Software Requirements Specification (SRS) Format

For SY B.Tech (IT) – Community Engagement Project

1. Title Page

- Project Title :- "WOMEN SAFETY APP"

- Course: Community Engagement Project (CEP)

- Student Name(s) & Roll No(s)
    1. Soumy Sen - SI103
    2. Nilakshi Patil - SI113
    3. Tanushree Patil - SI149
    4. Sanika Pujari - SI158

- PRN Number(s)
    1. Soumy Sen - B24IT1003
    2. Nilakshi Patil - B24IT1013
    3. Tanushree Patil - B24IT1049
    4. Sanika Pujari - B24IT1058

- Class & Division :- IT1-(C & A)

- Faculty Guide Name :- Ms. S.D Joshi

- Date of Submission

2. Abstract :-

This project proposes the development of a Women Safety App that acts as a personal safety companion. It enables women to send SOS alerts, share real-time location, and receive predictive danger alerts based on historical crime data and user reports. The app combines a panic button, GPS tracking, and machine learning–driven danger zone prediction. Beyond being a technical solution, the project aims to engage with the local community, NGOs, and police to identify high-risk areas, collect data, and spread awareness.

3. Table of Contents

4. Introduction

4.1 Purpose

● The objective of this project is to design and develop a mobile-based Women Safety App that ensures both preventive and responsive safety measures for women in public spaces. ● The app will provide real-time location tracking, allowing users to share their live location with pre-selected contacts and emergency services.
● The project addresses the critical issue of women's safety.
● The purpose is to create a digital platform that reduces response delays during emergencies, warns users about unsafe areas, and empowers them to feel more confident and secure.

4.2 Scope

● The app provides features like panic button, live location sharing, danger zone alerts, and incident reporting.

 ● Stakeholders include: women, NGOs, police departments, and community organizations.

● Benefits: quicker emergency response, proactive safety awareness, structured safety datasets for the user's purpose.

4.3 Definitions, Acronyms, and Abbreviations

● SOS: Emergency alert system
● GPS: Global Positioning System
● ML: Machine Learning
● NGO: Non-Governmental Organization

4.4 References

● List books, research papers, websites used for planning.

5. Overall Description

5.1 Product Perspective

- The Women Safety App is designed as a mobile-first solution that integrates multiple technologies — GPS, maps, cloud servers, and machine learning.
- While panic button and location-sharing features exist in some applications, our app extends the functionality by adding predictive intelligence.
- Instead of only reacting during emergencies, the app also foresees risk by analyzing historical crime records, user reports, and time/location patterns.
- This makes it both proactive and reactive.

5.2 Product Functions

The main functions of the app are:

- **Real-Time GPS Tracking:** Continuously monitors user's movement for situational awareness.

- **Predictive Danger Alerts:** ML model analyzes patterns to notify the user if they are entering or staying in unsafe areas.

- **Incident Reporting:** Users can report local incidents, which enriches the dataset and strengthens community safety.

- **Safety Resources:** Provides safety tips, emergency helpline numbers, and nearby police station/NGO contacts

5.3 User Classes and Characteristics

- **Primary Users:** Women commuters, students, and working professionals who need safety support.
- **Secondary Users:** NGOs, women safety organizations, and police departments who will benefit from access to real-time incident reports and danger-zone maps.

5.4 Operating Environment

- **Hardware:** Smartphone with GPS, 4G/WiFi connectivity, optional IoT devices like smart bands.
- **Software:** Mobile application developed using Flutter/React Native, connected to a backend (Node.js/Django/Flask) hosted on cloud platforms like Firebase or AWS.
- **Mapping Services:** Google Maps API or OpenStreetMap for visualization of safe and unsafe areas.

5.5 Design and Implementation Constraints

- Limited time frame ( ) for execution.
- Need for reliable datasets, which might be challenging in a local context.
- Users' privacy and security of sensitive location data must be ensured.
- The initial version will be a prototype, and additional features (like IoT integration) will be added in later versions.

5.6 Assumptions and Dependencies

- List assumptions about technology, users, or community cooperation.

6. Specific Requirements

6.1 Functional Requirements

1.Panic Button (FR1)

- The app must provide a panic button that, when pressed, immediately sends the user's live GPS location to their pre-selected emergency contacts (family, friends, police helpline).
- The alert should be sent via in-app notification, SMS, or WhatsApp integration for quick communication.

2. Live Location Tracking (FR2)

- The app must continuously monitor the user's live location in the background.

- It should update location every few seconds and store data temporarily for safety analysis.

3. Danger Zone Prediction (FR3)

- The system should compare the user's location with data from crime records, user reports, and community inputs.

- If the area has a high "risk score," the app should immediately notify the user with a warning alert.

4. Incident Reporting (FR4)

- Users should be able to report an unsafe incident they witness/experience (e.g., harassment, theft, suspicious activity).
- Reported data will be stored in the database and used to update danger zones dynamically.

6.2 Non-Functional Requirements

1. Security & Privacy

- User data, especially location and emergency contacts, must be encrypted.

- Data sharing will only happen with user consent to ensure privacy.

2. Usability

- The interface must be simple, intuitive, and available in multiple languages (e.g., English, Marathi, Hindi).

● The panic button should be accessible in one click without navigating menus.

3. Performance

● The app must deliver alerts within 3–5 seconds of pressing the panic button.

● Location updates should not drain the battery excessively.

4. Reliability

● The app should work even in low internet zones using offline SMS fallback for panic alerts.

● Danger zone alerts should be generated accurately 70–85% of the time (as per your ma'am's suggestion).
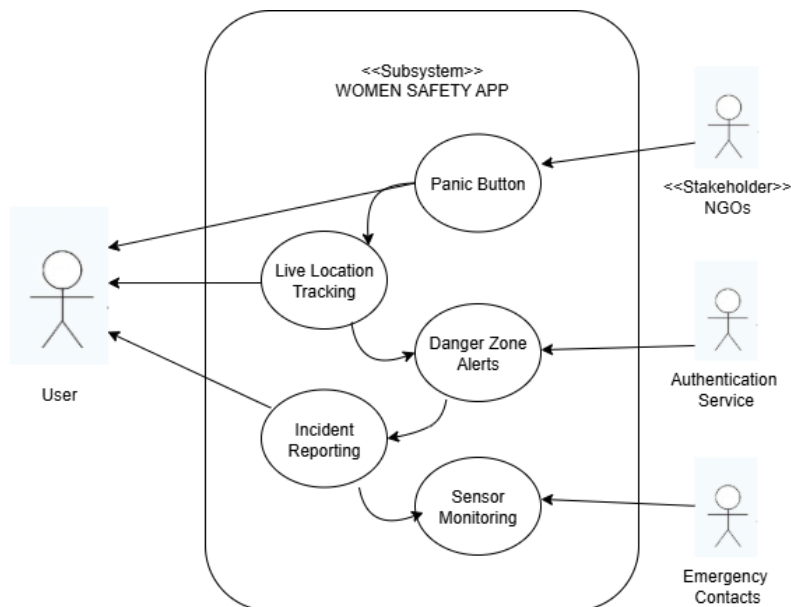
7. External Interface Requirements

7.1 User Interfaces – Wireframes or sketches
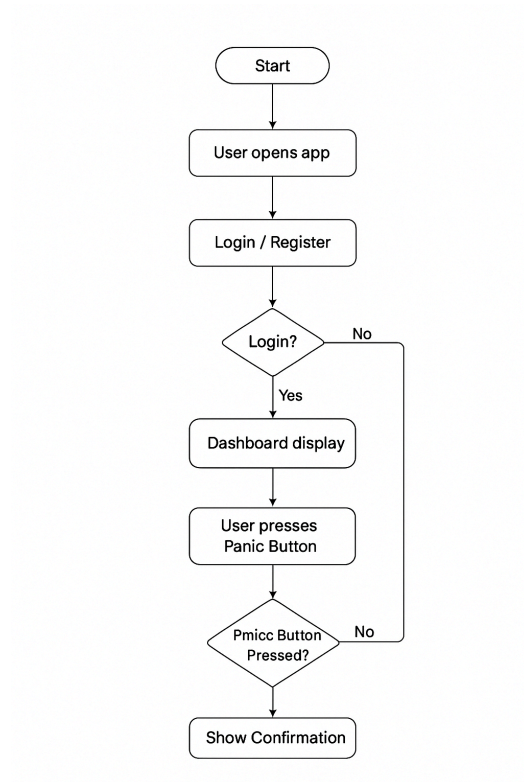**7.2 Hardware Interfaces** – Device connectivity
7.3 Software Interfaces – APIs or existing software used
7.4 Communication Interfaces – Internet, Bluetooth, etc.

8. Use Case Diagram & Description

9. Activity Diagram / Flow Chart

10. References

- Proposed visits to college campuses, women's hostels, and public transport hubs to gather real-time safety insights.

- Interaction with stakeholders (local police stations, NGOs, women's organizations) to understand current challenges in women's safety and emergency response delays.