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<http://www.projectsof8051.com/sms-based-bank-locker-security-system-using-gsm-technology/>

Code	Project Title
1645	SMS based bank locker security system using GSM technology

## Synopsis for SMS based bank locker security system using GSM technology

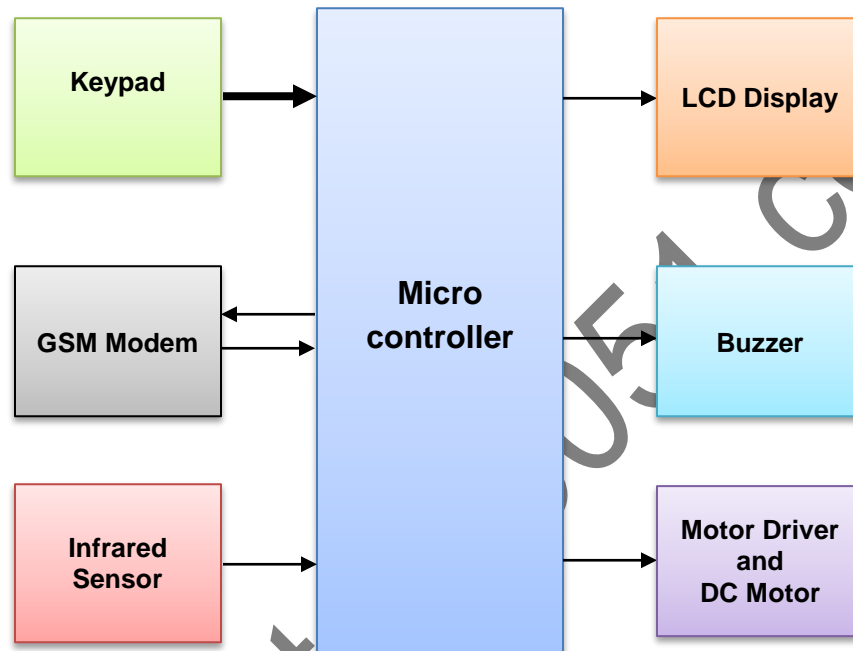
### Description:

Bank locker security is important for everyone. Many times we forgot to carry the key of our bank locker. In these cases it is really difficult to open the locker. This project is designed to solve this purpose. Main concept behind this project is of a bank locker-latch opening using two passwords entered through SMS and keypad.

Each bank locker will have a GSM modem connected to it. When owner of the bank locker wants to open the locker then he/she has to send a password through SMS. Then microcontroller connected to GSM modem reads the contents of password. If contents are correct then it will enable the keypad to enter second password. Now user has to enter second password using Keypad. If second password is correct then system allows user to access locker. We have provided a DC motor which will operate when both passwords are correct. Buzzer will be turned on if any one of two password is wrong.

Microcontroller sends SMS to user for wrong password as well as for correct password. We have also provided an Infrared sensor in this project. Infrared sensor will be triggered when some person is standing in front of Locker. Then system will send SMS to the owner. This is low warning message as, "Some person is standing in front of your bank locker". IR sensor will be turned off when user send first password through SMS

## Block Diagram:



## Description in detail:

Various important blocks of system are:

1. Microcontroller: This is the CPU (central processing unit) of our project. We are going to use a microcontroller of 8051 family. The various functions of microcontroller are like:

I. Reading the digital input from Keypad

II. Sending this data to LCD so that the person operating this project should read the password

III. Sensing the password using keypad and to check whether it is a correct password or a wrong password and rotate the stepper motor if the password entered is a correct password.

IV. Sending the data to the GSM modem using serial port. This data consist of the status of entered password (Correct/wrong)

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2. LCD: We are going to use 16x2 alphanumeric Liquid Crystal Display (LCD) which means it can display alphabets along with numbers on 2 lines each containing 16 characters.

3. Buzzer: We are going to use a buzzer to indicate the wrong password to open the door.

4. Keypad: User will enter the password using the keypad. Various keys of keypad are as following,

I. 0 to 9

II. Enter

III. Escape

5. IR Transmitter : We are going to implement the Person detector module using 1 transmitters and 1 receivers. We are going to use Infra-Red transmitters because infrared beams are not visible to human eyes. Transmitters used are IR LEDs

6. IR Receiver: We are going to use an Infrared receiver. It is an active low device which means it gives low output when it receives the Infrared rays.

7. GSM modem: We need to various messages to the owner of bank locker. We have chosen GSM modem for this purpose.

8) Motor Driver: It is required because microcontroller is not able to drive the DC motor directly

9) DC Motor: It is used to show demo of locker opening.

## Applications:

1) This project can be used in Bank for Bank locker security. This project can also be used in Industries, Office, Shops.

2) The project (password detector) can be used to automate the door locking process, so the user need not to carry the door lock keys along with him, he can just remember the password and use it later to open the door

### Advantages:

1) This project provided double security.

### Future Development:

1. We can provide voice feedback system.
2. We can send this data to a remote location using internet
3. We can implement other related modules like fire sensor, wind sensor.

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