

PROTOTYPE OF TRAILING DEVICES BASED ON IMEI VIA GPS ASSISTANCE FOR WOMEN SAFETY

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Abstract: There has been increase in the rate of crimes against women in the country. Women safety is a big concern which has been a most important factor to be considered. Safety of women matters a lot whether at home, outside the home or work place. There should be a system to ensure the safety of women. It should be reliable. The existing system doesn't have all round surveillance. Therefore, we have introduced a system that offers 24X7 surveillance to ensure that the probability of the crimes will reduce at a minimum span of time. We are creating an android app to monitor the safety of women. Through the application, we are using IMEI number of the mobile to identify the device and through GPS we will track the location. The location of the person is updated to a network server for every 5 minutes. The police can access the server anytime to view the location from the server. The person can also notify the police by using panic button from the application. Incase if the user's mobile is not connected to internet then the panic message is sent to the police station via SMS.

I. INTRODUCTION

In today's world, people using smart phones have increased rapidly and hence, a smart phone can be used efficiently for personal security or various other protection purposes. The heinous incident that outraged the entire nation has wakened us to go for the safety issues and so a host of new apps have been developed to provide security systems to women via their phones. An Android Application for the Safety of Women can be activated by a single click, whenever need arises. A single click on this app identifies the location of place through GPS and sends a message comprising this location URL to the police station nearest to her. The unique feature of this application is to send the message to the police station nearest to her continuously for every five minutes. The police station can also retrieve the location of the user from the server whenever there is a need.

II. RELATED WORK

In existing system, there is no proper app for women safety. An app has been created recently which has the features of GPS but in case of any emergency the user can send to a group of her contacts which she had stored in the favorites list. Therefore, there is a question of timely help as there is few probabilities that the group which the user has set views all the messages on time. And also in case of any emergency she can't directly notify the police. We can't assure that she will be protected during emergency. She might be in grave situation if there is no timely help.

Disadvantages:

- Less security
- No timely help
- Less efficient

III. PROPOSED WORK

In proposed work, we propose an android based mobile app and we create a private network for the app to collect the location of the person.

The whole system is segmented into 3 parts namely

- Sender
 - Main Server
 - Receiver
- **Sender:** The user who is in need of the app installs it who is the sender that sends the latitude and longitude in case of an emergency. When the user presses the panic button, the user id, latitude and longitude of the user is sent to the receiver through the server.
 - **Server:** The main server is used to coordinate and monitor each and every activity that occurs between the sender and the receiver. The server also has a database to store all the details of the user. Each and every communication between the sender and the receiver takes place through the server.
 - **Receiver:** In this system, the police station is taken as the receiver. The receiver receives details of the user in trouble. The receiver then refers the database from the server in order to identify the user who is in danger and requires timely help.

Functionalities:

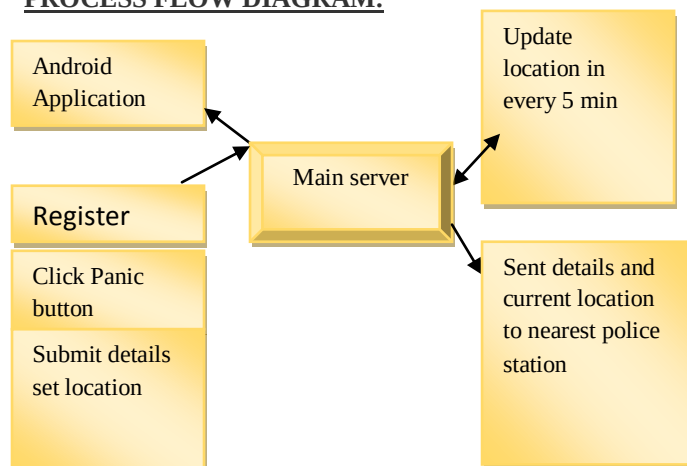
This section zooms into the individual components of the system. We will describe modules that work at the sender, server and receiver sides.

At sender side: First an application is used to store the details of the user such as Name, Aadhaar id, mobile no, contact in case of emergencies where the user can give contact of the closed one or the police station. Then the user presses the submit button so that the user is registered in the database. Once the user has been registered a new page opens which contains the Aadhaar id of the user and 2 ICE (In Case of Emergency) numbers and a panic button. The panic button is used to indicate the user is in trouble. The user can alert the police by clicking the panic button provided by the app from the mobile. When the button is pressed, it sends the signal to the server.

Server: A separate database is used to maintain all the details of the user. In case if the mobile is lost, the user can edit the details in the application which is transferred to the database. This system ensures continuous tracking of the mobile device. We use IMEI number and GPS to identify the user and track the location. The location of the user is updated every 5 minutes to the network server. A signal is sent from the user in trouble. The signal gives the location (latitude and longitude) of the device and the id of the user. The server routes this information to the ICE numbers of the user to the receiver. If the user doesn't have internet connection at that time the location of the user is routed via server to the receiver (ICE numbers i.e. police station) via SMS thereby preventing the crimes.

At receiver side: At first the receiver activates set as emergency alert option in order to receive the panic messages from the server. Then, the receiver receives the message containing the user id and the location (latitude and longitude) of the user. The receiver using the information locates the exact position of the user and thereby alerts the forces at the nearby location thereby preventing the crimes.

PROCESS FLOW DIAGRAM:



Advantages:

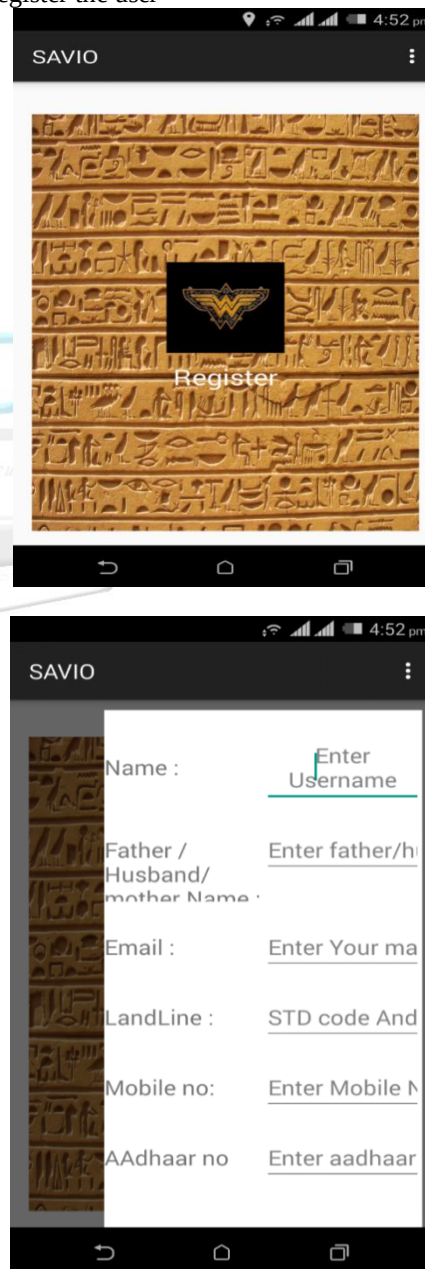
- Highly secure
- The location is updated every 5 minutes.
- Timely help
- More efficient

Implementation:

An android application named "Savio" has been created in order to implement the system. The server used is Tomcat server in order to coordinate and monitor all the activities taking place between the sender and the receiver. The various snapshots of the sender and the receiver are given below:

At sender side:

Step 1: Register the user



SAVIO

Email :

Enter Your mail

LandLine :

STD code And

Mobile no:

Enter Mobile N

AAadhaar no

Enter aadhaar

ICE NO1

NO1

ICE No2

NO2

SUBMIT

Step 2:
After the registration, the screen which contains the panic button

The screenshot shows the SAVIO app interface. At the top, the status bar displays the time as 10:09 and various icons. The app's header bar is black with the text "SAVIO" in white on the left and a menu icon on the right. The background of the app is a golden-yellow color with a repeating pattern of ancient Indian script. The interface contains several text input fields and buttons. The first section is labeled "Aadhaar No:" in bold black text, followed by a white input field containing the number "56789". The second section is labeled "ICE NO1:" in bold black text, followed by a white input field containing the number "8939244244". The third section is labeled "ICE NO2:" in bold black text, followed by a white input field containing the number "8939244244". At the bottom, there is a large red button with the text "PANIC" in white capital letters. The bottom of the screen shows the standard Android navigation bar with back, home, and recent apps icons.

Server side DB:
User Register:

MySQL Query Browser - Connection root@localhost:3306 / women_sally

File Edit View Query Script Tools Window Help

Transaction Undo Redo Explain Compare Refresh

Resultset 1

SQL Query lines

```
1 SELECT * FROM user_register v;
```

username password email loginid

mahesha	nurgun	mahesha0107	04435751005
---------	--------	-------------	-------------

1 row fetched in 0.0079 (0.0002)

Info Refresh Changes Show Columns OK Help SQL Search

Schemas: Database: Tables

- information_schema
- mysql
- performance_schema
- test
- women_sally
 - emergency
 - user_register

Syntax Functions Passwords

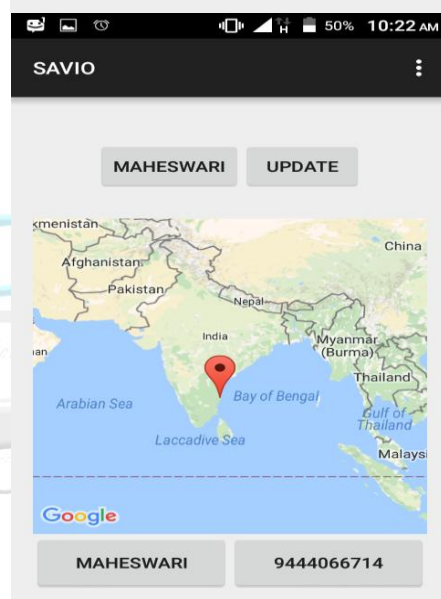
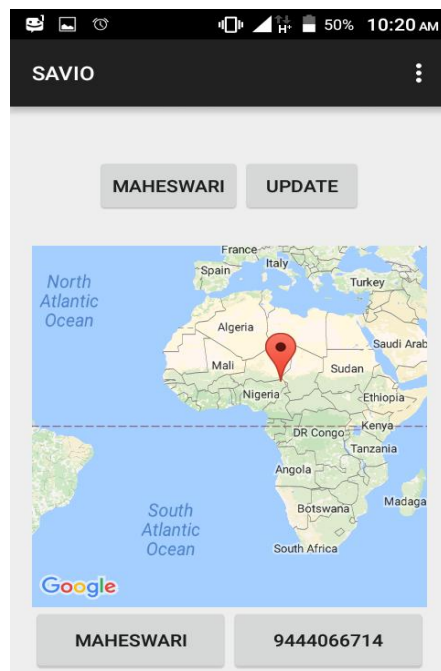
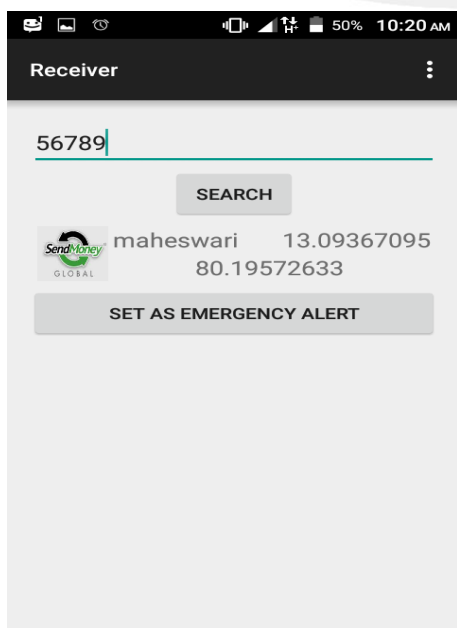
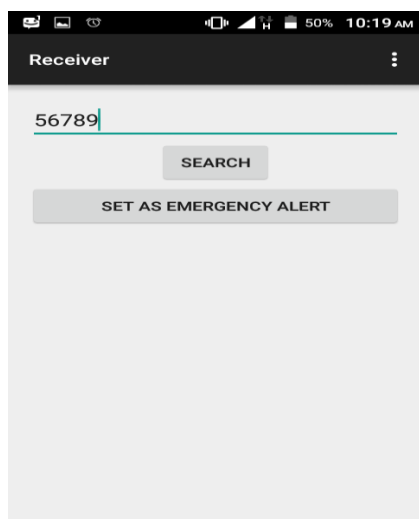
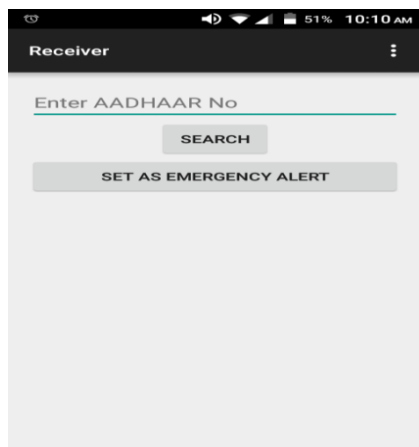
- Data Definition Statements
- Data Manipulation Statements
- MySQL Utility Statements
- MySQL Transactional and Locking
- Database Administrator Statements
- Replication Statements
- SQL Syntax for Prepared Statements

Emergency Register:

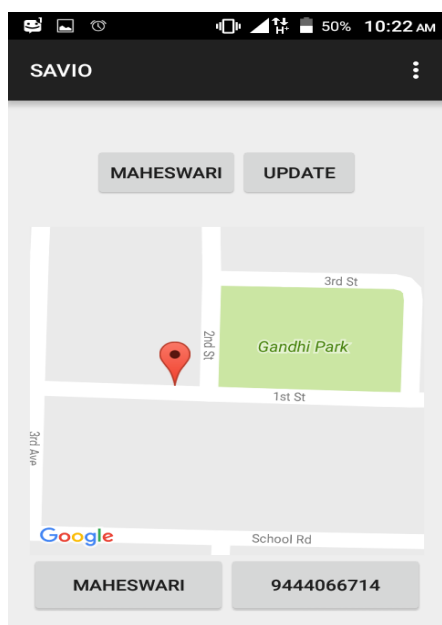
The screenshot displays the MySQL Query Browser application. The main window shows a query window with the text `SELECT * FROM emergency;`. Below the query window, the results pane displays a table with three columns: `id`, `mobile`, and `name`. The first row of data is visible, showing `1` for `id`, `9876543210` for `mobile`, and `Rishi` for `name`. The right sidebar shows the database schema with folders for `information_schema`, `mysql`, `performance_schema`, `test`, `womens_safety`, `emergency`, and `user_register`. The bottom status bar indicates `1 row fetched in 0.00123 seconds`.

At receiver side:

Step 3: The receiver after receiving the panic message from the user in trouble searches for the exact location of the user.



Step 4: The location of the user is sent to the nearest police booth for speedy and timely help.



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IV.CONCLUSION

This system is a step ahead to prevent the crimes against the women and offer them a better place to live in. It also emphasizes the timely help is one entity which prevents heinous crimes against women thereby ensuring the safety of the women. It also changes the traditional mindset of the people.

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