Security door open system based on password, fingerprint and GSM

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Introduction

Fingerprint verification is one of the most reliable personal identification methods in biometrics. Most doors are controlled by the biometric technique. The idea of this technique is to enable automatic verification of identity of one or more behavioral and/or physiological characteristics of a person. Recently, biometric methods used for personal authentication utilize features as the face, the voice, the hand shape, the finger print, and the iris patterns of an individual. Each method has its own advantages based on their usability and security. This biometric access control system provides authorized individuals for safe and secure access in and out of organizations. This system is mainly focus on the security purpose of organizations.

The uses of biometric based systems have seen an exponential growth in recent years. This is because of tremendous progress in this field making it possible to bring down their prices, easiness of use and its diversified use in everyday life. Biometrics is becoming new state of art method of security systems. Biometrics is used to prevent unauthorized access to bank locker, jewelry shop and many other security concerned things. The applications of SMS/GSM Based security systems are quite diverse. There are many real life situations that require control of different devices remotely and to provide security.

And also system has to send message through SMS using GSM to other authorized people who away from the restricted areas. This combination of task improves the security of the system.

Methodology

It mainly consists of four sections.

- Password, Fingerprint identification and verification section.
- Micro controller section.
- Message passing and storing data into database.
- Door section.

In this proposed work keypad is used to input the password by the user. If the password is valid LCD display the success message and allow giving a finger print reader to the user. If not valid password LCD display the error message. Then finger print module is used to identify the individuals. If the password and finger print match the request message pass to other authorized persons. If not match LCD display the error message. Based on the other authorized person's reply then door will unlock. If not send the correct message the door will not unlock.

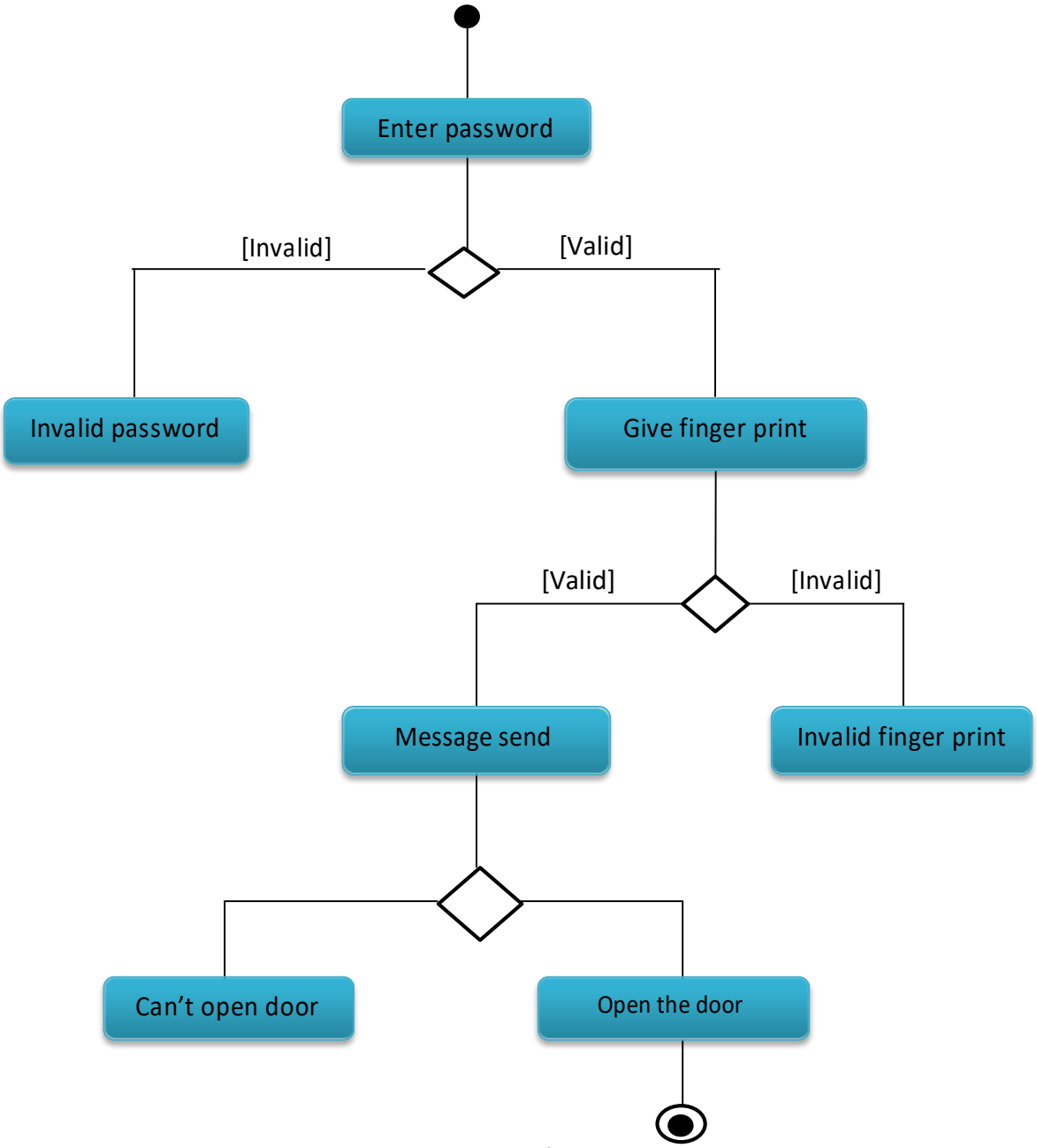

Figure 01: Flow chart of the system

Results

This project aims at developing a higher security provides to the system by using combination of password, finger print and GSM.

- Identify the individuals based on password and fingerprint.
- The request message for opening the door that sends to other authorized persons when the system is identified the authorized person.
- Save the all data in the database that who is open the door and who is accept that request.

Conclusion

After reviewing the possible solutions, I decided to use finger print, GSM module and ARDUINO to make this project. According to the advantage of ARDUINO over other Microcontrollers, I made this decision.

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