



IOT Based Smart Locker System

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ABSTRACT:

As mankind leads into a new age of modernization, security issues and measures have become exceedingly important. Considering an educational institute or workplace, keeping one's belongings safely with a minimal interface is the need of the hour. The traditional lock and key method of keeping personal items safe is clumsy and inconvenient. The recent developments in technology have provided innovative solutions to this problem. Gone are the days of the troublesome key and lock. Radio Frequency Identification (RFID), along with Internet-of-Things (IoT), is a secure, user-friendly and efficient method to safeguard things. This combination comes with advantages such as high security, simplicity, cost-effectiveness and 'misplace-proof' methodology. This paper proposes a Smart RFID-IoT based Locker system. The locker works on RFID authentication technology, which is unique to every identity card of the user. It is also enabled with Wi-Fi connectivity to facilitate continual status monitoring, user login-logout data storage, and unauthorized access surveillance.

INTRODUCTION:

The main purpose of this paper is to design and implement a system based on a Password and a Radio-Frequency Identification RFID. This system is basically a password and an RFID based access-control system which permits only an authentic person to unlock. For doing this, the system will activate and authenticate the user. We have applied a security system via a passive type of RFID and a PASSWORD based on Atmega16 microcontroller. The RFID reader reads the ID number from RFID tag. Then enter the password from a Keypad, if the ID number of the tag and the password are correct, then the will unlock. The aim of constructing this system is to put in place a formidable locker security system with low cost and free of errors. Looking up after valuables is a common practice to protect them from thieves. Now days, atomization has reached in various fields. . Atomization in banks has not yet been enrolled up to a desired level. Though bank plays an important role in a common man's life Thus, we will be developing the system which will improve the level of atomization in banks.

Here's a sophisticated electronic code lock using micro controller 89s52. This code lock has following features:

1. Here we will be providing a 3 level security system.
 2. A four by four matrix keypad is used for inputting the password.
 3. RF-ID card has a code which will be read by microcontroller and microcontroller will compare this code with the permanently stored code.
 4. The password comprises four digits which will offer a greater security .If the security has to be increased up to 9 or 10 digits it can be increased without modifying any component with the help of software only.
 5. Two separate relays are provided: Relay A is provided for opening the lock and relay B is used for closing the lock.
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LITERATURE SURVEY:

1] IOT BASED SMART LOCKER SECURITY SYSTEM

This project will focused on effective recognizing and controlling system for Bank locker room which is fully self determining. In cases of robberies, its commonly happen that the banned entrance in the locker room area which can be detected by our security system. If the robbery take place the banks are not be capable to recognize the robber due to absence of the proof by using the current human operated security system. The system will designed in effective way by recognizing and controlling illegal person to access the locker for the safety of bank locker room.

In this, we proposed a three phase conformation of procedure for smart locker, by providing User Name and Password, using Fingerprints and OTP which check out the user. As compare to any other previous approaches our system uses the verification process which generates an OTP to registered mobile number which highlights the smart security.

2] FINGERPRINT BASED BANK LOCKER SYSTEM USING MICROCONTROLLER

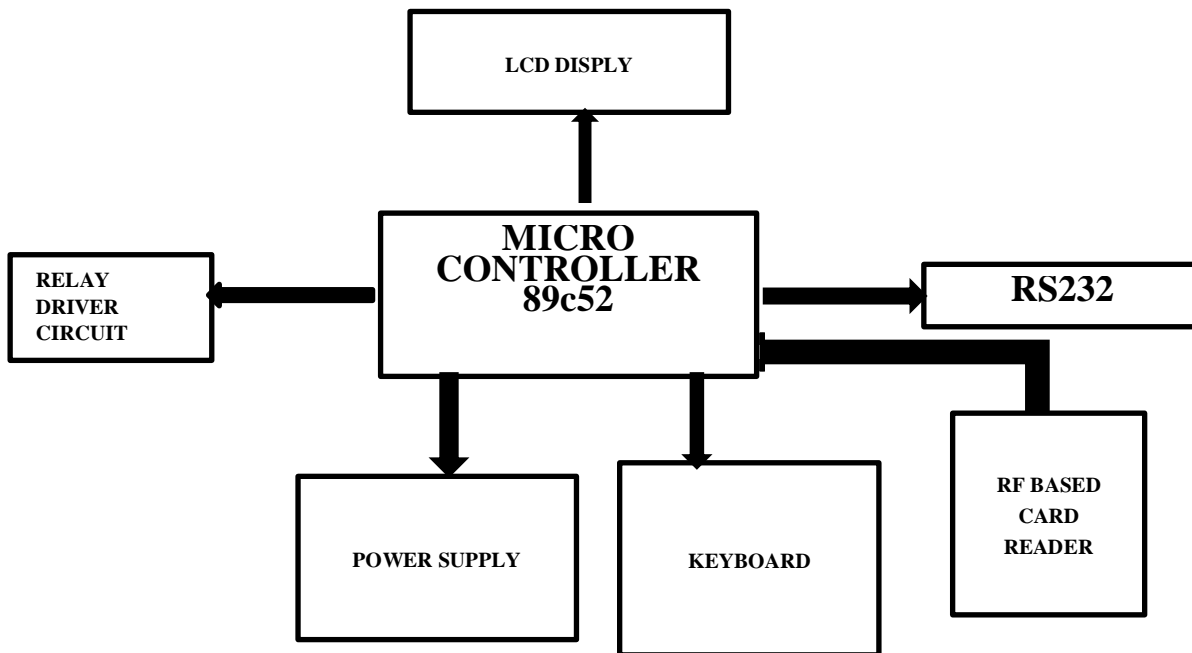
The main aim of the paper is to design and implement the Fingerprint based bank locker system using microcontroller. Biometrics studies commonly include fingerprint, face, iris, voice, signature, and hand geometry recognition and verification. Many other modalities are in various stages of development and assessment. Among these available biometric traits finger Print proves to be one of the best traits providing good mismatch ratio and also reliable. The present scenario to operate a bank locker is with locks which are having keys. This does not provide good security to our lockers. To

provide perfect security to the bank lockers and to make the work easier, this project is taking help of two different technologies viz. EMBEDDED SYSTEMS and BIOMETRICS.

3] Design and Implementation of ATM Security System Using Vibration Sensor and GSM Modem

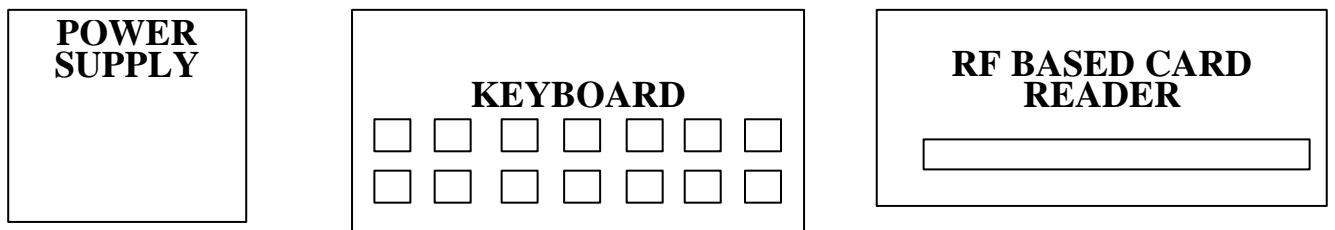
In the era of digitalization, everyone needs money without interaction with bank at any time. So the ATM (Automotive Teller Machines) are installed everywhere in the localities. As the number of ATMs increased, prevention of theft and security of customer is the prime objective. At present, security systems are not highly secured as they are only provided with alarm system. This project deals with design and implementation of ATM security system using vibration sensor and GSM Modem. The prime objective of this project is, to secure the ATM system using vibration sensor and GSM modem. In this project, when a thief enters and tried to harm the machine, the vibration sensor which is attached to the machine get vibrated and sends the signal to the ARDUINO microcontroller. Once the controller receives signal, it locks the door of ATM room by sending signal to the dc motor and sprinkler sprinkles the chloroform to make the thief unconscious. The buzzer will also be getting activated at the same time to alert the nearby people of ATM system. Simultaneously, the controller will send a message to an authorized person of the bank through GSM modem and The door is made to open only after entering the password by the bank staff. The project is implemented and worked successfully.

BLOCK DIAGRAM: Functional Block Diagram:



RESULT AND CONCLUSION:

In this paper, a smart RFID based compact locking system. RFID enabled ‘Read-Authenticate’ algorithm was used for user verification. The system provides impressive security in a user-friendly manner requiring minimum human intervention. The proposed system was also able to track and monitor the locker activity over definite intervals of time. It used Wi-Fi connectivity to communicate with a centralized server, where the locker records were stored in a database allowing continuous tracking and surveillance. This initiative opens up many new areas of interest, such as integrating such a locker with prevalent intelligence techniques like Computer Vision or Speech Recognition, to make deposition and registration even more smooth, secure, and smarter.



FUTURE SCOPE: You can accomplish a variety of accounting tasks with their assistance. Electronic locks, in addition to unlocking and locking doors, can also be used to keep track of working hours. When an employee uses an RFID tag to unlock a door, the system receives a door open signal and records the time the employee arrived and departed the company.

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