The system then uses the GSM modem to send the accept or reject message to the mobile number of the client. The modem sends this information. Next it waits for reply from the customer. Based on the information received the user can allow the transaction or reject the transaction. If reject request is received, the system does not allows the user to do any transaction. If accept request is received, it sends the security question to the ATM card owner. In Security information module it will get the information details and its store's in database. If the card lost then the Security

information module form arise. It has a set of question where the user has to answer the correctly to move to the transaction section.

C. *Transaction*

If the user sends the secret question's answer correctly then the system will show the transaction box and then will show the user details of the ATM user. The method and apparatus for pre-authorizing transactions includes providing a communications device to a vendor and a ATM card owner. The ATM card owner initiates a ATM card transaction by communicating to a ATM card number, and storing a distinguishing piece of information that characterizes a specific transaction to be made by an authorized user of the ATM card at a later time.

D *ATM Door And Buzzer*

In case the Reject then the ATM door gets locked and the next time the user reject means the buzzer rings and alerts the security. Verification information is provided with respect to a transaction between an initiating party and a verification-seeking party, the verification information being given by a third, verifying party, based on confidential information in the possession of the initiating party. In verification the process will seeks card number and if the card number is correct the relevant process will be executed. If the number is wrong, mail will be sent to the user saying the card number has been block and he can't do the further transaction.
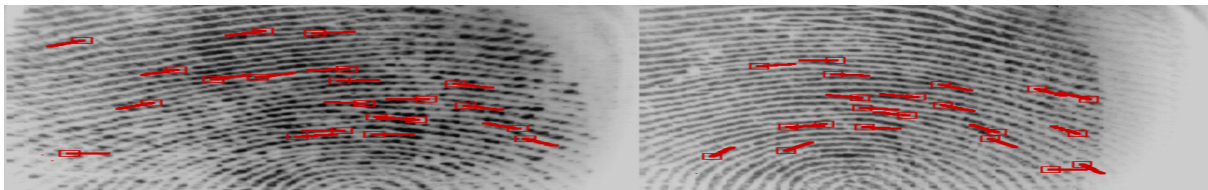
E *Biometric Module*

Fig 1 Two Different Fingerprint Images of One User.

Biometric systems are not perfect. An authorized user may be rejected by the system while an unauthorized user may gain access to it. Lighting, climate conditions low quality equipment or inexperience usually causes the False Rejection Rate (FRR).The False Acceptance Rate (FAR) is caused by the security standard being too low. The later is far more serious, as it poses a great risk to have unauthorized people gaining access to the systems. The FARs and FRRs vary between biometric techniques, but iris scanning has proven to be the only one that has never had a false acceptation.
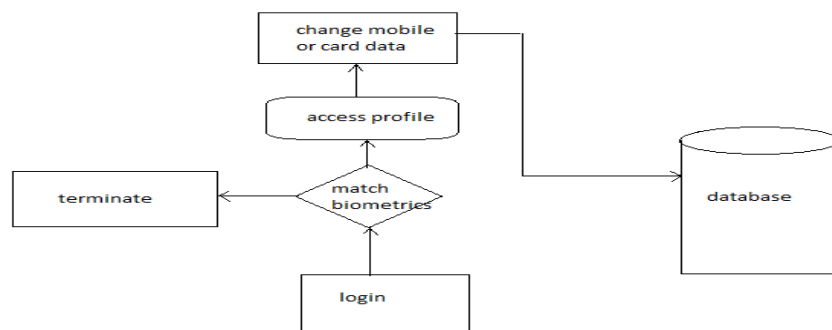

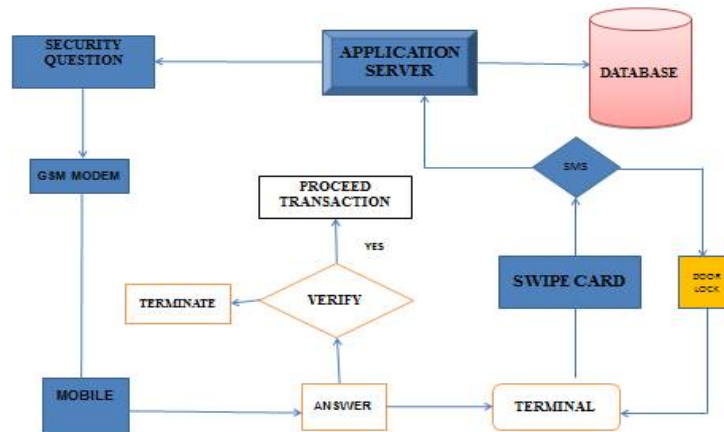
Fig 2 System Architecture

Fig 3 ATM Transaction

V.STIMULATION AND RESULTS

A. Input Design

The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple. The aim of the input design is to ensure the maximum possible levels of accuracy and also ensure that the input is accessible that understood by the user. The input is designed in such a way so that it provides security and ease of use with retaining the privacy. Input Design considered the following things

- The dialog to guide the operating personnel in providing input.
- Methods for preparing input validation and steps to follow when error occur.

B. Output Design

A quality output is one ,which meets the requirements of the end user and presents the information clearly .In output design it is determined how the information is to be displaced for immediate need and also the hard copy output .It is the most important and direct source information to the user. Efficient and intelligent output design improves the system's relationship to help user decision –making. Designing computer output should proceed in an organized, well thought out manner; the right output must be developed while ensuring that each output element is designed so that people will find the system can use easily and effectively. When analysis design computer output, they should

- ➢ Identify the specific output that is needed to meet the requirements
- ➢ Select methods for presenting information.
- ➢

C. Database Design

A database is an organized mechanism that has the capability of storing information through which a user can retrieve stored information in an effective and efficient manner. The data is the purpose of any database and must be protected. The database design is a two level process. In the first step, user requirements are gathered together and a database is designed which will meet these requirements as clearly as possible. This step is called Information Level Design and it is taken independent of any individual DBMS. In the second step, this Information level design is transferred into a design for the specific DBMS that will be used to implement the system in question .This step is called Physical Level Design , concerned with the characteristics of the specific DBMS that will be used .A database design runs parallel with the system design. The organization of the data in the database is aimed to achieve the following two major objectives.

- Data Integrity
- Data Independence
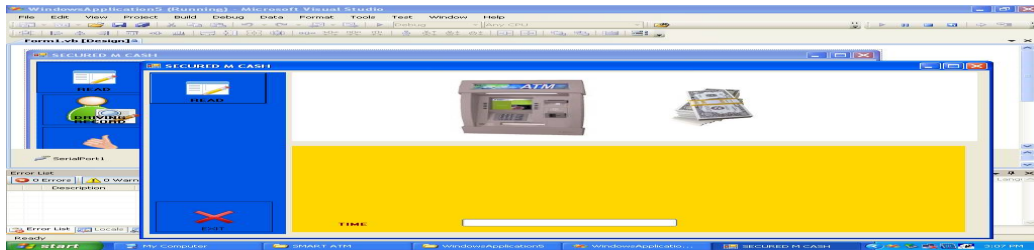
Fig.4 Insert card
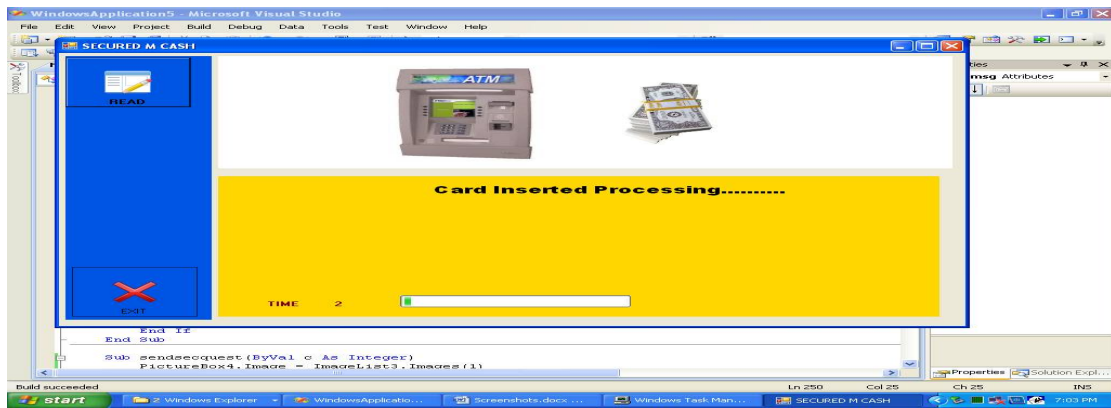
Fig. 5 Card Processing
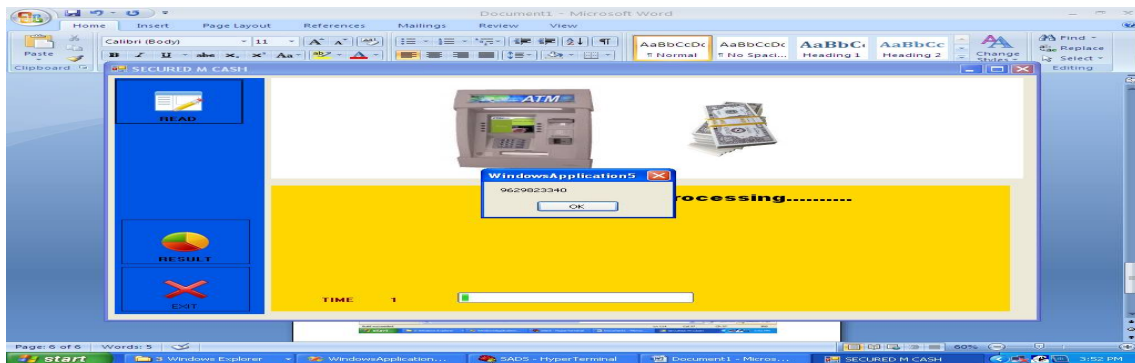
Fig. 6 Checking User Details
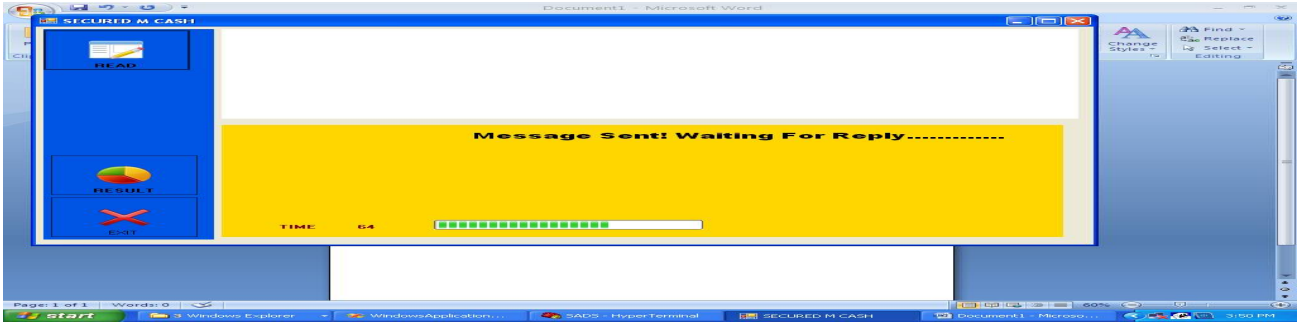
Fig. 7 Sending Message

Fig.8 Recipient message
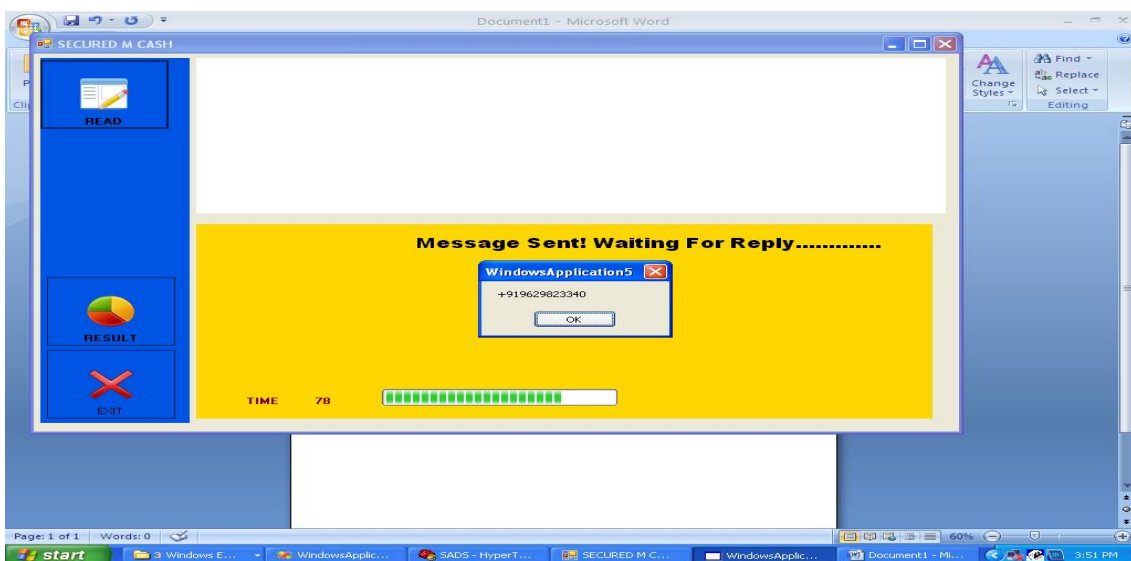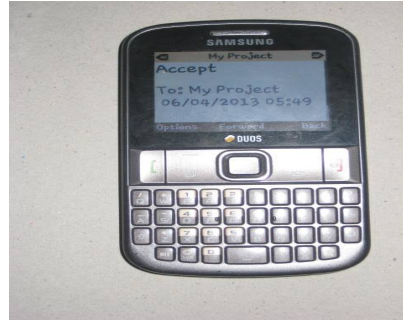

Fig.9 Waiting for Reply
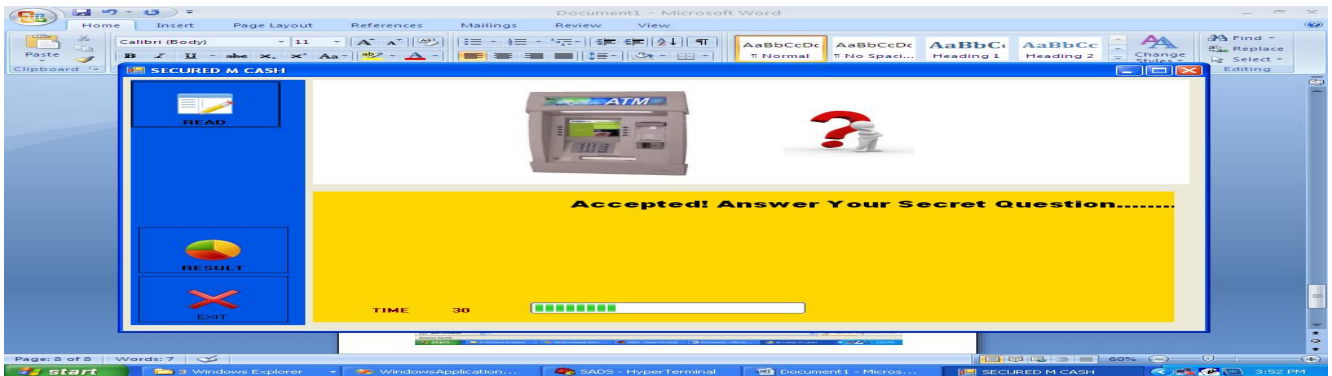
Fig.10 User Accepts

Fig.11 Card Accepted

VI. CONCLUSION

The project thus provides a healthy means of ATM transaction in a safe and secure manner. The option of sending an accept message alerts the user if the user does not insert the card. Also the secure system prevents fraudsters from gaining access to the unit. The system alerts the user and prevents financial loss. It also uses biometrics to prevent any escalation of the mobile number or personal details.

VII. FUTURE ENHANCEMENT

The system can be extended to run as web services so the user need not run the project in the local machine. This also enables different ATM machines to run the project without the need of installing software and can instead run by calling the web service.

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