CARDLESS ATM ACCESS WITH FINGERPRINT RECOGNITION USING IOT

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ABSTRACT

The government of India in an effort to ensure didgitization and and moving towards cashless India,in this system we have proposed a system with a cardless ATM access which will can be accessed with the help of biometric systems i.e.Thumb Scanner and the transaction details can the seen through internet or through message via GSM.People always need to carry an ATM card while going to ATM and remember a 4 digit pin,if in case the card is lost there are many processes needed such as blocking the card,etc.Because of this we need to visit the bank again and again,invest our time and also pay the bank for the maintenance of card.To overcome all these drawbacks this system has been designed. In this paper we present initial design and result of a cardless ATM access with fingerprint recognition using IOT. This system overcome the problem of standing in queue and having delays at the banks/ATMs.It will aslo provide higher level of security to the card account holders.

Keyword *:Biometrics,Thumb Scanner,Power Supply,Crystal Oscillator,Buzzer,LCD,GSM,WiFi .*

1. INTRODUCTION

In recent scenarios, People have to wait in the queue for many hours for the bank processes such as filling the passbook,ATM card processes such as card blocking,card renewing,etc.Still,the account holders do not adequate security for their transactions. Biometric ATM are used in many applications like a Banking Security,to reduced ATM fraud and criminal activities. By using biometric technology, It is more helpful to senior citizens because it is difficult to carry card with him.Biometrics ATM's will eliminate financial burdenplace on customers for insurance and maintenance of ATM card. To implement the proposed security for ATM terminals with the use of fingerprint recognition, we use the different hardware andsoftware platform. These ATM's will also reduces complaints related to ATM cards at the customercares of bank on bank staff.The of IOT in this system makes it more different from the existing systems.With the help of this the bank customers can see their transactions on the internet very easily.

1.1Objectives

ATM fraud and criminal activities can be reduced or eliminate completely.Enhance the use of ATM by banking customers.It will eliminate financial burden place on customers for insurance and maintenance of ATM card. It will also reduces complaints related to ATM cards in the bank will reduce. It is more helpful to senior citizens because it is difficult to carry and maintain card with them.

2.METHODOLOGY

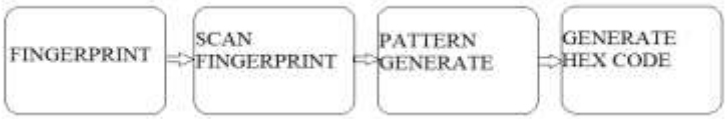

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Fig-1 Fingerprint Recognition Process

Biometrics refers to technologies that measure and analyze human body characteristics. There are some characteristics such as DNA, fingerprints, eye retinas and irises, hand measurements, and voice and facial patterns for authentication purposes. But in our paper, we will use biometrics to analyze a fingerprint and also the security will be provided by this technique. In this proposed system we will use the biometrics for security purpose, because of that chances of fraud will get reduced.

3.PROPOSED SYSTEM

Cardless ATM access with biometric device is to give information related to account holders and to record all transactions. In this system, a fingerprint scanner is proposed to be used as the biometric device. Since the finger print of the citizens are already in the database of the bank, a positive match can be ensured each time the consumer visits the ATM.If there is some fraud entry the buzzer will go high and it will indicate that the authentication is wrong.The following are a few tasks that are considered for implementation as a part of the proposed project.

4.SYSTEM ARCHITECTURE

The Working Process of System Architecture in detail: System is divided in two part that is input's to the controller and output's from controller.

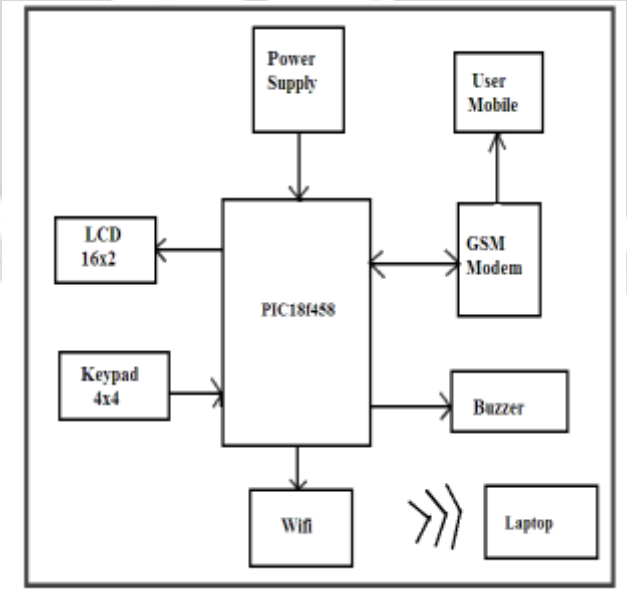

Fig-2 Architectural Diagram of Cardless ATM Acces With Fingerprint Recognition Using IOT.

4.1 Input to controller

A. Fingerprint will scan the finger of the account holder which will be store in memory. The stored fingerprint will be generating Hex file code format by fingerprint module. When account holder will give the fingerprint for next time the data and information of ration will be displayed.

B. Keypad will make help to the account holder to interference with the system. As soon as system search it account holder it will ask to choose withdraw the amount or to see the account details.

4.2 Output from controller

A. All the interference process details will show in the display means it will show the action done by the account holder.

B. The working of buzzer and the GSM will be commanded by the controller.

C.After all the hardware transactions are done,the transaction details will be deplayed on the internet through WiFi.

5.SYSTEM DESIGN

The designing of system is done in to the two-part software and hardware.
Software used to design this system is MPLAB X IDE v3.51. Fingerprint module, Display, keypad, GSM,WiFi are the hardware parts of this system.Different converter IC's are used to convert analog signal to digital signal as per the requirement.IP address has been generated for the display of the transaction details of the user on the internet.
The programming of the GSM AND WiFI has been done with the help of AT commands.

6.PERFORMANCE ANALYSIS

The system has performance based on the various results displayed on the LCD.

Different stages of system are shown as below:

6.1 System to be begin:

Fig-4 LCD Displaying starting stage.

In this the system is being initialize and can be begin with the help of pressing *.

6.2 Entering the details for further process:

Fig-4.1 LCD Displaying further process of the transaction.

In this stage user is been able to fill his information for further process.

6.3 Commands for authentication:

Fig-4.2 LCD displaying selection of the commodity

In this stage the command is given to place the thumb on the scanner for authentication.

6.4 Amount to be entered:

Fig-4.3 LCD displaying amount to be entered.

In this stage of the system the amount to be withdrawn from the ATM is to be entered.

7. CONCLUSIONS

This cardless ATM if implemented will help to eliminate completely the problems associated withuse of ATM card, then enhances efficiency in ATM usage,also reduces congestion in banking hallespecially at the customer care section where complaints relating to ATM card and issuance and collection is always tendered.The system will uses biometric technology as access control.Hence guarantee maximum security of customer account access and transaction from such account.

8. ACKNOWLEDGEMENT

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