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Electronic Suitcase for Confidential Document

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***Abstract*— This paper present, to secure a confidential document from being any leak. An electronic suitcase for confidential document that helps us to deliver confidential document from one place to another place without any misplace and leakage of the document. The highlights of the system are its economical, portable and secure. This system has two security levels to open the suitcase; in the first level receiver of that document needs to type the fix password and in second level sender of that document needs to open that suitcase by sending an SMS to that system to unlock the suitcase. Thus this system provides security for confidential document.**

***Index Terms*— GSM, Microcontroller (Atmel 89C51), LCD, Keypad.**

I. INTRODUCTION

Today, we came across the news of fraud cases in government organization and private organization. The main reason for this is confidential document leakage. The serious action must be taken to prevent these leakages, so we propose an electronic suitcase here to prevent confidential documents and developed the system which is based on GSM along with Microcontroller (atmel89C51).

First the sender will deliver the suitcase by putting confidential document inside that suitcase. The electronic suitcase is an embedded system which is designed using microcontroller. If anyone tries to open that suitcase by invalid password then GSM modem will send an SMS to the sender of that document that "some malfunction has taken place with the electronic suitcase" and LCD display on that suitcase will show invalid password.

When receiver of that suitcase type the correct password then GSM modem inside that suitcase will send a feedback to sender's mobile that "Suitcase is reached". The Sender of that document will call the receiver of that document for verification to insure whether it is reached to authorize person. After the verification sender of that suitcase will send an SMS to unlock the suitcase.

II. LITERATURE REVIEW

Manesh K. Pawar et al. [1]: have discussed to secure confidential document by using RFID tag and predefined password; open the suitcase, RFID is needed to be swiped with a valid RFID tag at predefined date and time only. Then a password is sent from the university to the college to open the particular sub box which contains the question papers. If the person enters the wrong password, then processor sends "WRONG PASSWORD ENTERED" message to the university through GSM modem. If the person enters the correct password, then sub box is opened with the help of the motorized mechanism.

Prachi V.Bhalerao et al. [2]: have discussed to secure confidential document by using predefined password with help of GSM. The microcontroller is used in system for controlling purpose and sending the message with the help of GSM. Here GSM modules along with the microcontroller are connected to the lock. We have to enter the password using keypad. If the entered password gets matched with the predefined password then message on the display is "PASSWARD CORRECT"& then lock will be open by using the DC motor. When the lock get open by using DC motor, then the transmitter & receiver of IR sensor get break. When both of it separated from each other then microcontroller sends a message by uing GSM to the main station that is"LOCK IS OPEN". If the lock get opened by any person before the predefined time of RTC, then the microcontroller first check the enter password with the predefined password. If it gets mismatched then microcontroller sends the message "WRONG PASSWORD", to the main station by using GSM. Person can do such only for three attempts. If the password is getting wrong all the three times then buzzer get activated. Hence, these are all over account to the working of project.

III. PROBLEM STATEMENT

As we discussed in literature review this is based on RFID technology to open the suitcase. Despite their reliability of this technology, RFID systems can still have many problems. Main disadvantage is you have to carry RFID tag which is similar to physical key and if you loss that RFID tag then you cannot open the suitcase. This system based on predefined password in which this password might be leaked. So our objective of this project to overcome these entire problem.

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IV. SYSTEM IMPLEMENTATION

We have design such a highly secured electronic system which prevents the leakages of confidential documents. In this system there are two security levels. First is a fixed password which might be leak so that we have second security level which is call verification. The system is based on embedded system and consists of microcontroller (atmel89c51) which is interfaced with LCD, GSM module, DC motor lock and keypad as shown in fig. 1. The language used to program microcontroller is 'embedded C'. When the system is powered on, LCD and GSM module initializes and displays "ELECTRONIC SUITCASE FOR CONFIDENTIAL DOCUMENT". Then system will ask for password which is fixed password. Password is typed by using keypad which is placed at outside the suitcase. After typing the password system will match that typed password with fixed password which is stored in EPROM. If the password is incorrect then system will display "PASSWORD IS INCORRECT" and system will send an SMS to the sender's mobile that "SOME MALFUNCTION HAS TAKEN PLACE WITH THE ELECTRONIC SUITCASE". If the password is correct then system will display "PASSWORD IS CORRECT" and send an SMS to the sender's mobile that "SUITCASE IS REACHED" to give the give feedback for call verification so that he can verify that suitcase is only opened by authorize person. After the verification sender will unlock that suitcase by sending an SMS to the suitcase which contain a keyword which will display on the suitcase so that authorize person can type that keyword on the keypad to unlock the suitcase. Then the suitcase will opened by motor mechanism.

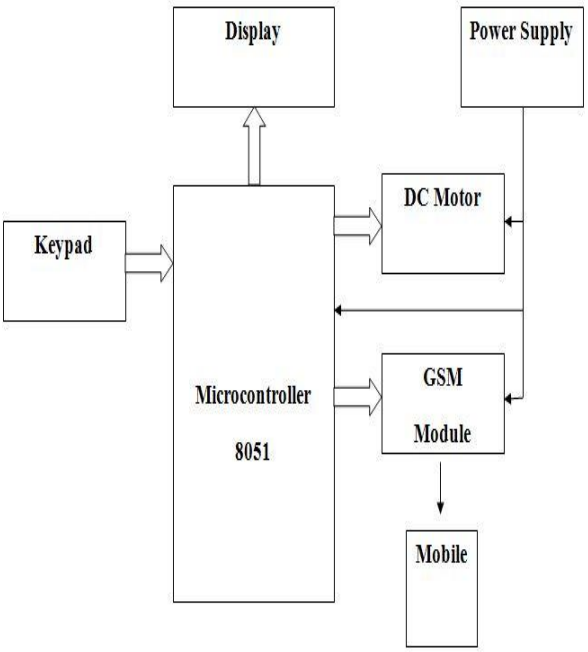

Fig. 1 Block Diagram of the system

Flowchart regarding the software is shown in fig. 2.

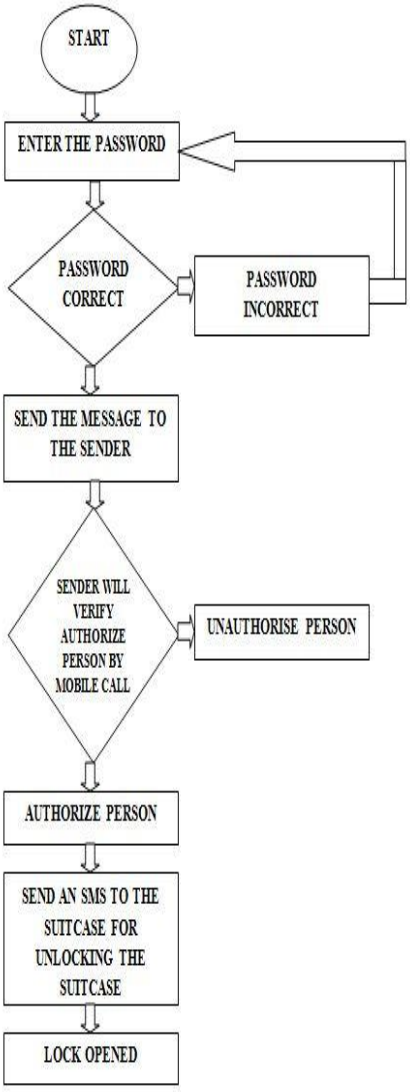

Fig.2 Flow Chart

V. RESULT

The Design and its implementation of microcontroller based electronics suitcase were effectively carried out with the advantages of minimum peripheral interfaces, low power consumption, low cost, high portability. The system was tested with the help of keypad and LCD display. The response of the system is successfully tested in all the conditions of the system that is mentioned in the system functionality. Test conditions include:

1. When system is powered ON display will show "Electronic Suitcase for Confidential Document".
2. Then System will ask for fixed password.
3. If you type incorrect password then it will display "Password is incorrect"
4. If you type correct password then it will display "Password is correct".

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5. After call verification keyword is display on LCD to open that suitcase.

VI. APPLICATIONS

- It can be use to protect confidential documents of company.
- It can be use to protect expensive items.
- It can be used to protect exam paper and answer sheet from being leakage and misplace.
- It can be used to protect money while transactions.

VII. CONCLUSION

In conclusion, the design of electronic suitcase is simple and very secure. This project improves the security of confidential papers. The advanced microcontroller is used for security purpose. The main working is depending upon the GSM Modem. This paper is focused on the secure electronic suitcase with low cost. The electronic suitcase is simple and easy to handle. The main advantage here is that use of GSM system which makes it very secure system and also provide location tracking in case of suitcase is misplaced. Further development in this project can be done by using finger print scanner. Also it can be advanced by installing GPS along with eye scanner.

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