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HIGH LEVEL PROTECTED CASH WITHDRAWAL THROUGH GSM DEVICE

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ABSTRACT

An self-governing ATM host has a right to use any bank. There is no security layer is implemented in the ATM card except pin number. It is very costly for the bank to include the fingerprint and Iris scanner. In this paper, we monitor the location of the ATM usage, time taken for the user to accessing the ATM machine, sequence of events processed by the user and expected amount of withdrawal by the user. All these four factors are verified for the authentication purpose of the user along with password. If any of the above said, parameter are differing and then the One Time Password is generated to the User's Mobile number for further more secure authentication system. In the modification phase, an automation user Internet recognition model is designed to enhance the user comfort and detection of the time span spend by the user in the ATM machine. If due to signal problem of the mobile One Time Password will not be received in that cause secret process is used to private ATM users.

1.INTRODUCTION

In this present age, safety has becomes an essential issue for most of the people especially in the rural and urban areas. Some people will try to cheat or steal the property which may endanger the safety of money in the bank, house, and office. To overcome the security threat, a most of people will install bunch of locks or alarm system. There are many types of alarm systems available in the market which utilizes different types of sensor. The sensor can detect different types of changes occur in the surrounding and the changes will be processed to be given out a alert according to the pre-set value. By the same time this system may not be good for all the time. In this paper we have implemented safety of the money transaction from atm, house, shops, office by using RFID and GSM technology which will be

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more secure than other systems. Radio-frequency identification (RFID) based access-control system allows only authorized persons to open the bank locker with GSM technology. Basically, an RFID system consists of an antenna or coil, a transceiver (with decoder) and a transponder (RF tag) electronically programmed with unique information. There are many different types of RFID systems in the market. These are categorized on the basis of their frequency ranges. Some of the most commonly used RFID kits are low-frequency (30- 500 kHz), mid-frequency (900 kHz-1500MHz) and high-frequency (2.4-2.5GHz). The passive tags are lighter and less expensive than the active tags. Global system for mobile communication (GSM) is a globally accepted standard for digital cellular communication. GSM is a common European mobile telephone standard for a mobile cellular radio system operating at 900 MHz In the current work, SIM300 GSM module is used. The SIM300 module is a Triband GSM/GPRS solution in a compact plug in module featuring an industry-standard interface. It delivers voice, data and fax in a small form factor with low power consumption. In this paper we have designed and implemented a protected cash withdrawal security system based on RFID and GSM technology. In this system only authentic person can be done transaction in ATM, shops and office by password protection method.

This system also consists of a LCD display that displays the instructions for the password protection system. This can be achieved by the use of ARM7 processor that continuously monitors and provides security for the money transactions.

Keypad is used to enter the password by the user in the security system. Interfacing keypad with the processor leads to the interconnection between them.

2.PROPOSED SYSTEM

When the RFID reader reads the information from the RFID tag and sends to processor. The information is checked through database and verifies the user is exists or not. Then the processor generates OTP and sends to user mobile via GSM. The user will type the password via keypad, when the password is matched, transaction will be proceeded. If the password is mismatched, the alert message is displayed on the LCD display. The

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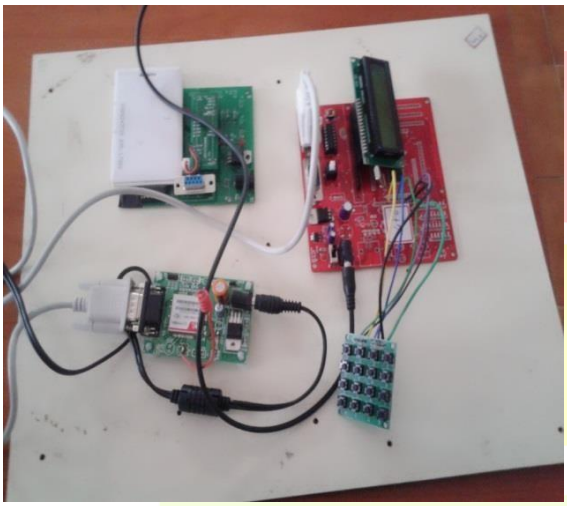
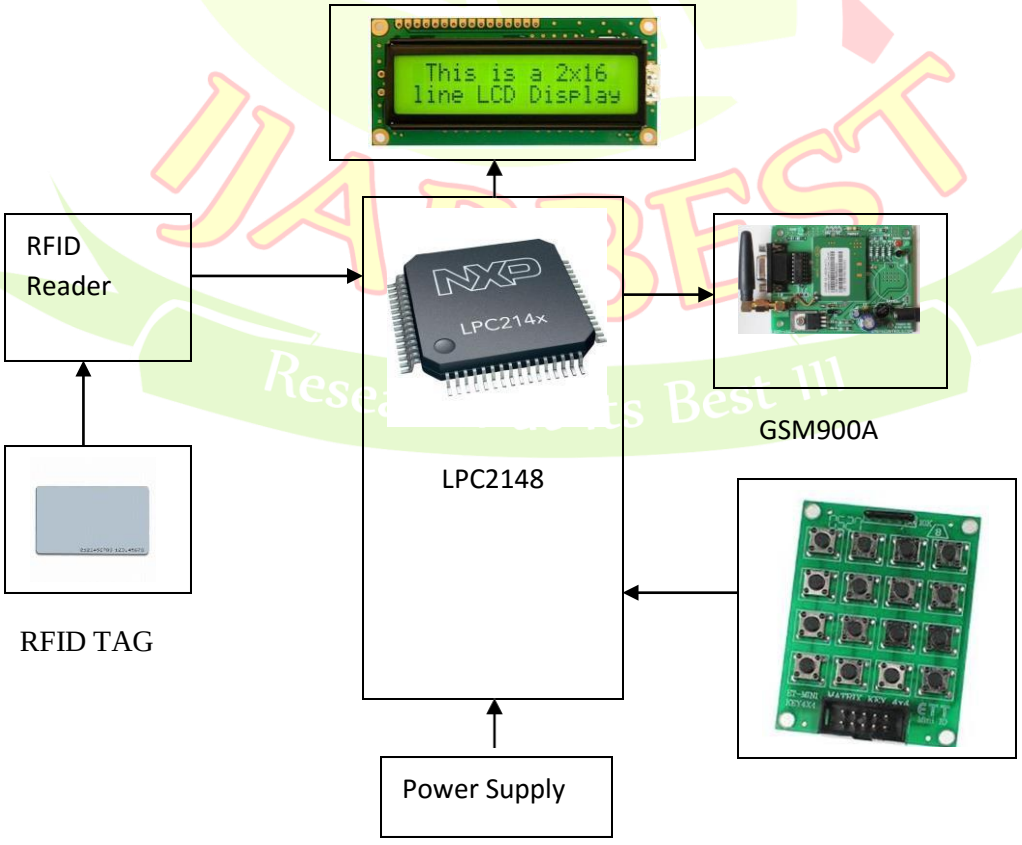
transactions of the particular user will be display in the database.



Overview of Proposed System

3. Block Diagram:



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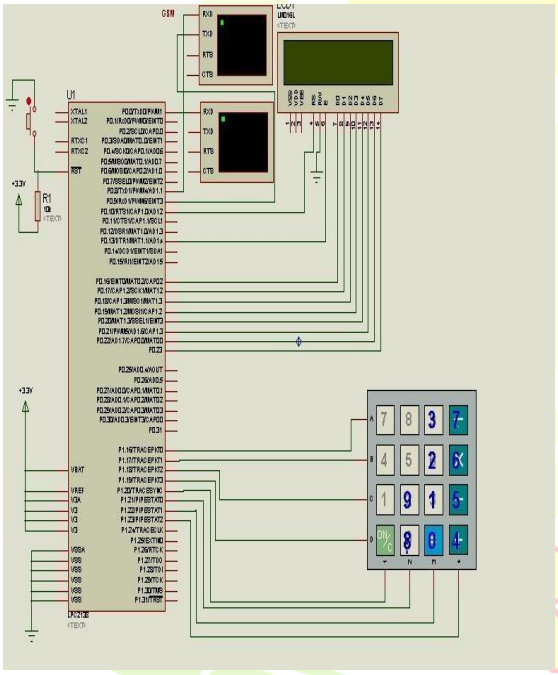
The block diagram of High Level Protected Cash Withdrawal through GSM Device is shown in the above figure. It comprises the power supply section, keyboard, RFID Reader, LPC2148 ARM Processor, MAX232driver, relay driver and GSM modem, LCD. The GSM board has a valid SIM card with sufficient recharge amount to make outgoing calls. The circuit is powered by regulated +5v dc.

4. CIRCUIT DESCRIPTION



Circuit diagram

5.1 Power supply

The power supply section is the important for any electronics circuits. To derive the power supply, the 230V, 50Hz AC mains is stepped down by transformer X1 to deliver a secondary output of 12V, 500 mA. The transformer output is rectified by a full-wave rectifier comprising diodes D1 through D4, filtered by capacitor C1 and regulated by ICs 7812 (IC2) and 7805 (IC3). Capacitor C2 bypasses the ripples present in the regulated supply. LED1 acts as the power indicator and R1 limits the current through LED.

5.2 RFID

Tags:

A tag is the data carrier and normally contains the id number, and unique EPC code programmed into the tag.

Tag antenna:

The tag antenna is connected to the chip in tag. It could be wire or printed using conductive ink.

Reader antenna:

It is a coil included in plastic or similar case, and normally measures 12 -18 inches square.

Reader:

A reader captures the data provided by the tag within the detectable area of the reader. There can be one or more tags within the capture area. A reader is typically capable of reading multiple tags simultaneously.

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5.3 GSM Device

GSM Modem Product, from Spare Electronics limited (SEL), provides full functional capability to Serial devices to send SMS and Data over GSM Network. The Board Level product can be integrated in to Various Serial devices in providing those SMS and Data capability and the unit housed in a Metal Enclosure can be kept outside to provide serial port connection.

The GSM Modem supports popular "AT" command set so that users can develop applications quickly. The product has SIM Card holder to which activated SIM card is inserted for normal use. The power to this unit can be given power supply. This product provides great feasibility for Devices in remote location to stay connected which otherwise would not have been possible where telephone lines do not exist.

5.4 LPC 2148 ARM Processor

ARM Processor is used to control all the components. OTP is generated by choosing random numbers while programming. Once the RFID is read by the processor, it will generate OTP and send it to user mobile by the use of GSM as mentioned above.

5.5 LCD Display

LCD is mainly used for display the information. It just displays the current status of the process. We are using 2x16 LCD.

5.6 Keypad

Keypad is used to fetch the OTP from the user. Once it is obtained it will be sent to the processor.

6. SOFTWARE TESTING

The software program is written in c or assembly language and compiled using keil software. After compiler operation the hex code is generated and stored in the computer. The hex code of the program is burnt into the LPC2148 by using Top win Universal programmer.

7. CONCLUSION

We have implemented a High level protected cash withdrawal through GSM device using passive RFID and GSM. It is a low cost, low in power conception, compact in size and standalone system. The microprocessor compares the passwords entered by keyboard and received through mobile phone. If these passwords are correct the microprocessor allow the user to continue transaction. Future work of this paper, is planned to a develop security by using Biometric identification of a user.

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