

Community Based Reporting and Monitoring Tool for Women Safety in Colleges/Universities

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Abstract— The Mobile Application for Women Safety is an Android application designed to provide a sense of security and support for women in vulnerable situations. Users can register and login with their details, enabling access to features tailored for their safety. With the ability to view nearby users and send SOS alerts with audio and video capabilities, individuals can swiftly seek assistance in emergencies. Additionally, users can receive SOS alerts from nearby individuals and provide aid when needed. This intuitive application leverages technology to foster a supportive community and enhance the safety and well-being of women. By facilitating quick and efficient communication in critical situations, the Mobile Application for Women Safety aims to empower women and promote a safer environment for all.

Keywords— Android Application, SOS Alerts, Emergency Assistance, User Registration, Community Support, Women Safety, Personal Security, Real Time Communication, Audio and Video Support.

I. INTRODUCTION

Women's safety has become a serious concern in today's fast-moving world. Incidents of harassment, assault, and violence are sadly common in many places. Women often feel unsafe while traveling alone, especially during late hours. Technology, especially mobile apps, can help address this problem. This project focuses on developing a mobile app that ensures women's safety. The app is designed for Android smartphones, which are widely used. It is simple to use, so even first-time users can operate it easily. The app allows women to register and log in securely. Once logged in, they can use several features built for their protection. One of the main features is the SOS alert button. With just a tap, the app sends a distress signal to nearby users or guardians. The alert includes the user's location, voice, and video recordings. This helps others understand the situation and respond quickly. The app also shows nearby users on a map who can help during emergencies. This builds a local safety network where people support each other. The goal is to connect women with help instantly when they are in danger. The app uses GPS to track the location and update it in real-time. It also uses mobile internet to send alerts and receive help. Audio and video tools make the SOS more powerful and clear. Even strangers nearby can see alerts and decide to help. The interface

is clean and friendly, with easy access to all features. This makes it helpful even during panic situations. The app also stores past SOS activity for record purposes. It can be useful for law enforcement if needed. It encourages women to be confident and go out without fear. The app also spreads awareness about safety through its use. Communities can become stronger when people help each other in need. This app is especially helpful for students, office-goers, and travellers. In the end, the app empowers women and promotes a safer environment. It is a smart step toward using technology to protect and support women.

Ease of Use

[1] Simple User Interface: The app has a clean and simple layout that anyone can understand. The buttons are large, clearly labeled, and easy to tap, even for those who are not very familiar with smartphones. Each section of the app is easy to find, and the overall design avoids confusion. Users do not need any special training or guidance to use it. This makes the app friendly for people of all ages and backgrounds.

[2] Quick Navigation: Moving from one screen to another is fast and smooth. The main features like maps, complaints, and chatbot are easy to access from the home screen. The app layout helps users find what they need without getting lost or stuck. All screens load quickly without delays. This saves time and makes using the app more convenient.

[3] Fast Search and Map Access: Users can easily search for post offices by name, area, or pin code. The app uses GPS to detect the user's location and shows nearby post offices on Google Maps. With just one tap, users can see all the details like address, contact number, and working hours. They can also get directions directly using the map. This makes finding post offices very simple and fast.

[4] Easy Chatbot Help: The built-in chatbot gives users instant answers to their questions. It works 24/7, so help is always available, even at night or on holidays. Users can ask about services, complaints, or general information and get a quick response. This removes the need to call or visit a post office. It's like having a helpful assistant inside the app at all times.

[5] Simple Forms: Filing a complaint or giving feedback is very easy with this app. The forms are short, with only the most necessary fields, so users can fill them quickly. There's also an option to attach photos or documents to explain

the issue better. Everything can be submitted in just a few taps. This helps users share their concerns without going to the post office.

[6] Clear Language: The entire app uses basic and clear English so that everyone can understand it. There are no difficult words or technical terms. Each label and instruction is written in simple language that is easy to follow. Even people who are not used to using technology can understand what to do. This makes the app accessible to a wider audience.

[7] Runs on all Phones: The app is designed to work well on both old and new Android phones. It does not take up much storage or battery, which helps it run smoothly on devices with lower specs. There are no crashes or freezing issues during use. This means even users with older phones can enjoy all the features. It ensures that no one is left out.

[8] Saves Time: The app saves users a lot of time by offering everything in one place. Finding post office details, getting directions, asking questions, and submitting complaints can all be done in minutes. There is no need to wait in long queues or search different websites. The app helps users complete tasks quickly and get on with their day. This makes it very practical and efficient.

[9] Helpful for all Ages: The app is made to be used by people of all ages, including seniors. The buttons and icons are big and easy to see, making it simple for older adults to navigate. Even those who are not used to using mobile phones can manage with ease. This encourages more people to use the app without needing help. It's truly built for everyone.

[10] Smooth Admin Panel: The admin panel is also very user-friendly. Postal staff can log in securely and manage tasks like updating post office info, replying to complaints, and viewing feedback. They don't need any technical knowledge to do this. The design is simple and organized, which helps admins save time and handle responsibilities more effectively. It makes their work much easier.

II. METHODOLOGY

3.1 Flowchart (User Portal)

- **Start:** The system begins its operation.
- **Enter to the app:** The user visits the app.
- **Check the App:** The system checks if the user has an existing account:
 - If **No**, the user is directed to **Sign Up**.
 - If **Yes**, the user is taken to **Login**.
- **Signup:**
 - The user fills out the required information in a form.
 - After completing the form, they click Submit.
 - The system then sends them back to the login step.
- **Login:**
 - The user enters their user email and password.
 - The system checks if the user email and password are valid:

- If **No**, the user returns to the Enter username and password step.
- If **Yes**, the user is successfully logged into the system.

- **Home Screen:** Once logged in, the user can access various features.
- **Send SOS Alert:** In emergencies, the user can quickly send an SOS with their location, video, and audio.
- **Receive SOS Alerts:** Nearby users can get alerts and help if possible.
- **Nearby Users:** Users can view other app users nearby, creating a support network.
- **Report Incident:** Users can report safety concerns or incidents with details.
- **View Map:** See nearby safe zones, campus security, or alert zones.
- **Chat Support:** Users can access chatbot or contact campus safety officers.
- **Profile:** View and update user information or logout.
- **Logout / End:** The process concludes.

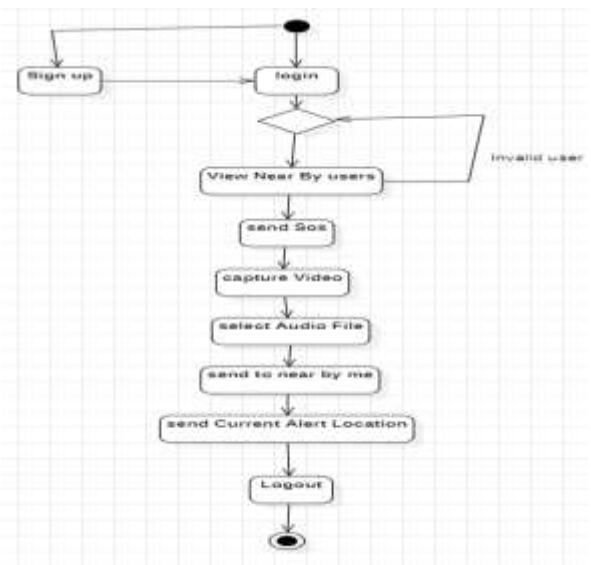


Fig. 1Flowchart

- **Start:** The process begins.
- **Login:** The user enters their login credentials, including their username and password.
- **Authenticate:** The system checks if the login credentials are correct:
 - If **No**: The user is sent back to the **Login** step. If they fail multiple times, the process ends.
 - If **Yes**: The user successfully logs into the system and moves to the next step.
- **Admin dashboard:** Admin can access multiple features:
 - **Add post offices:** Admin can add new post office details.
 - **View post offices:** Admin can view and manage existing post offices.

- **Add post:** Admin can add third-party applications.
- **View post:** Admin can view the third-party apps.
- **Report:** Admin can view and reply to user complaints.
- **Logout / End:** The process finishes when the user completes all actions.

women to report incidents in real-time. The integration of the Google Maps API helps users quickly locate nearby safety points, while the AI chatbot offers instant support and guidance. Firebase ensures secure and real-time data storage, making the tool reliable for quick responses. The app promotes awareness and offers a platform for users to stay informed about safety in their environment. Overall, the app enhances women's safety by enabling them to report and monitor incidents easily. The tool also empowers users by providing immediate access to assistance when needed.

III. SOFTWARE

4.1 Frontend (Mobile app):

- **Kotlin:** Used to develop the Android app, providing a smooth and responsive experience for users.
- **XML:** Used to design the app's layout, including forms, buttons, and menus for easy navigation.
- **Google Maps API:** Integrated to show the user's current location and nearby reporting centres, along with directions to safety points or campus authorities.
- **AI Chatbot:** Provides instant responses to users' questions, guides them through the reporting process, and offers safety tips.

4.2 Backend:

- **Firebase Realtime Database:** Used to store data such as user information, complaints, and post office details in real-time.
- **Firebase Authentication:** Ensures secure user login and signup for reporting incidents or accessing safety features.

4.3 APIs:

Google Location Services API: Detects the user's current location and helps users find nearby safety zones or campus authorities.

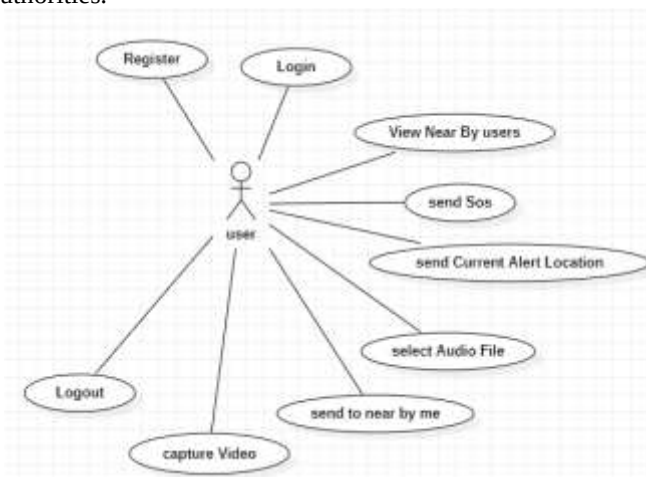


Fig. 2 Use Case Diagram

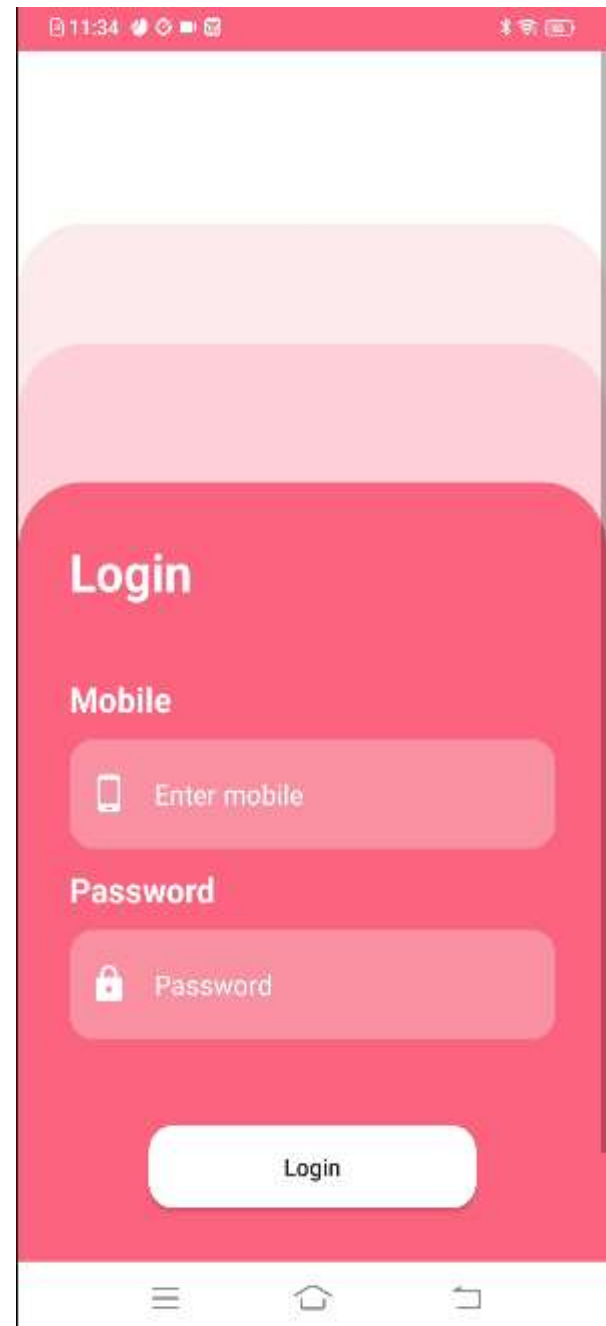


Fig 3. Login Page

IV. RESULTS & DISCUSSION

The Community-Based Reporting and Monitoring Tool for Women's Safety project aims to provide a safe and easy way for

- Multilingual Support: Add more languages so users from different regions can use the app easily.
- Anonymous Reporting: Allow users to report incidents without revealing their identity.
- Admin Dashboard: Create a web portal for college authorities to view reports and take action quickly.
- Safety Tips & Alerts: Send regular safety tips and real-time alerts about risky areas on campus.

VI. CONCLUSION

In conclusion, the Mobile Application for Women Safety stands as a beacon of empowerment and support, leveraging technology to foster a safer environment for women. With its intuitive features allowing for swift communication and assistance, it enables users to navigate vulnerable situations with confidence. By promoting community-driven aid and facilitating rapid response mechanisms, the app embodies a commitment to women's safety and well-being. As we embrace innovation for social good, this application serves as a testament to the potential of technology in creating positive societal change.

VII. REFERENCES

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Fig 4 Dash Board

V. FUTURE WORK

- Add SOS Button: Include a one-tap emergency button to alert family or authorities instantly.