



she safe mobile application for women safety

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Abstract

She Safe is a Flutter-built mobile application that increases personal safety and gives women control over their daily lives. The app has a clean, uncomplicated interface and is simple enough for users across all ages and backgrounds, including those who aren't very technology-savvy.

The app integrates a set of robust features emergency alerts, live location tracking, a network of trusted contacts, a community forum, and self-defense tips—all combined to assist users in staying safe and ready. During emergency situations, users can send emergency alerts to their trusted contacts with their actual location. The live tracking feature also enables loved ones to track the user's route, ensuring they reach safely.

But She Safe is not merely an emergency response app—it also fosters a sense of community. With its forum, women can post their experiences, give advice, and connect with other women who might be experiencing the same issues. To help protect users further, the app has simple-to-implement self-defense moves and safety tips that can be applied in everyday life.

1 Introduction

Women's safety has become a growing concern in today's world. With rising incidents of harassment and unsafe situations, the need for a smart, reliable, and easy-to-use safety solution is more urgent than ever. That's what inspired the creation of She Safe — a mobile app designed to help women feel safer, more informed, and better connected.

She Safe acts like a personal safety companion. It lets users instantly share their live location with trusted contacts and send quick emergency alerts through a single tap. A built-in siren feature helps draw attention in critical moments. Beyond emergencies, the app also offers useful content like self-defence tips, legal rights, and safety guides.

What makes She Safe different is its simple and practical design. It's easy to use, works smoothly, and fits right into everyday life. Whether someone is walking home, traveling, or just running errands, She Safe offers peace of mind and quick access to help when it's needed most.

More than just an app, She Safe is a step toward building a safer environment and stronger community support for women everywhere.

2 Literature Survey

Hassan et al. [1] pointed out major concerns regarding data privacy and security in many women's safety and health apps, stressing the need for secure, privacy-first design.

Verma and Kulkarni [2] introduced an AI-powered app that does more than react—it identifies threats early for quicker response.

Roy and Das [3] used machine learning to monitor live data and predict risky situations, helping deliver timely and relevant safety alerts.

Zhang and Wang [4] explored wearable tech as a subtle alternative to smartphones for sending emergency messages, allowing users to seek help quietly.

Singh and Kaur [5] developed a GPS-enabled IoT device that can track precise locations,
ISBN:97881-19905-39-3

ensuring fast assistance during emergencies.

Sharma and Verma [6] focused on a simple interface that's quick and easy to use, especially during high-stress moments.

Das and Sen [7] built an app that combines live location tracking with instant emergency alerts, making sure help reaches the user fast.

Kaur and Singh [8] highlighted the importance of reliability—apps need to work without fail, especially in emergencies.

Nair and Menon [9] added voice commands so users can activate safety features hands-free, which is useful when accessing the phone isn't possible.

Ali and Ahmed [10] created a system that combines real-time alerts with live location sharing to simplify emergency communication.

3 Methodology

The journey to developing the She Safe app was informed by one purpose alone—to design a reliable, simple-to-use device that would be able to truly assist women at their time of need. From the beginning, we focused on discovering women's real experiences in dangerous or uncertain situations. This guided us in creating core features like emergency alerts, live location sharing, trusted contact connections, and a community forum where users could exchange safety tips and personal experiences.

To make sure that the app could be used by all, we created it based on Flutter, thus allowing the app to run very well both on the Android and iOS platforms. We used Firebase on the backend, which offered us secure user authentication features, a real-time data base to manage data in an efficient manner, and cloud messaging to deliver messages instantly. We also used the Geo-locator plugin and Google Maps API to enable precise location tracking.

After finalizing the main features, we focused on making the design simple and easy to use, especially in emergencies. Key buttons like alerts and tracking were placed up front for

quick access. Each part of the app was tested separately to ensure it worked smoothly.

We tested it on different phones and made improvements based on user feedback. Once stable, we launched it on the Google Play Store and started using Firebase Analytics to track how people use the app.

We're now working on adding offline alerts and voice control to make She Safe even more helpful.

3.1 Requirements Gathering

We started by getting a clear understanding of what the app really needed to provide. This involved engaging with potential users, reviewing surveys, and having open conversations to find out which safety features mattered most to them. Our goal was to identify the tools that would have the greatest impact in real-life situations. This original work was key to building an app that does not only live up to expectations but exceeds them, providing real, tangible assistance when it's most needed.

3.2 Design

Once we've got a clear vision of what the app requires, we step into the designing phase. It's here that we start bringing the app to life by drawing wireframes, defining user flows, and designing the looks. Our priority is designing an interface that isn't only functional, but also intuitive and pleasing to the eyes. We do our best to make navigation user-friendly, so icons are easy to interpret, and the overall look and feel of the app is inviting and easy to navigate. A thoughtful design can turn the app into a joy and easy-to-use experience for all users.

3.3 Development

With Flutter, we start making our concepts a reality. In this phase, we concentrate on developing the primary features, including real-time GPS location tracking and emergency notifications, so that all of them integrate seamlessly with each other. We also work very hard to make the app efficient enough to be run on Android and iOS platforms. Most importantly, we ensure user safety as our top concern by incorporating high-security features to safeguard their private information at each step.

3.4 Testing

After we create the app, we come to one of the most important phases—testing. Here, we test the app thoroughly to make sure everything is run smoothly, feels safe, and is easy to use. We start by checking that all functions work correctly, then get feedback from actual users to determine how the app works in real-life circumstances. We also focus closely on security, recognizing and resolving any issues that may arise. Furthermore, we try the app with various scenarios and ensure that the design is simple and easy for every user. This thorough process enables us to identify any issues at an early stage, making the app not only work well but also give a good, reliable experience to the users.

3.5 Deployment

When testing is finished and all is humming, it's time to release the app to the world. We get the app ready to be released on both the Apple App Store and the Google Play Store so that it's simple for users to discover and download. This stage is about refining the app listings so that everything passes the stores' checks and ensuring the presentation is clear in conveying the purpose and value of the app. It's a thrilling time—seeing all the effort finally come to fruition and set to make an actual impact. We also embed analytics software so that we can monitor how the app is performing and understand how users are interacting with

the app. To promote the word, we produce marketing material and organize promotions to increase visibility and drive downloads, getting the app in front of the people who will use it the most.

3.6 Maintenance & Evaluation

Release of the app is merely the beginning of a continued process. Following release, we are actively engaged, keeping very close tabs on any problems and fixing them as they occur. We listen to user comment and continually issue updates to refine the experience and keep up with the most current technology. Whether it is introducing new functionality, enhancing speed, or shaping the design as per user requirements, our objective is to maintain the app innovative, dependable, and efficient. We also set aside time to evaluate how satisfactorily the app is addressing its fundamental mission—increasing personal safety. This process of ongoing feedback, updates, and enhancements guarantees that the app continues to be practical and useful to its users.

4 Results and Discussions

The results and discussion section gives an overall idea of what the women's safety app is doing. It includes key elements like how the app is working, the feedback from users, and how it's generally affecting things. Each division of this section discusses a particular function of the app, utilizing actual data and user feedback to give an accurate idea of where things are going and where they need to be improved. This aids us in gauging the effectiveness of the app and highlights areas of improvement that we can implement in the future.

4.1 User Feedback and Satisfaction

When we launched our app for women's safety, there was a large volume of user feedback from various sections of people, and we got a tremendously positive response. Several users

ISBN:97881-19905-39-3

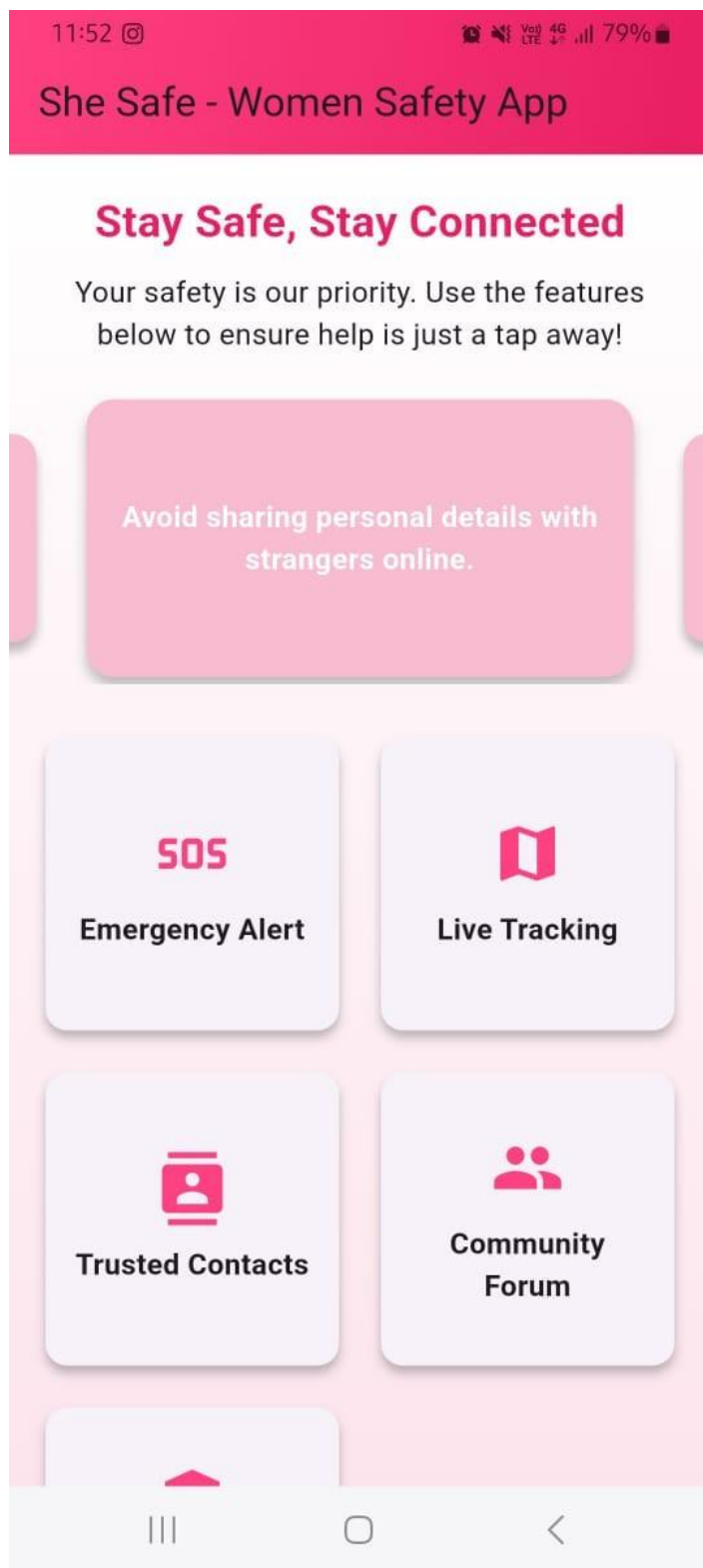


Figure 1:

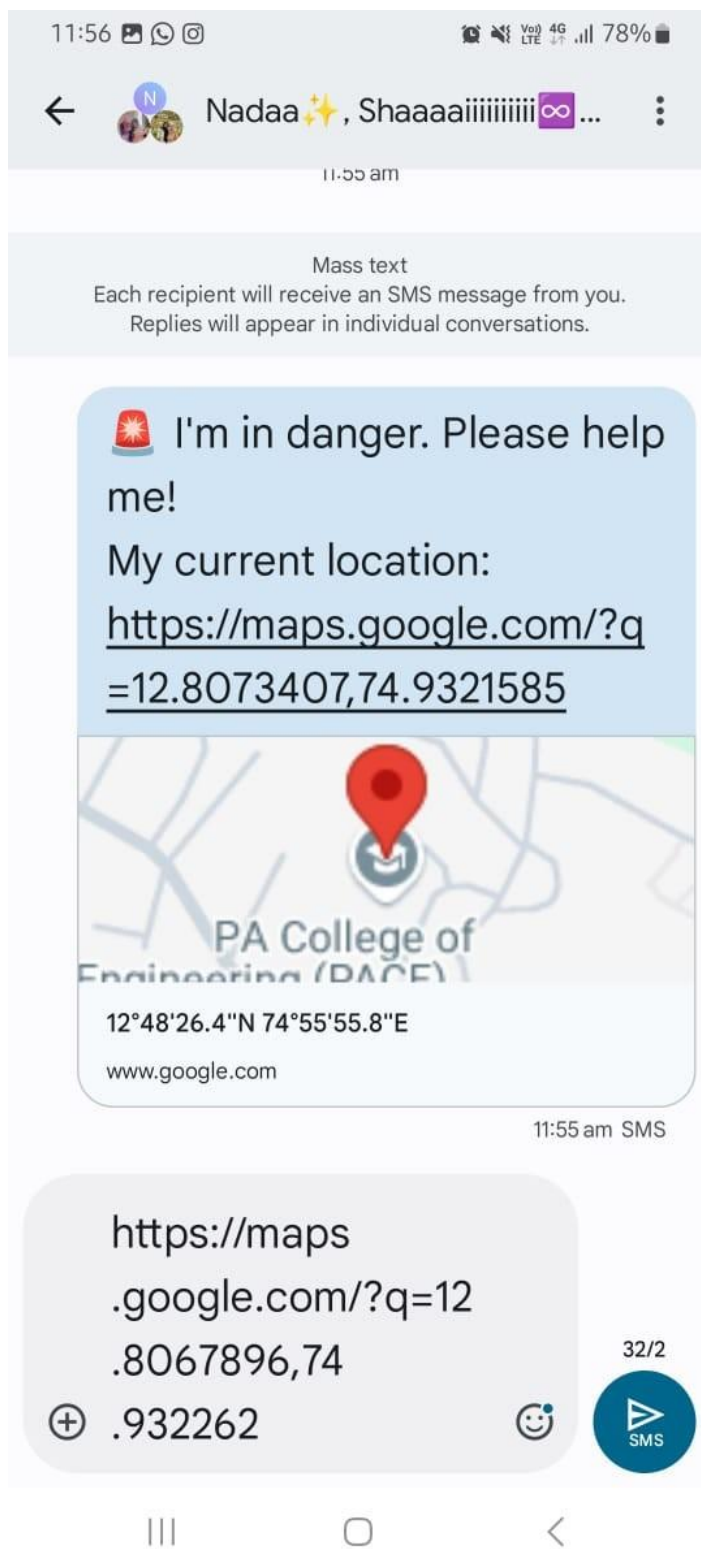


Figure 2: **Home Page**

Fig: Live Tracking

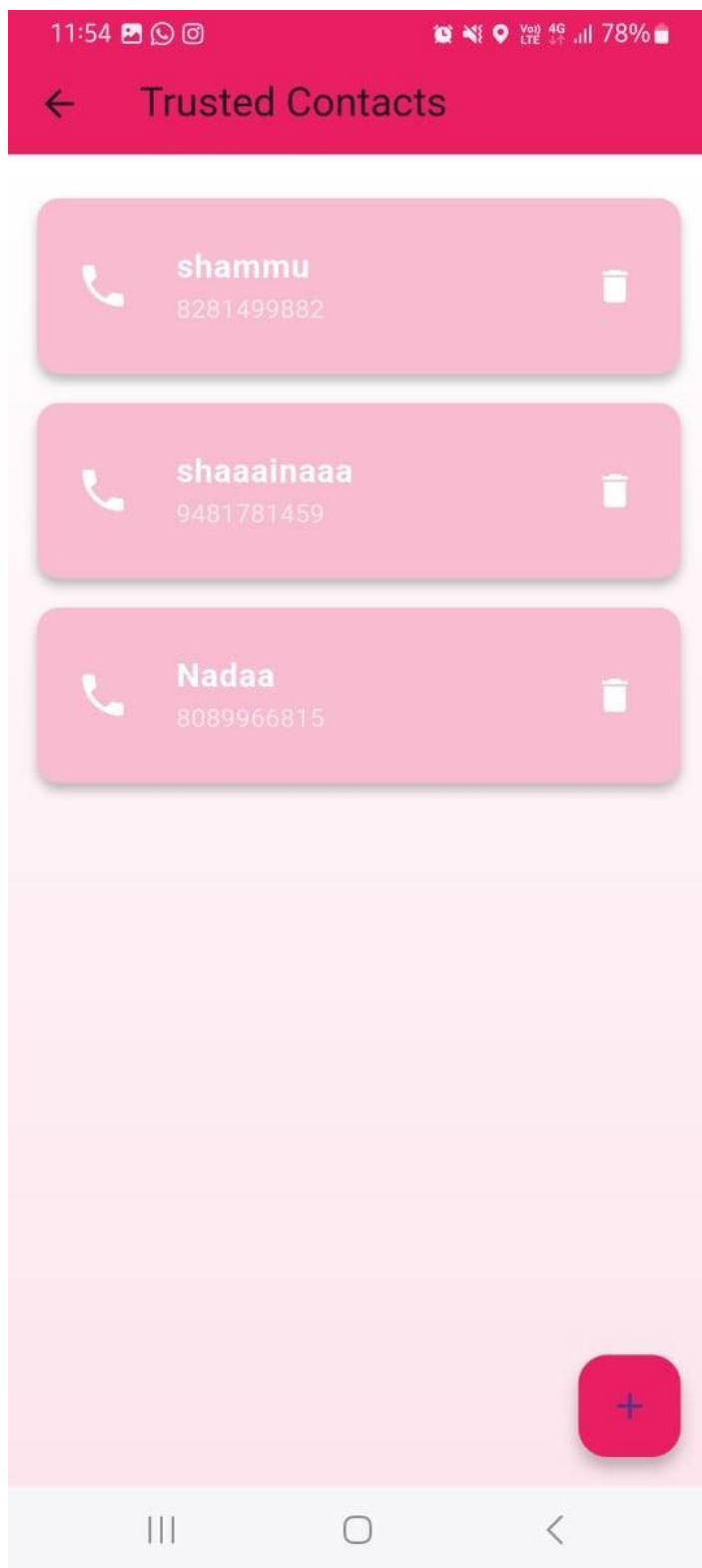


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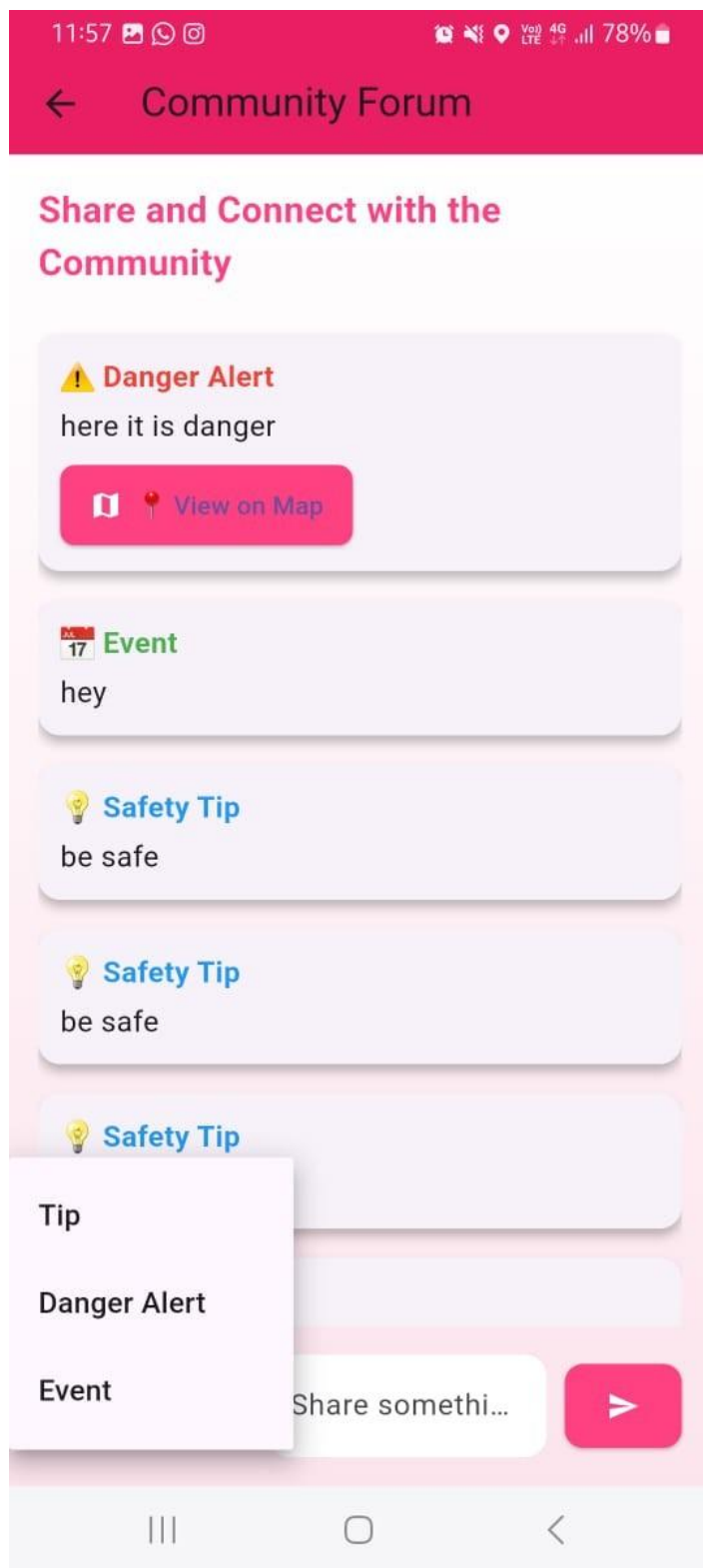


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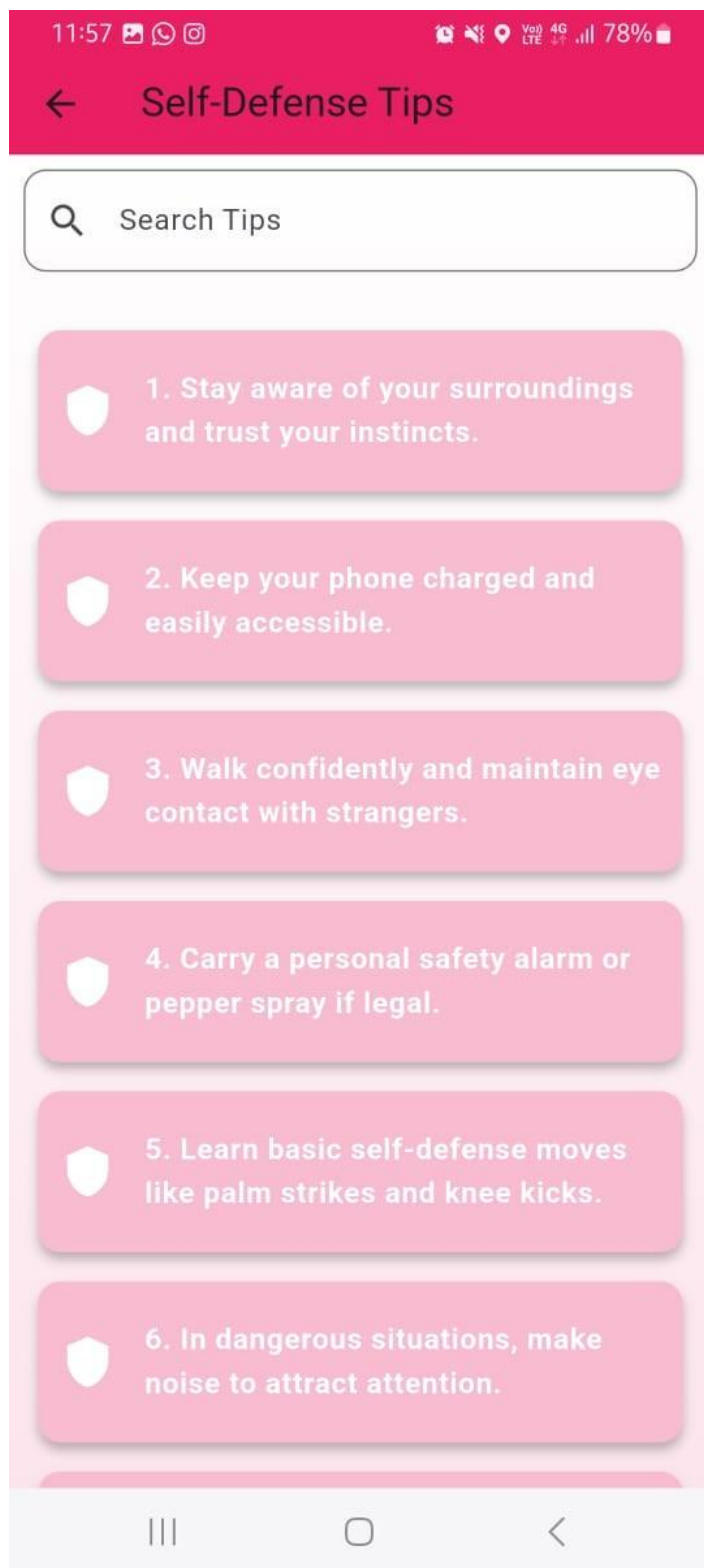


Figure 5: **Fig: Self Defense Tips**

mentioned the app's simple, neat design and a very robust personal safety focus. The one-tap emergency feature was also most liked, where users appreciated how it gave access to instant, guaranteed help when needed in any situation. The real-time GPS tracking was also praised for its accuracy, providing users with an additional sense of security.

Simultaneously, we appreciated improvement suggestions. A few users requested more in-depth self-defense advice, such as real-life situations, to further increase the app's usability. Others proposed refining the app to consume less battery, which is important for prolonged use, particularly in emergency situations. This positive feedback has been extremely helpful, and we are dedicated to constantly refining the app to make it even more efficient.

4.2 Performance Metrics

We were genuinely pleased with how the app performed during testing. It ran smoothly, responded quickly, and stayed stable throughout, with minimal lag and no major crashes, even under rigorous testing. This level of reliability is crucial, especially for an app that's designed to be used in critical situations. The GPS tracking, one of the app's core safety features, was impressively accurate, often pinpointing users' locations within just a few meters. The emergency alert system also functioned flawlessly, sending notifications to trusted contacts within seconds. Overall, the app not only met our expectations but often exceeded them, giving us great confidence in its ability to support users in their time of need.

4.3 Security and Privacy

Given the sensitive nature of the app, user privacy was our top concern. We added end-to-end encryption to protect all data shared through the app. Our team also carried out thorough security checks, including penetration testing and vulnerability scans, to find and fix any weak spots. The result is a secure, reliable app that users can trust.

4.4 Impact on User Behavior

One of the most rewarding outcomes was seeing how the app boosted users' sense of safety and confidence. Many said it gave them peace of mind, knowing help was just a tap away. It wasn't just a tool—it became a source of comfort, helping them feel more in control, even in unfamiliar or risky situations. More than anything, She Safe helped users feel stronger and more prepared in their daily lives.

4.5 Community Engagement

Unexpectedly, the app has fostered a robust sense of community among users. Users actively exchange tips, personal anecdotes, and even celebrate success stories on the app's forums, creating a support system that goes beyond the app's core features. This interaction has not only offered users extra support but also served to raise awareness regarding safety concerns and promote a culture of alertness. In the future, we plan to continue building this community by conducting safety workshops and sharing motivating user stories to encourage and inform others. We think that an educated and connected community is crucial in enhancing personal safety.

4.6 Future Enhancements

With useful user feedback, we've realized a couple of areas where we can improve and schedule upcoming updates. One of the very first things we'll do is expand the self-defense lessons to teach more actual-scenario-based material, so that users will feel even more prepared for any kind of situation. We're also working on improving the app's battery life, so users can use it for longer without worrying about draining their phone's battery. Another feature we're looking at is making more alert options customizable, so users have more control over how they receive and send notifications.

4.7 Conclusion

Reflecting on the journey from the concept to the release of the app, we're truly proud of the advancements we've achieved in addressing core safety issues and providing users with a trustworthy means to augment their personal safety. The positive comments and tangible improvements in user habits indicate that the app is actually having an impact. Going forward, we're dedicated to ongoing development and improvement. Guided by user feedback and the latest technology, we'll keep refining the app and expanding its features. Our goal is to ensure the app remains a trusted, invaluable resource, empowering users to feel confident and safe in their everyday lives.

Acknowledgement: The corresponding author acknowledges the research facility provided by VGST, Govt. of Karnataka (GRD No. 538).