

OTP (One Time Password) Based Locker System

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Abstract: - A Locker is an individually-secured container, usually held within a larger safe or bank vault. Safe deposit boxes are generally located in banks, post offices or other institutions. Safe deposit boxes are used to store valuable wills, currency, jewellery. In Locker System, Process of Authentication is Complex. Customer have their Locker Keys for unlocking the locker & Bank has a master key. When Both Keys are applied at a same time then & then only Locker will unlock. There is Waste of Time, Employees also required. Solution for this problem is Fully Automatic System. First of all, customer have to enter username & password. After that one OTP (one-time password) generated by microchip & password sent to the registered mobile number by GSM. After that Door will open & Again Customer have to enter that OTP number into the appropriate Locker. If password will be same then locker will unlock otherwise security message will have sent to Manager.

Keywords: - Flexible, Easy use, Fully Automatic, Reliable.

I. INTRODUCTION

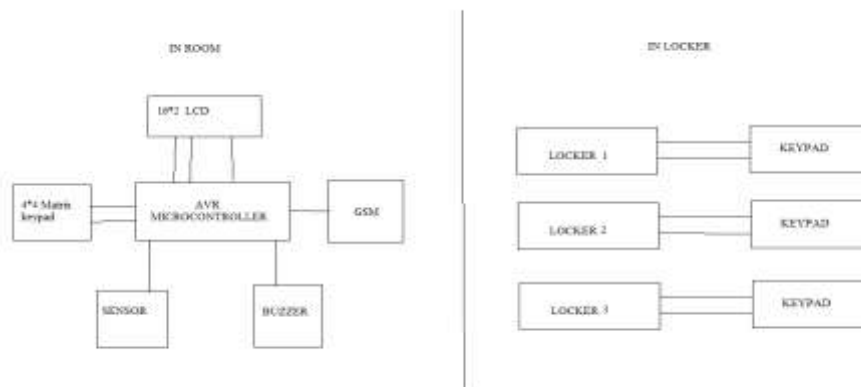
In banks currently keys are used to unlock lockers which have security issues when keys are stolen or lost. This Project improves the safety & security of bank lockers using advanced technology.

The conventional method has many drawbacks such as

- Both the bank employees must have to present with the keys to open the locker.
- There is possibility of losing the key which makes the system insecure.
- The system is unable to match with today fast pacing digital world
- The keys can be duplicated, Waste of time.

In this project, person need not carry identity proof & keys etc. This Project is based on the OTP generator method which improves the security. This system will reduce the misuse and fraud by stealing Keys, PIN and ID proofs. Our project aims to improve bank locker security using GSM and OTP. The benefit of using this security system are increased security, increased convenience, reduced fraud or delivery of enhanced services, Increased Convenience Increased Accountability, Reduce Fraud & Risk, Increase Privacy, Increase Performance & accuracy, Increase Reliability & robust.

II. BLOCK DIAGRAM



This project aims to change the existing system and automate the locker system using Unique ID/Password for customer identification. Every customer is given a unique ID with a unique password so that the customer can be identified and access can be granted to the customer's locker. In My Project, I used OTP method for security purpose in bank, offices etc. Here two microcontrollers are there, one act as a master (Located at door of a locker room) and one act as a slave(Located on lockers).

When customer will go to the entrance of the locker room, the door of that Locker Room will secured by the protecting devise. In that devise customer has to enter his/her account number. One OTP number generated & send it to registered mobile number by GSM & at that time that OTP number will send to the locler

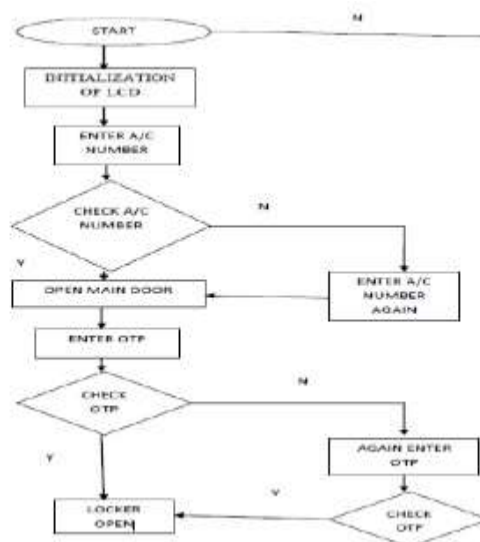
device (slave) by ZIGBEE wireless module. After that locker room's door will open. There are numbers of lockers with unique ID number which is given to particular customer.

Customer's mobile will have that OTP Number, (which has a time limit of 15 minutes) Again they have to dial that OTP in slave system and it will be checked whether it is right or wrong. If it will be right then it will open locker door and if it will be wrong then it will display "Invalid Password" on LD. Person gets three chances to dial OTP. If he/she fails to dial correct password then manager will get SMS like "3 times wrong password entered for locker no. xx".

Components used in this process is:-

- AVR Microcontroller
- GSM Sim 900
- LCD Keypad
- Power supply
- ZigBee Module

III. DEFINING THE FLOW CHART



First of all, account number is entered in to the LCD. System checks account number and send one OTP to Mobile number which is registered to that account number. After that, System checks that whether the account number is correct or not. If correct so main door will open otherwise, customer have to enter the number again.

Main door will open, OTP is entered, system again checks that OTP is correct or not. If it is correct than Locker will open. After 10 second is customer will not use the locker, locker will automatically have closed. In that situation, customer has to go in this process again.

In addition,

IV. CONCLUSIONS

The microcontroller compares the passwords entered by keyboard and received through mobile phone. If these passwords are correct the microcontroller provides necessary control signal to open the locker. Future work of this project is planned to a develop security system based on Iris scanner for visual identification of the person.

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