

Smart money Bag with real time tracking by using IoT

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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

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.

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 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 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 bag within a small platform.

2. OBJECTIVES

- System 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. SYSTEM ARCHITECTURE

A android application developed, in which all the information related authorized person data includes GSM number and Fingerprint which is stored in database. When a authorized person unlock money bag by using fingerprint authentication after matching fingerprint within database then system send OTP to authorized person. OTP enters then the money bag get 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 near by secure system and also admin.

- Fingerprint sensor will be used to unlock the system.
- GPS module 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.

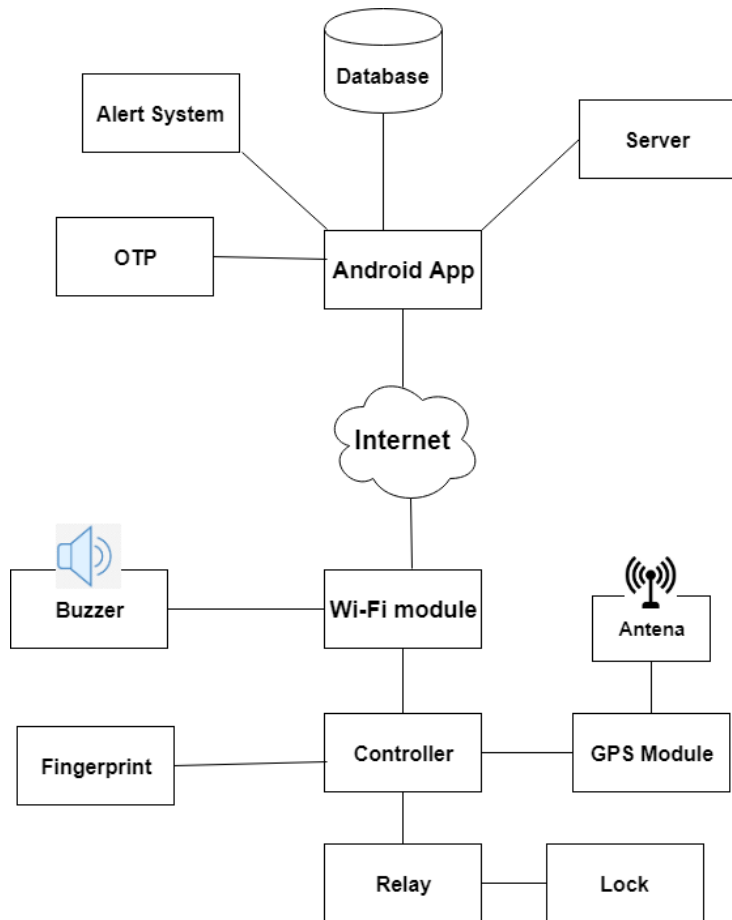


Fig: System Architecture

1. HARDWARE MODULE:

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. GPS SYSTEM

This system gives real-time tracking using java applications over the internet the maintain tracking details use the database this device contains 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.

C. 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 WiFi is an Arduino Uno with an unified WiFi module. ATmega328P with an ESP8266 WiFi Module meshed on board. These module self contained SoC with unified TCP/IP protocol. This protocol is used access Wi-Fi network.

2. GUI MODULE:

- **Admin Panel:** In the admin panel, admin can insert, update, and delete the user. Admin can also monitoring the user activity and real time tracking the user location and alert system ON.
- **User Panel:** In the user panel, users access the system using fingerprint and OTP then unlock bag/truck.
- **Database Module:** In the database store the user details like user name, Mobile Number, Fingerprint ID ,etc.

4. ALGORITHMS

Algorithm: Smack finger 3.0

The fingerprints sensor is an onboard optical sensor with 32-bit CPU the reading and identifying the fingerprints. Send the all simple commands as per need. the start process previously stored fingerprint sending command and pressing the finger three times. this sensor stores different fingerprint in the database and sends the other modules and also fingerprint "template". The optimal sensor retrieve the images of fingerprint and also raw images and pull it and analyze the print. This is updated version sensor to increased storage capacity like 200 different fingerprints are stored in this sensor and also capable 360-degree recognition. this sensor use two mounting tabs for easy to mount and as well as the module is small. the fingerprint sensor has on-board JST-SH connector with four pins: Vcc, GND, Tx, Rx and this compatible with JST-SH pigtail.

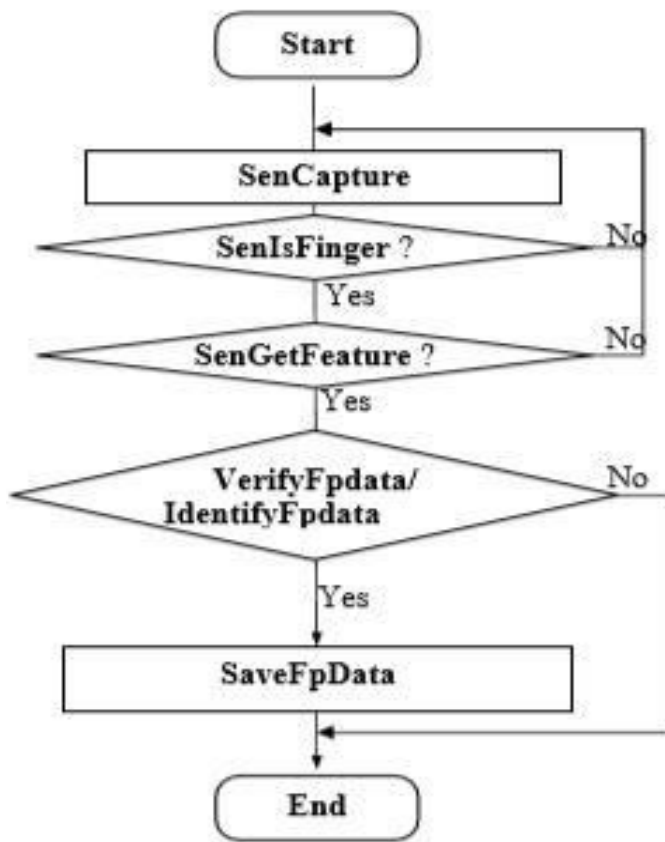


Fig: Flowchart of matching Fingerprint

Random method for OTP generates:

This method generates if two instances of Random are created with the same seed, and the same sequence of method calls is made for each, they will generate and return identical sequences of numbers. Class random property is specified in the algorithms. All algorithms are shown for class Random using java implementations and get the absolute probability of java code.class Random is permitted to use other algorithms, as well as subclasses, are permitted to use of other algorithms. All methods with general contracts.

5. RESULTS

Firstly the user's stores the fingerprint in the sensor database, if the authorized person wants to unlock the bag, then the sensor allow access to open the money bag. If the fingerprint is matched with the pre-stored database then the OTP will be sent on register mobile number which is stored in a database. The OTP verification and the fingerprint of the authorized user are matched at the same time then

and then only the bag will be open. We are provide real time tracking for the money bag using GPS module, all these process are going to be monitor by admin side. When any unauthorized person try to access the money bag and the bag is travel out of the location then alarm will be on and the notification is send to admin side. Additionally we provide the ATM's location and the money bag location is not matched then the bag does not open by unauthorized as well as authorized person and message will be displayed as "WRONG ATM LOCATION".

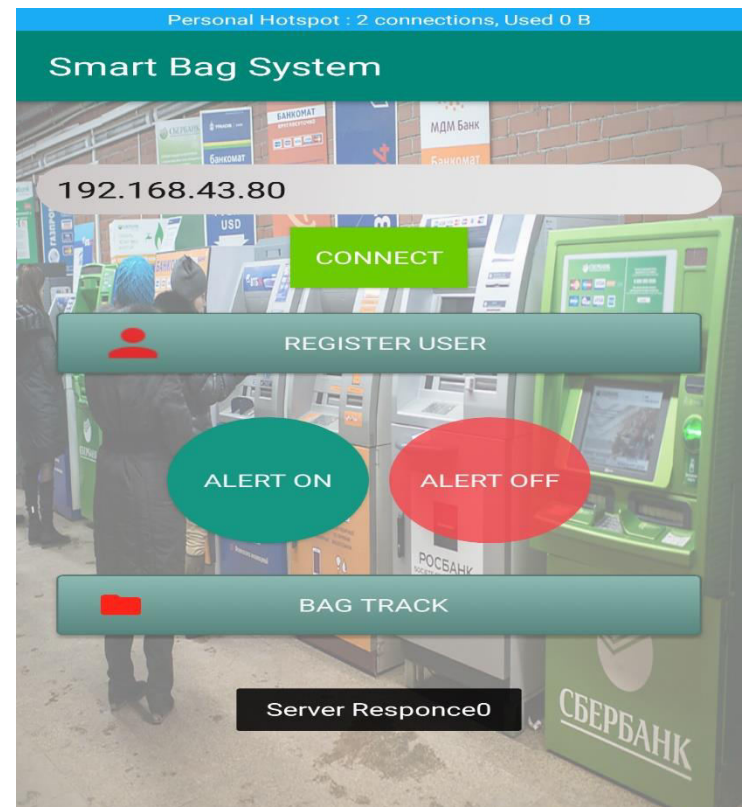


Fig: Mobile App

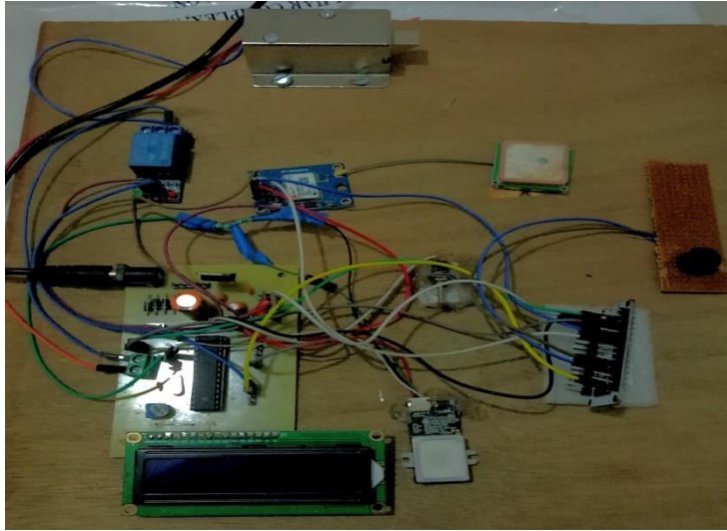


Fig: Hardware Module

6. CONCLUSION

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.

7. FUTURE WORK

Instead of fingerprint sensor we can use Iris recognition and retina technology. And also use voice recognition.

8. REFERENCES

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