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Security of Money Transaction in ATM with Biometric and GSM Technology

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Abstract

The increasing of direct false assault of hoodlums has spurred us to concentrate on prime worry of the security over cash exchange. The exactness of biometrics in ID is expanding its utilization widely. The technique proposed in this paper concentrates on how the cash exchange in an ATM machine will be secured by giving individual ID by investigating biometrics like fingerprints and iris designs which are known for their consistent quality and differing qualities. In this framework the specimens of the unique finger impression with the enlisted versatile number of the client should be gathered and spared in the database by the broker if the client is to get to the ATM. The real operation of the framework starts when the client is to get to the ATM to profit exchange. In the wake of finding legitimate examples the framework produces a 3 digit code which is gotten by the client on his/her enrolled portable number. This procedure is done utilizing a GSM modem interfaced with the ARM7. The entered OTP will be checked after the OTP is discovered legitimate the client is permitted to make assist exchanges generally the record is blocked.

I. Introduction

Rapid development of banking technology has changed the way banking activities are dealt with. One banking technology that has impacted positively and negatively to banking activities and transactions is the advent of automated teller machine (ATM). It is a computerized machine designed to dispense cash to bank customers without need of human interaction. Today the ATM users are increase in numbers. They use the ATM cards for banking transactions like deposits, transfers, balance enquiry, mini statement, withdrawal, fast cash, etc. The ATM machine has card Reader and keys as input devices and display screen, cash dispenser, receipt printer, speaker as output devices. ATMs are connecting to a host processor, which is a common gateway through which various ATM networks become available to users. Various banks, independent service providers owned this host processor [1].Account information of user is stored on the magnetic strip present at the back side of the ATM card. When we enter the card in the card reader, the card reader captures the account Information and the information is used for the transaction purpose. And we have to insert the pin by keys. The pin is the 4 digit number given to all ATM card holders. ATM card holders pin are different from each others. The number is verifying by the bank and allows the customers to access their account.

II. PROPOSED SYSTEM

In the proposed framework we exhibit a strategy for identification of misrepresentation get to endeavors made in an ATM exchange. Exchange security is improved by utilizing biometric acknowledgment. In this framework ARM7 based LPC2148 controller in utilized for brilliant ATM get to. The unique mark module will take the finger impression from the individual and send it to the controller; the controller will perceive the unique finger impression of a specific individual from the information base. In the event that they coordinate then it will show the information on the show unit, after which a 3 digit code is gotten by the client on his/her enlisted versatile through a message.GSM innovation is

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utilized as a part of this framework for OTP era. It is simply in the wake of entering this substantial OTP that the client is took into consideration making further exchanges.

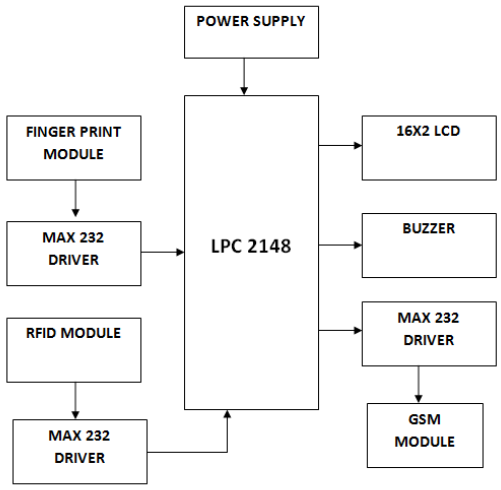

Fig. Proposed block diagram

A.ARM Microcontroller

The ARM7TDMI center is the business' most broadly utilized 32-bit installed RISC chip. Enhanced for cost and power-touchy applications, the ARM7TDMI arrangement gives the low power utilization, little size and elite required in compact, implanted applications.

LPC2148

The LPC2141/2/4/6/8 microcontrollers depend on a 32/16 bit ARM7TDMI-S CPU with ongoing imitating and implanted follow bolster, that consolidates the microcontroller with inserted fast blaze memory running from 32 kB to 512 kB. A 128-piece wide memory interface and extraordinary quickening agent engineering empower 32-bit code execution at the most extreme clock rate. For basic code estimate applications, the option 16-bit Thumb mode diminishes code by more than 30 % with insignificant execution punishment. Because of their modest size and low power utilization, LPC2141/2/4/6/8 perfect for applications where scaling down is a key prerequisite, for example, get to control and purpose of-offer. A mix of serial correspondences interfaces running from a USB 2.0 Full Speed gadget, different UARTs, SPI, SSP to I2Cs, and on-chip SRAM of 8 kB up to 40 kB, make these gadgets extremely appropriate for correspondence passages and convention converters, delicate modems, voice acknowledgment and low end imaging, giving both substantial cradle size and high handling power. Different 32-bit clocks, single or double 10-bit ADC(s), 10-bit DAC, PWM channels and 45 quick GPIO lines with up to nine edge or level delicate outside interfere with pins make these microcontrollers especially reasonable for modern control and therapeutic frameworks.

B. GSM

GSM is the most famous standard for portable communication frameworks on the planet. The GSM Association, its advancing industry exchange association of cell phone bearers and makers, appraises that 80% of the worldwide versatile market utilizes the standard. GSM is utilized by more than 1.5 billion individuals crosswise over more than 212 nations and domains. This pervasiveness implies that endorsers can utilize their telephones all through the world, empowered by universal wandering game plans between versatile system administrators. GSM varies from its antecedent innovations in that both flagging and discourse channels are computerized, and along these lines GSM is viewed as a moment era (2G) cell phone framework. This likewise encourages the across the board execution of information correspondence applications into the framework.

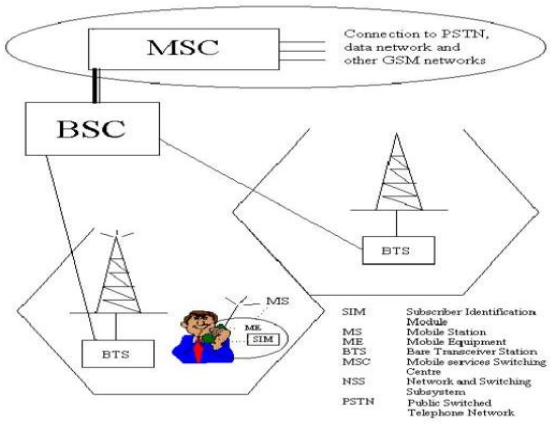

Fig. GSM Block Diagram

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C. FINGERPRINT MODULE

A fingerprint is the element example of one finger. It is accepted with strong evidences that each unique mark is extraordinary. Every individual has his own fingerprints with the lasting uniqueness. So fingerprints have being used for recognizable proof and measurable examination for quite a while. Finger print recognition is a standout amongst the most solid distinguishing proof techniques. Fingerprint technologies the most broadly utilized for security purposes. The Technology is as a rule every now and again utilized as a part of criminal examination reason.

Fig. Fingerprint picture procured by an Optical Sensor.

III. WORKING PRINCIPLE

This ATM Management Project adding some applications gives extra features to the customers. In This project we have used PIC microcontroller, SIMMCOM GSM module, KEIL IDE tool, 2x16 LCD display. Initially the ATM module gets the password from the user mobile and it matches with the initial password. If it matches, then an ATM module allows the use entering the Amount. Otherwise ATM module will informs the bank that wrong user trying to access the bank. If the users entered the amount, ATM module sends this amount to the authority user mobile and waits for the ACK message from the Authority mobile. If the ACK message is OK, then Process will be successfully completed. Otherwise it will inform the bank and also users Mobile that wrong user trying to Access the bank.

IV. RESULTS

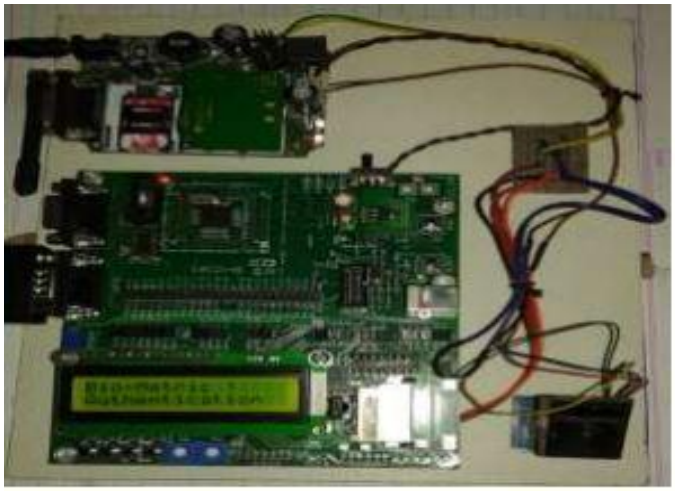

Fig. Initial LCD displays the biometric authentication when we connect adapter to our kit.

On the user side, design a location-aware selective unlocking mechanism. On the server side, Biometrics and GSM -Based Multi-Server Authentication Protocol design a verification scheme that allows a bank server to decide whether to approve or deny a payment transaction and detect specific type of relay attack involving malicious readers.

V. APPLICATIONS

- Used in ATMs
- Used for Offices
- Home Security
- Used in Ecommerce
- Smart Bank Locker Security
- Special Lift for Specific persons use.

VI. CONCLUSION

The project "**Security of Money Transaction in ATM with Biometric and GSM technology"** been successfully designed and tested. It has been developed by integrating features of all the hardware components used. Presence of every module has been reasoned out and placed carefully thus contributing to the best working of the unit. Secondly, using highly advanced IC's and with the help of growing technology the project has been successfully implemented.

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