Project Documentation: One Click Safety

1. Introduction

"One Click Safety" is a mobile application designed to address the issue of women's safety in India. The primary objective of the app is to provide a rapid response system during emergencies, especially in dangerous situations such as potential assaults. With features like instant emergency calls, incident recording, and live location sharing, the app seeks to deter crimes and provide a sense of security.

2. Problem Statement

India faces a serious challenge with crimes against women, including sexual harassment and assault. Despite increased awareness, the lack of accessible and immediate emergency response tools often leaves individuals vulnerable. The "One Click Safety" app aims to address this by providing a user-friendly, efficient system that helps users contact authorities and close contacts in the shortest possible time.

3. Objectives

- Provide instant access to emergency services with minimal user intervention.
- Allow users to silently record incidents for use as evidence without alerting perpetrators.
- Send live location data to emergency contacts and local authorities.
- Create a suite of safety features, including fake messages, safest routes, and condition updates, to enhance personal security.

4. Key Features

4.1 Emergency Phone

- **Description:** A button that, when pressed, immediately initiates a call to both a pre-saved emergency contact and the nearest police station.
- **Functionality:**
    - Sends an automatic message with the user’s live location to both the emergency contact and local authorities.
    - Utilizes GPS to determine the closest police station.

4.2 Incident Recording

- **Description:** A feature that activates the phone's camera discreetly without displaying the camera UI.
- **Functionality:**
    - Automatically starts recording when the button is pressed.
    - Saves the video to a hidden file or cloud storage for future reference.
    - Camera operates silently without showing any visual indication on the screen.

4.3 Fake Message

- **Description:** Allows the user to send a fake SMS or notification that mimics a call for help or a message from a family member/friend, providing an excuse to leave an unsafe situation.
- **Functionality:**
    - Pre-programmed messages that the user can trigger with one click.
    - Customizable message templates for different situations.

4.4 Latest Location

- **Description:** Tracks and shares the user’s real-time location with their emergency contacts.
- **Functionality:**
    - Location updates at regular intervals when activated.
    - Continues tracking even when the app is closed.
    - Can send a history of locations visited within a certain time frame.

4.5 Safest Route

- **Description:** A GPS-based feature that suggests the safest route for the user based on factors such as street lighting, public surveillance cameras, police stations, and local crime data.
- **Functionality:**
    - Integration with Google Maps or a similar navigation service.
    - Real-time route recommendations based on current safety conditions.

4.6 Know the Condition

- **Description:** Provides users with real-time information about the safety conditions of the area they are in or planning to visit.
- **Functionality:**
    - Displays safety ratings based on recent incidents, local alerts, and other safety parameters.
    - Uses crowd-sourced data or partnerships with local law enforcement.

4.7 Additional Features

- **Panic Button:** A widget that can be added to the phone's home screen for faster access.
- **Battery Saving Mode:** Ensures the app remains functional during emergencies even with low battery power.
- **User Profiles:** Users can add emergency contacts, set preferences for automatic features, and choose safety modes based on different scenarios.

5. Technical Specifications

5.1 Technology Stack

- **Frontend:**
  - Figma (for UI/UX design).
  - React Native (for app development).
  - Google Maps API (for location tracking and safest route).
- **Backend:**
  - Firebase (for cloud storage and real-time updates).
  - Twilio API (for messaging and calling functionality).
  - GPS and Geofencing technology (for location tracking and emergency response).

5.2 User Interface (UI)

- Simple, intuitive interface designed for fast navigation during emergencies.
- Large, prominent buttons for emergency features.
- Customizable settings to allow users to set their preferences (e.g., emergency contacts, routes).

5.3 Security

- Data encryption for all sensitive information (location, recordings, contacts).
- Secure login system to protect personal data.
- Cloud backup for incident recordings to ensure evidence isn't lost.

6. User Flow

1. **Registration:** Users create an account and set up emergency contacts.
2. **Dashboard:** Users access all the features from a simple interface.
3. **Emergency Use:**
   - **Scenario 1:** User presses the emergency phone button, triggering an automatic call to emergency contacts and the nearest police station.
   - **Scenario 2:** User activates incident recording, which starts the camera without displaying it on the screen.

4. **Additional Use:** User utilizes fake message, safest route, or condition features depending on the situation.

7. Privacy Policy

The app collects sensitive information (e.g., location data, emergency contacts), and privacy is of utmost importance. All data will be used solely for the purpose of ensuring user safety and will not be shared with third parties without consent.

8. Future Scope

- **Expansion to Wearable Devices:** Integrating the app with wearables like smartwatches to further simplify access.
- **AI Integration:** Implementing AI-based incident detection to automatically trigger emergency protocols if the user is unable to act.
- **Collaboration with Authorities:** Partnering with law enforcement agencies to provide better safety data and response times.
