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Rapid Response Alarm System

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ABSTRACT: In this modern time, it will hazardous to travel alone for a person at night especially for women. To provide safety and reduce the chance of becoming victim of violent crime it is necessary to have an app which ensures safe for you, it is identify and alert guardian to help you out from unsafe situations. In today time, people using smart phones has rapidly increased, a smart phone is essential need of everyone in today time, so smart phone can be used efficiently for individual security or various another defense. This android application is for the safety of the people and this app can be activated by the single click, whenever need is arising. A single click will identify the location of the place through the GPS system and send SMS to the registered contact.

KEYWORDS: GPS tracking, SMS messaging, No internet connectivity, Mobile app

I. INTRODUCTION

In today's time safety has become the most priority of the Indian Government considering the rising cases of crime against both men and women. With the rapidly advancing world, ensuring the safety of individuals, especially women, has become a paramount concern. There are many applications which are built for women and for their safety.

All these required internet, but our application is different, In many situation people don't have internet connection. So, we can solve the problem with our application which work without internet services and uses GPS location to send alert to trusted contacts.

Rapid response alarm is a user-friendly mobile application that prioritizes the safety and well-being of women by leveraging the latest technology and innovative features. It is a reliable companion that aims to create a safer environment and foster a sense of confidence among its users.

The cornerstone of the app is its SOS alert button, strategically placed within the app for quick access in times of emergency. With a single tap, users can send distress signals to pre-selected contacts, including trusted friends, family members, and authorities, along with their precise location details.

Rapid Response Alarm app serves as a comprehensive repository of emergency resources and support services tailored to women's safety needs. From helplines and shelters to legal aid and counseling services, users can access vital resources at their fingertips, empowering them to seek help and guidance whenever required.

The app leverages advanced GPS technology to track the user's real-time location accurately. This feature ensures that responders can swiftly locate and assist the user in distress, minimizing response time and enhancing overall safety is the importance of safe navigation, Our app provides users with access to designated safe routes, which are meticulously curated to avoid high-risk areas and potential danger zones. Users can plan their journeys with confidence, knowing that they are following the safest paths available.

Users can create a list of trusted contacts within the app, comprising friends, family members, and other trusted individuals. In times of need, app enables users to quickly notify these contacts, seeking assistance and support when faced with threatening situations.

This app stands as a testament to the power of technology in addressing pressing social issues like women's safety. By harnessing the capabilities of modern smartphones and connectivity, Our app offers a holistic solution that combines emergency assistance, navigation guidance, and community support in a single platform. With our app by their side, women can reclaim their sense of security and autonomy, knowing that help is just a tap away. Together, let's pave the way towards a safer and more inclusive world for women everywhere.

II. SYSTEM ANALYSIS

A. Existing System

Limited preventive features: Existing systems often lack specialized features like shake detector and SOS emergency button catering specifically to women's safety concerns. The existing app often come with a lack of features like shake to detect and access without internet. These apps do not work in the absence of internet facilities, if the victim using the app get stuck in the area where there are no internet facilities, then it be a problem. However, to solve this problem we have developed the app specially to be used in no internet facility area.

Lack of real-time tracking: Current solutions may not offer robust location tracking capabilities to ensure timely intervention in emergency situations. These existing systems do not give accurate location to the guardian due to the lack of network, because they use internet to gather the location.

But we use GPS technology to gather the location using the coordinates. This will be the better solution to get the rapid and robust location tracking.

Lack of Offline Mode Accessibility: In Emergency situation when there are not internet services the user may not always able to provide faster and accurate alert response to the guardian. If the victim using the app get stucked in the area where there are no internet facilities, then it be a problem. However, to solve this problem we have developed the app specially to be used in no internet facility area.

B. Proposed System

Real-time Location Tracking : Utilizing GPS technology to provide accurate and real-time location tracking for users. These existing system do not give accurate location to the guardian due to the lack of network , because they use internet to gather the location. But we use GPS technology to gather the location using the coordinates. This will be the better solution to get the rapid and robust location tracking.

Offline Mode Accessibility: Enabling emergency contacts and authorities to receive immediate alerts with the user's precise location in absence of internet. In Emergency situation when there is not internet services the user may not always able to provide faster and accurate alert response to the guardian. If the victim using the app get into the area where there is no internet facilities, to overcome this problem we have developed the app specially to be used in no internet facility area.

SOS Button and Shake Detector: Incorporating a prominent SOS button and Shake Detector for users to trigger emergency alerts. If the victim (user) fall into any bad situation they can use this app by simply shake the app to trigger the alert message to the trusted guardian. Once the device is shakes the accurate location will be sent to the trusted guardian , also the victim do not need internet to send alert message. Establishing a direct connection to emergency services, enabling faster response times.

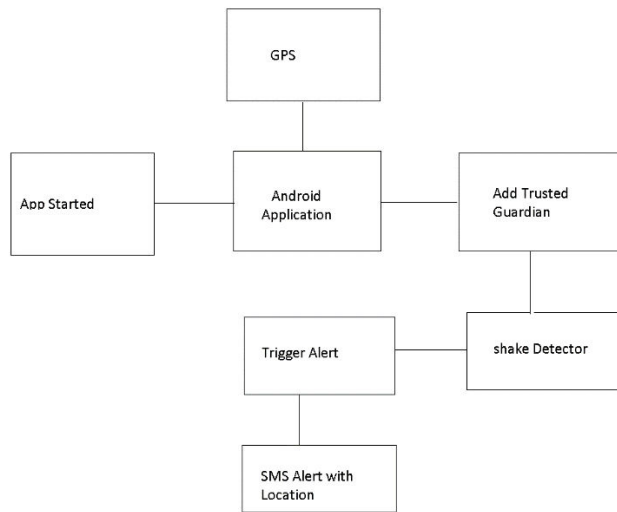


Fig. 1. System design

III. METHODOLOGY

C. SOS Alert Button:

The cornerstone of our app is its SOS alert button, strategically placed within the app for quick access in times of emergency. With a single tap, users can send distress signals to pre-selected contacts, including trusted friends, family members, and authorities, along with their precise location details.

D. Real-time Location Tracking:

This app leverages advanced GPS technology to track the user's real-time location accurately. This feature ensures that responders can swiftly locate and assist the user in distress, minimizing response time and enhancing overall safety.

E. Safe Routes Navigation:

Recognizing the importance of safe navigation, our app provides users with access to designated safe routes, which are meticulously curated to avoid high-risk areas and potential danger zones. Users can plan their journeys with confidence, knowing that they are following the safest paths available.

F. Trusted Contacts:

Users can create a list of trusted contacts within the app, comprising friends, family members, and other trusted individuals. In times of need, this app enables users to quickly notify these contacts, seeking assistance and support when faced with threatening situations.

G. Emergency Resources Directory:

Rapid safety alarm serves as a comprehensive repository of emergency resources and support services tailored to women's safety needs. From helplines and shelters to legal aid and counseling services, users can access vital resources at their fingertips, empowering them to seek help and guidance whenever required.

H. Community Support Network:

Beyond its technological features, this app fosters a supportive community environment where women can share their experiences, seek advice, and offer support to one another. Through forums, discussion boards, and peer-to-peer connections, users can build solidarity and resilience in their journey towards safety and empowerment.

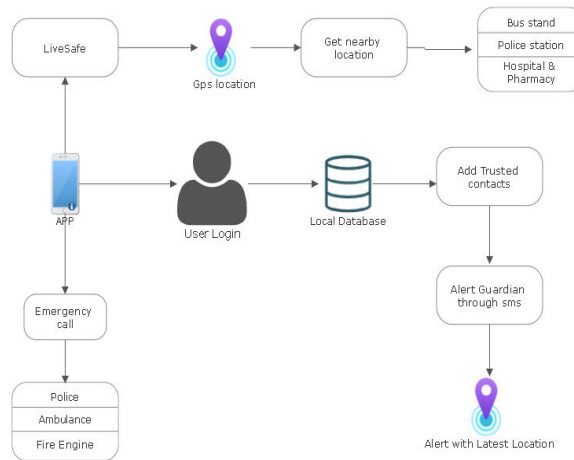


Fig. 2. Architecture Diagram

IV. IMPLEMENTATION

A women's safety app involves several key features aimed at providing assistance and security to users. Here's a basic outline of functionalities and features you might consider implementing:

- Panic button:** Allow users to send distress signals to pre-selected contacts or emergency services with just a single tap.
- Location sharing:** Automatically share the user's real-time location with emergency contacts when the distress signal is activated.
- Safe Routes and GPS Tracking:** Provide safe route recommendations based on real-time data and user reviews. GPS tracking to monitor user movements and notify designated contacts if the user deviates from their intended route or encounters any unusual circumstances.
- Safety Tips and Resources:** Offer safety tips and guidelines for various situations, such as walking alone at night or using public transportation. Provide access to resources such as helplines, legal aid, self-defense classes, and nearby safe locations (e.g., police stations, hospitals, safe shelters).

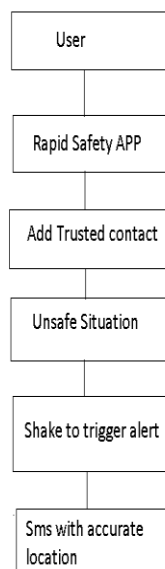


Fig. 3. Flow Diagram

V. RESULT

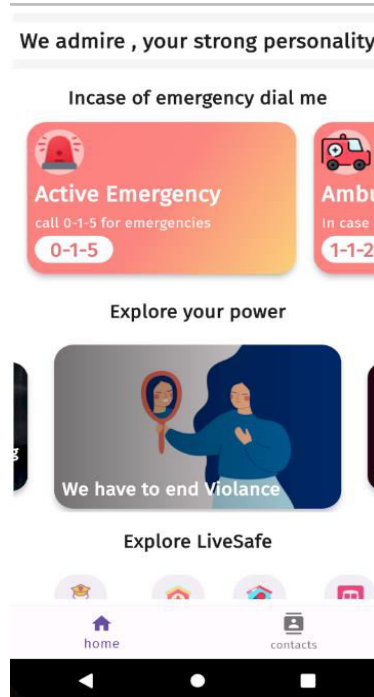


Fig. 4. User Interface

User interface for the rapid response alarm app with emergency dial feature, explore nearby safe places like police station , hospital ,bus stand and pharmacy.

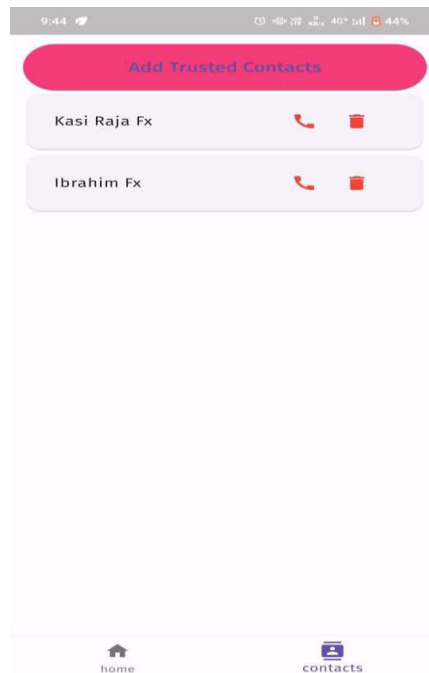


Fig. 5. Contacts page

Add trusted people from the contact, it will be saved in the local SQLite database.

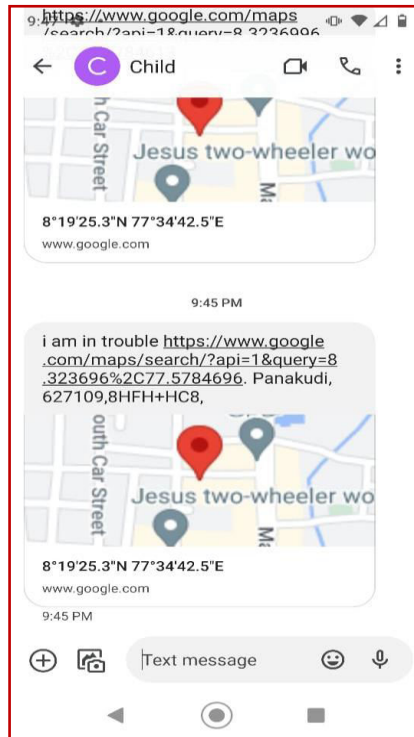


Fig. 6. Sms Alert

VI. CONCLUSION

In conclusion, Security Alarm app that is designed in android platform for safety of people with the aid of recent improvements in mobile technology. We have developed an application which is useful for the users, when he/she is in some problem or needs any help. When the user opens this application, user can see a alert button. Also, If the victim(user) fall into any bad situation they can use this app by simply shake the app to trigger the alert message to the trusted guardian. Once the device is shaken the accurate location will be sent to the trusted guardian, also the victim does not need internet to send alert message. Establishing a direct connection to emergency services, enabling faster response times Users can store multiple contact numbers. When the user is in some difficulty or needs any help, the user opens this application and they can see a sent alert button. Click that button to send SMS to register guardian. Also Continuous location tracking information via SMS helps to find the location of the victim quickly and can be rescued safely. This application aims to ensure safety for everyone through our safety alarm app.

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