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# A Mobile Application for Crime Alert and Women safety

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**Abstract—**

Women's safety is a critical social issue that requires quick and reliable technological support. With the widespread use of smartphones, mobile applications can provide effective assistance during emergencies. This paper presents the development of an Android-based women's safety application designed to offer immediate support. The system includes real-time GPS tracking, SOS alert messaging, emergency contact management, battery monitoring, and evidence collection through audio and image capture. The application is designed for quick access with minimal user interaction, ensuring ease of use during stressful situations. Emergency contacts are stored using an SQLite database for efficient management. Experimental results demonstrate reliable alert transmission, accurate location sharing, and stable performance across multiple devices.

## I. Introduction

The increasing number of harassment and violence cases has highlighted the urgent need for effective safety solutions for women. During emergencies, victims may be unable to make phone calls or seek help immediately. Traditional safety measures often face limitations related to response time and accessibility. Smartphones are equipped with built-in features such as GPS, cameras, microphones, and internet connectivity, making them suitable platforms for emergency assistance systems. This project proposes an Android-based application that enables users to: Send SOS alerts instantly Share real-time location details Manage emergency contacts Record audio and capture images as evidence Trigger alerts quickly with minimal interaction The primary objective is to develop a fast, reliable, and user-friendly safety solution.

## II. Literature Review

Previous studies have introduced various women's safety mechanisms, including GPS tracking systems, panic-button applications, IoT-based wearable safety devices, and SMS-based alert services. Although these systems effectively generate emergency alerts, many lack integrated features such as evidence recording and simplified activation methods. The proposed application integrates multiple safety functionalities into a single platform, thereby improving usability, efficiency, and overall effectiveness.

## Implementation Details

Front-End Design

XML layouts are designed to be simple and clear:

- Large SOS button for quick access
- Minimal text and clutter-free UI

- ScrollView for device compatibility

**Backend Logic**

- Java is used for activity control.
- Event listeners trigger SOS alerts.
- LocationManager retrieves GPS data.
- MediaRecorder records audio
- Camera API captures images.

**Database Implementation**

SQLite database is implemented using SQLiteOpenHelper:

- Create a contacts table.
- Insert, delete, and fetch contacts.
- Display contacts using a custom adapter

## IV. Architecture Diagram


Fig. 1. Crime alert and women's safety

## V. Result

The application was tested on multiple Android devices.

**Observed Results**

- SOS alert triggered within 2–3 seconds
- Location fetched accurately
- Contacts saved and deleted successfully.
- Audio and image captured without application crash
- Smooth UI performance

**Performance Metrics**

- Low memory consumption

## VI. Future Work

The system can be enhanced further by:

- Direct integration with police control rooms
- Cloud-based contact synchronization
- Live tracking using Google Maps API
- AI-based danger detection

Wearable device support

## VII. Conclusion

This research paper presented an Android-based Women Safety Application that provides an effective solution for personal safety. By integrating SOS alerts, location tracking, emergency contacts, and evidence collection, the application significantly improves emergency response capabilities. The system is easy to use, reliable, and scalable, making it suitable for real-world deployment.

## VIII. References

1. Android Developers Official Documentation
2. SQLite Database Documentation
3. GPS Tracking System Research Papers
4. Mobile Application Security Studies
5. Women's Safety Technology Surveys