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ATM TRANSACTION SYSTEM WITHOUT DEBIT CARD

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Abstract

The main objective of this paper is to develop an embedded system, which allows the person to withdraw money from ATM without debit card; with authentication process. In this system we give access to the authorized people through the OTP and mobiles using GSM technology. The system is programmable in such a way that we can give access to the authorized people whose data base regarding account is stored in the embedded system. This paper suggests for a technical innovation which aims at providing easy transaction in absence of debit card or in case of any emergency. It is reliable as it increases the security level for transaction and any person who doesn't hold the account in that bank can withdraw money from the ATM machine if he knows a person who has account in that bank; this process is liable if the withdrawer has authenticated permission from the account holder.

Keywords: Automated Teller Machine (ATM), One Time Password (OTP), Global System for Mobiles (GSM), Interactive Voice Response System (IVRS), Personal Identification Number (PIN), Dual Tone Multi Frequency (DTMF), Advanced Virtual RISC (AVR).

I. INTRODUCTION

Today, we are living in the 21st century; money transaction and internet have become the primary needs of a human being. The existence of cards, mobile/net banking has made our work easy and convenient but we are trying to eliminate the cards and use mobile as the media of transaction as people do carry mobiles phones regularly. The paper proposes about the brief working of module. The module of ATM transaction without debit card is related to the transaction of money without a debit card and also actually vends the money from the ATM machine. The process is such that the ATM screen will have two options on its home screen, which will ask us to specify the type of transaction we are willing to do. When we choose the option transaction without debit card than the machine asks for the account no form which account you are willing to do the transaction, also ask for your mobile number and also the amount to be transacted. The machine than checks the whether the account is illegal or not and then send OTP to the mobile number that you have entered. The machine inherently sends the confirmation message to the number which is registered with the account and asks to send a confirmation message on mobile by entering the pin number. Once the message is received to the machine, the machine asks the person to enter the OTP and once OTP is entered the transaction gets completed by vending the money from the ATM. Authentication is provided by the customer entering a PIN number.

II. MATERIAL & METHODS

This paper deals with module based on Embedded System. It consists of power supply, AVR microcontroller ATMEGA 32, LCD, Keypad, DTMF Decoder CM8870/70C, CD4066BC Quad Bilateral Switch, IVRS interface, GSM modem, MAX232 driver IC.

In this the person at ATM request for the account number, mobile number and the amount to be withdrawn. Once the details are entered the number that is been registered with the account on that number a SMS will be send for confirmation as it uses encrypted messages. Then the person will enter the PIN through mobile and resend the SMS .Once SMS is confirmed through IVRS it will ask for the OTP that has been send on the mobile number that was entered on the home screen of the ATM machine and then the money will be withdrawn from the account.
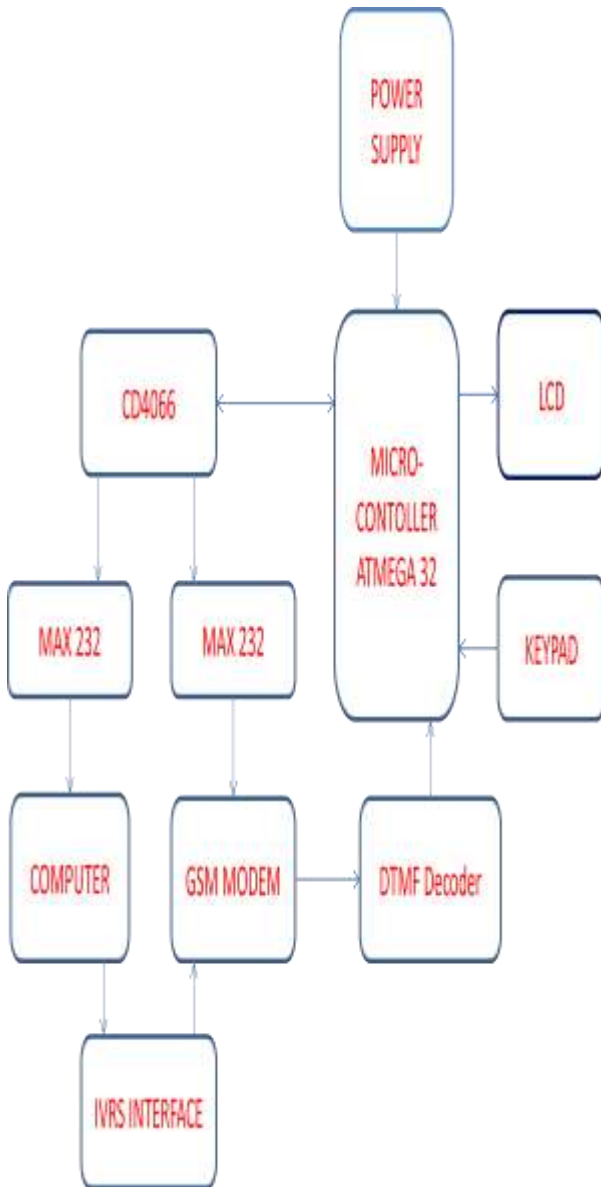
Fig. 2.1: General Module

III.   ALGORITHM

Step 1: Start

Step 2: Initialize LCD, Keypad, DTMF, GSM and IVRS

Step 3: Display the options transaction with debit card or without debit card

Step 4: Read the keypad

Step 5: If with debit card than normal transaction and if without debit card than proceed and if key not   recognised than go to step

Step 6: Display enter the account number, mobile number and the amount to be transacted

Step 7: Read the keypad

Step 8: If account number invalid than go to step 3 and if account number valid than store the account number mobile number and amount to be transacted

Step 9: Send an encrypted SMS to the mobile number registered with the account

Step 10: Wait for SMS to receive which confirm the original PIN of the account

Step 11: If the PIN is correct send the OTP to the mobile number registered on the home screen of the machine and if password incorrect go to step 3

Step 12: Display Enter the OTP

Step 13: Enter the OTP

Step 14: If OTP is correct than ask for the amount to be transacted and if OTP is incorrect than go to step 12

Step 15: Enter the amount

Step 16: If amount is correct than vend the money from the machine and if amount is incorrect than discard the transaction

Step 17: Display transaction is completed

VI.   RESULTS

1) The main part that will result is that the transaction we are going to do will be easy and can be done without debit card.

2) Transaction will be user friendly and we can easily withdraw money from anyone's account with his legal permission i.e. Authentication.

3) Transaction at the banks will get lowered and can do the transaction safe and secure.

4) Which will save important time and also it is not required that the person must be physically present for the transaction.

5) It is going to be helpful in emergency conditions.

6) The project module will be easy to use and process

V.   CONCLUSION

The overall implementation outputs is a secured and authentic transaction achieving goals of easy and fast transaction system without debit card. The only investment is in the Simple AVR Microcontroller and its peripherals & GSM system which is one time and with less maintenance and more over a reliable. This proposed system is suitable for several practical applications which are used in financial transactions for application of fast authentic & easy transaction and prevention from ATM frauds which also enhance the security level by using OTP concept. Hence, our innovation ensures to solve the aspect of ATM security to a large extent. In addition to this the project can be expanded for future scope using more parameters like fingerprint, face recognition, video calls (3G). The system can be enhanced using wireless technology and making use of more secure process to complete the transaction easy, fast with additional security.Hence, our paper on "ATM Transaction System without Debit Card" which will prove fruitful and avoid the transaction without cards and make transaction easy with fewer frauds.

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