

# Smart Money Bag with Real Time Tracking by using Fingerprint Sensor and OTP

Sanjay kale<sup>1</sup>, Kuldeep Kalshetty<sup>2</sup>, Mohini Ingle<sup>3</sup>, Sneha Vhatkar<sup>4</sup>

<sup>1,2,3,4</sup>UG Student, Department of Computer Engineering, Imperial college of Engineering and Research, Pune, India

**Abstract:** The security of ATM machine has become more vital day by day. The vehicle which carries the money to be feed into ATM machine needs to be more secure. In general, all the vehicle is having a GPS tracker device fitted inside the vehicle, and which is inspected by the high authority. But the authority could check only the location of the vehicle and not to the money case inside the vehicle. Surveillance facilities is provided by advanced electronic technology. . All the electronic inventions are to reduce manual effort upon mechanical work and to create an interaction between human and the machine. Human following bags are one of the finest technologies in electronics and by utilizing its advantages and applications in day to day life in this paper we are providing authority to the person inside the vehicle. The only person will be responsible for the money loss or theft. The person will have some authority to open the suitcase and transfer the money to the ATM machine. In terms of privacy, the bag can be activated by an owner's identity and also location can be tracked using GPS and GSM. small platform and all facilities provided within bag are implemented together efficiently.

**Keywords:** Fingerprint Sensor, GPS, GSM, Internet of Things, Security.

## 1. Introduction

There are the situations in which moneybags which are drawn into the ATM machine got stolen which results in huge loss and even endanger the life of the concerned person in the vehicle. The main idea of the project is to provide security to the money bag which is being empty into the ATM machine. As soon the bag got empty into the machine the admin will get to know the location and the notification of completion of the work following technique is implemented using data taken from GPS/GSM and Fingerprint sensor. Fingerprint sensor used to give access to the authorized person. Theft or loosing of a bag is avoidable using GPS Tracking System. Beyond this, it has the feature of tracing and tracking the Moneybag using GPS and GSM and locate the accurate position of the bag system is used in this project. Sometimes occur any emergency then alert notification sends to the nearby police station. Comes to identification and verification of money bag since this is done electronically. All the facilities are implemented together efficiently within a small platform.

## 2. Objective

- This Project is useful in time and at the specific

location for the theft of a money bag or trunk.

- It is possible to set reminders for the activities based on time and locations.
- Track and Share activities of others as well as enable to create and maintain security over the theft.
- The system will result in a destined location and will show the notification to the admin.
- To provide an alert message facility when an Emergency situation occurs.
- The money will be safely transferred into the ATM machine.

## 3. Existing system

In the existing system only Guard Service of Money Transport According to Security Services Industry Act, the transport guard service must be carried with 3 guards in 1 group. However, an accident of hijacking money transport vehicle took place because only 2 persons were assigned and they got off the vehicle violating the safety regulations and only tracking of vehicles, does not any safety of Money bag. Therefor this system has many chances of robbery and hijacking money.

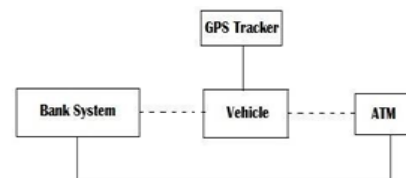


Fig. 1. Existing system

## 4. Proposed system

An android application developed, in which all the information related authorized person data includes GSM number and Fingerprint which is stored in database. When an authorized person unlocks money bag by using fingerprint authentication after matching fingerprint within database then system send OTP to authorized person. OTP enters then the money bag gets unlocked. When money bag is unlocked at that time location is send to admin. If money bag is travelled outside particular tracking area that time get emergency notification and pop-up message to nearby secure system and also admin.

- Fingerprint sensor will be used to unlock the system.
- GPS and GSM used for real-time tracking to money bag.
- Get OTP when the fingerprint is matched ie two-way authentication.
- In an emergency situation get alert to admin or security system.

**A. Fingerprint sensor**

Fingerprint matching technique allows access to only those whose fingerprints that are pre-stored in the database. if a complete power failure or battery drain. then fingerprints are stored someone even in the event of These eliminate the need for keeping track of keys or remembering a combination password, or PIN. when an authorized user is present then It can only be opened It can only be opened since there are no keys or combinations to be copied or stolen or locks that can be picked. The fingerprint-based lock, therefore, provides a wonderful solution to established. Encountered inconveniences. This report proposed of using fingerprints to unlock the system, as opposed to the established method of using keys. Fingerprints are patterns of backbone and thesaurus on the surface of the finger. These System proposed a more secure authentication scheme based on a one-time password. The theory of technology improves security by adding some uncertain factors to ensure the password of every login unique and improve the safety of the login process. A one-time password is mostly used as the strongest authentication scheme among all password-based solutions.

**B. One-time-password**

A secure authentication scheme is a one-time password technology. The theory of technology improves security by adding some unknown factors to ensure the password of every login unique and improve the safety of the login process. A one-time password is mostly used as the strongest authentication scheme among all password-based solutions.

**C. GPS and GSM system**

This system gives real-time tracking using java applications over the internet. The maintain tracking details use the database. this device contains GSM, GPS system and microcontroller. the GPS coordinate value is stored in lookup table(LUT). The microcontroller checks the nearest location match inside the lookup table and also received location data.

**D. WI-FI module**

Without Cables or wires Wi-Fi is a High speed internet and network connection. Radio signals, antenna and router is essential elements in wireless network. The Arduino Uno Wi-Fi is an Arduino Uno with a unified Wi-Fi module. ATmega328P with an ESP8266 Wi-Fi Module meshed on board. These module self-contained SoC with unified TCP/IP protocol. This protocol is used access Wi-Fi network.

**5. Block diagram**

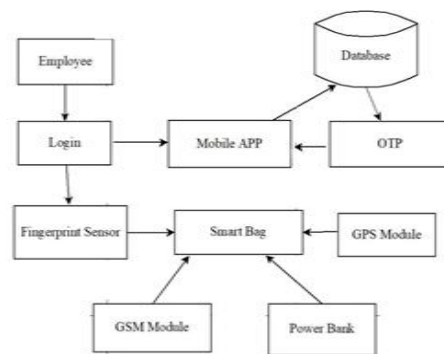


Fig. 2. Architecture of smart bag system

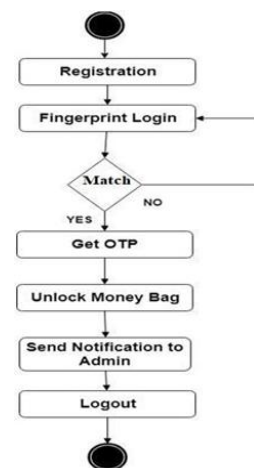


Fig. 3. Activity diagram

**6. Conclusion**

A smart bag is an introducing carry on suitcase that makes life easier and smoother. Here we try to solve the security difficulty and also providing better security and intelligent features that suitable for a modern period. we developed a new low-cost human technology to assist low-cost consumer product implementation so that the overall production cost of an automatic user following bag will be less.

**References**

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