

# ANDROID APPLICATION FOR WOMEN SAFETY

Asiya Tigale\*<sup>1</sup>, Vaishnavi Zagale \*<sup>2</sup>, Bhavika Todsam\*<sup>3</sup>,  
Shivam Turkhade\*<sup>4</sup>, Khushi Jaiswal\*<sup>5</sup>, Vasundhara Pawade\*<sup>6</sup>,  
Prof. Rupali S Sawant\*<sup>7</sup>

\*<sup>1,2,3,4,5,6</sup>Student, Department of Computer Engineering, Jagdambha College Of Engineering and  
Technology Yavatmal, Maharashtra, India.

\*<sup>7</sup>Assistant Professor, Department Of Computer Engineering, Jagdambha College Of Engineering and  
Technology Yavatmal, Maharashtra, India.

## ABSTRACT

In today's world, ensuring the safety and well-being of women has become a paramount concern. To address this pressing issue, we have developed a dedicated Android application using the Flutter framework. This application is designed to empower women by providing them with a powerful tool to enhance their personal safety and security. The primary functionality of this app revolves around the real-time sharing of the user's location with their chosen contacts, including family and friends, in case of emergency situations. To trigger this feature, the user can simply shake their device three times, which activates an emergency response protocol. This innovative gesture recognition system ensures that the distress signal can be sent discreetly, even in high-stress situations where traditional methods may be impractical. By combining cutting-edge technology with a focus on user-friendly design, this Flutter-based Android app is poised to make a significant contribution to women's safety. It empowers users to take control of their personal security, fostering a sense of confidence and peace of mind in an increasingly complex world. Through its innovative gesture-based functionality, it offers a discreet and effective means of seeking assistance in times of need, ultimately contributing to a safer environment for women everywhere.

**Keywords:** Flutter, GPS Location, Gesture Recognition,

## INTRODUCTION:

In today's world, ensuring the safety and well-being of women has become a paramount concern. To address this pressing issue, we have developed a dedicated Android application using the Flutter framework. This application is designed to empower women by providing them with a powerful tool to enhance their personal safety and security. The primary functionality of this app revolves around the real-time sharing of the user's location with their chosen contacts, including family and friends, in case of emergency situations. To trigger this feature, the user can simply shake their device three times, which activates an emergency response protocol. This innovative gesture recognition system ensures that the distress signal can be sent discreetly, even in high-stress situations where traditional methods may be impractical. By combining cutting-edge technology with a focus on user-friendly design, this Flutter-based Android app is poised to make a significant contribution to women's safety. It empowers users to take control of their personal security, fostering a sense of confidence and peace of mind in an increasingly complex world. Through its innovative gesture-based functionality, it offers a discreet and effective means of seeking assistance in times of need, ultimately contributing to a safer environment for women everywhere.

## Literature Survey:

<sup>[1]</sup> In recent years, there has been growing interest in leveraging mobile technology to empower women, particularly in the context of safety and security. Sundararajan and Rizvi (2016) delve into the subject of mobile technology's role in women's empowerment, shedding light on the importance of gesture-based features for enhancing the usability of women safety apps.

<sup>[2]</sup> Furthermore, Rao and colleagues (2018) conducted a systematic review that explored various smartphone applications designed to empower women, with a special focus on their safety and well-being. This comprehensive review identified the features and functionalities that proved most effective in promoting women's safety.

<sup>[3]</sup> Moreover, the potential of gesture recognition technology for emergency activation in women's safety applications has been a significant area of research. Kumar et al. (2017) investigated the development of gesture recognition-based emergency alert systems, providing insights into the technical aspects and effectiveness of such systems.

<sup>[4]</sup> Dangal and Sharma (2019) contributed to this field by evaluating the usability and user experience of women safety apps, emphasizing the crucial role of intuitive design for effective use during emergency situations.

<sup>[5]</sup> While enhancing safety is a paramount concern, the privacy and security of user data in mobile applications remain significant issues. Gai and Shu (2014) examined these concerns in the broader context of mobile applications, emphasizing the need for robust data protection mechanisms, particularly in apps that involve the sharing of sensitive information, such as location.

Community-based approaches have also been explored in the quest for enhancing women's safety through mobile applications.

<sup>[6]</sup> Arefin et al. (2016) presented a case study involving the development and deployment of a community-based women safety app in Bangladesh. This study showcased the potential impact of such apps on local communities and their scalability.

<sup>[7]</sup> Looking forward, emerging trends in women safety apps continue to evolve, as highlighted in the review by Deshpande and Gandhi (2019). They identified future directions that include the integration of artificial intelligence, wearable technology, and community engagement, underscoring the ongoing innovation in this field and the potential for further research and development in mobile applications dedicated to women's safety.

### Purpose of the Project:

The primary purpose of developing a Women Safety Android App using the Flutter framework, with its core functionality being the sharing of live location with family and friends when the device is shaken three times, can be outlined as follows:

1. **Enhancing Women's Safety:** The foremost objective of this project is to create a dedicated mobile application that significantly enhances the safety and security of women in various situations. The app provides women with a reliable and easily accessible tool to alert their trusted contacts and share their live location in times of distress, thereby reducing the risks associated with personal safety.
2. **Empowerment through Technology:** The project aims to empower women by harnessing the capabilities of modern smartphones and innovative technology. It recognizes that technology can play a pivotal role in equipping women with the means to take control of their safety, fostering a sense of confidence and independence.
3. **Swift and Discreet Communication:** The app's core functionality, the three-time device shake gesture for emergency activation, serves the purpose of enabling swift and discreet communication in emergency situations. This ensures that women can call for help or share their location without drawing attention to themselves, which can be crucial in potentially dangerous scenarios.

### 4. Facilitating Communication with Trusted Contacts:

Another essential aspect of the app's purpose is to facilitate communication with trusted contacts, including family and friends. By enabling real-time location sharing with selected individuals, the app ensures that help can be quickly dispatched, and loved ones can stay informed about the user's whereabouts, fostering a sense of security for both the user and their contacts.

### 5. Addressing Safety Concerns in Diverse Contexts:

Women encounter safety concerns in various contexts, such as commuting, traveling, or even everyday activities. This app is designed to be versatile and adaptable, addressing safety concerns across a range of scenarios, whether it's walking alone at night, using public transportation, or navigating unfamiliar places.

### Existing Methodology:

The methodology for addressing women's safety is a multifaceted approach involving various strategies and actions at different levels of society, including government, law enforcement, community organizations, and individuals. While there isn't a single universal methodology, here's an overview of existing methodologies and approaches to improve women's safety:

#### 1. Legal and Policy Frameworks:

**Legislation:** Governments and legal bodies enact and enforce laws that protect women's rights and safety. These may include laws against domestic violence, sexual harassment, stalking, and gender-based discrimination.

**Policy Development:** Governments and organizations create policies that promote gender equality and women's safety. This includes workplace policies, educational policies, and community safety initiatives.

#### 2. Education and Awareness:

**Gender Sensitization:** Education programs and awareness campaigns aim to sensitize individuals and communities to issues of gender equality, respect, and consent.

**Self-Defense Training:** Women are provided with self-defense training to enhance their physical safety and confidence.

#### 3. Community Engagement:

**Community Policing:** Local law enforcement collaborates with communities to address safety concerns specific to each area. Community policing builds trust and encourages reporting of incidents.

**Support Groups:** Communities establish support groups and networks for women who have experienced violence or harassment. These groups provide emotional support and resources.

Toll Free Number: There are toll free helpline number for emergency & safety.

## Proposed Methodology:

This proposed methodology aims to offer a profound exploration of the Women Safety Android App, taking you through the key features and functionalities that make it a beacon of hope and assurance for women across diverse scenarios.

### 1. The Essence of Women's Safety:

At its heart, this application seeks to address one of the most fundamental human rights—safety. It recognizes that women, across cultures and geographies, are entitled to navigate their lives without the constant burden of fear and insecurity. The Women Safety Android App embodies this aspiration by embracing two vital pillars of safety—real-time communication and discreet activation.

### 2. Real-Time Communication:

Foremost among the app's capabilities is its ability to facilitate real-time location sharing with the user's designated contacts. This functionality bridges the gap between the perception of safety and its tangible manifestation. In a world where uncertainties can manifest at any moment, the ability to instantaneously communicate one's whereabouts with trusted individuals fosters not just peace of mind but a powerful tool for personal security. Whether it's a solitary late-night journey, an unfamiliar voyage, or a routine stroll, users possess the ability to share their locations with trusted individuals in real time.

### 3. Discreet Activation:

In times of peril or discomfort, traditional methods of seeking help or alerting others may prove challenging or perilous. The Women Safety Android App introduces a novel solution—the three-time device shake gesture. This simple yet ingenious gesture recognition system empowers users to activate an emergency response protocol without drawing attention to themselves. In situations fraught with tension or potential threat, this feature becomes invaluable, ensuring that help can be summoned rapidly and discreetly.

## Advantages:

- Shake Gesture Activation:** Enable the app to detect when the user shakes their device three times, triggering the emergency alert system.
- Live Location Sharing:** Share the user's real-time location with designated family members and friends when the emergency alert is activated.
- Customizable Contact List:** Allow users to add, manage, and customize their list of trusted contacts

who will receive location updates and emergency alerts.

- SOS Messaging:** In addition to location sharing, provide the option for users to send predefined or custom distress messages to their contacts, explaining the nature of the emergency.
- Map Integration:** Integrate mapping services (e.g., Google Maps) to display the user's real-time location on a map, making it easier for contacts to find and assist them.
- Emergency Services Integration:** Include a feature that allows users to call local emergency services (e.g., 911) directly from the app in case of a critical situation.
- Privacy and Data Security:** Implement robust data encryption and security measures to protect user information, ensuring that only trusted contacts can access location data.
- Safety Tips and Resources:** Provide a section within the app that offers safety tips and resources

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