1. Introduction

This document outlines the functional aspects of the **Safe Serene Secure** webpage, a platform designed to promote both user safety and wellness. The system is built with Angular for the front end and Spring Boot for the back end. It uses JWT tokens for secure authentication.

2. Features and Functionalities

2.1. User Authentication

- **Login/Sign-up:**
  - Users register with an email, username, and password.
  - JWT tokens are generated upon login to maintain session security.
  - Users can securely log out using the **Logout** button on the navigation bar.

2.2. Home Page

- **Get Started Button:**
  - The first page displays a "Get Started" button that directs users to the login/sign-up page.
- **Navigation Bar:**
  - The website name **"Safe Serene Secure"** appears on the left.
  - Four buttons appear on the right: "Safety," "Wellness," "About Us," and "Logout."
- **Carousel/Moving Pages:**
  - **Page 1:** Introduction about the project.
  - **Page 2:** Overview of the safety features.
  - **Page 3:** Overview of the wellness features.

2.3. Safety Page

- **Map Integration (OpenStreetMap):**
  - Users see a map showing their current or searched location.
  - The map is powered by **OpenStreetMap**.
- **Search Functionality:**
  - Users can enter a location in the search box to view it on the map.
- **Weather Display (OpenWeather API):**
  - The system retrieves weather information for the displayed location using the **OpenWeather API**.
  - Weather details such as temperature, humidity, and wind speed are shown.

2.4. Wellness Page

- **Wellness Categories:**
  - **Articles:** Users can access curated wellness articles from external sources.
  - **Helplines:** Emergency and mental health helpline numbers are displayed.

- **Surveys:** Users can access well-being surveys. Data from the surveys will not be stored but serve as self-assessment tools.

2.5. About Us Page

- **Vision and Mission:**
  - This page outlines the goals, vision, and mission of the platform, focusing on promoting user safety and well-being.

2.6. Logout Functionality

- **Logout Button:**
  - Users can securely log out using the navigation bar, which will terminate their session and invalidate their JWT token.

3. System Workflows

3.1. User Registration

- Users fill in registration details, which are validated on the back end.
- After successful registration, users are directed to the login page.

3.2. User Login

- Users log in by entering their email and password, and JWT tokens are issued for session authentication.
- Upon successful login, the user is redirected to the home page.

3.3. Navigating Pages

- From the navigation bar, users can easily switch between the **Safety**, **Wellness**, and **About Us** pages.
- The carousel on the home page allows users to view project, safety, and wellness information interactively.

Non-Functional Requirements Document (NFRD)

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1. Performance Requirements

- **Page Load Time:** The webpage loads within **2 seconds** under normal conditions.
- **Map and Weather Data:** Map and weather data loads within **5 seconds** after a location is entered or displayed.
- **Concurrent Users:** The system handles **100 concurrent users** without significant performance degradation.

2. Security Requirements

- **Authentication:** The system uses JWT tokens for secure session management.

- **Encryption:** All sensitive data such as passwords must be encrypted using secure hashing algorithms.
- **HTTPS:** All communication between the client and server are encrypted using HTTPS.
- **Session Expiry:** JWT tokens expire after **30 minutes** of inactivity to ensure session security.

3. Usability Requirements

- **Responsive Design:** The webpage is responsive and functional on both desktop and mobile devices.
- **Accessibility:** The design follows **WCAG 2.1** standards, ensuring high contrast, readable fonts, and screen reader support.
- **Intuitive Navigation:** Users can easily navigate between the pages via the navigation bar and buttons, with clear feedback on each interaction.

4. Availability and Reliability

- **Uptime:** The systems aim is for **99.9% uptime**, ensuring that users can access the site without interruptions.
- **Error Handling:** In case the map or weather API fails, a fallback error message should notify the user instead of crashing the page.

5. Scalability

- **Scalability Considerations (Optional):** Although scaling is not currently a priority, the system is built with modularity to allow for future horizontal scaling without significant refactoring.

6. Maintainability

- The code follows established development patterns for maintainability and readability.
- **Modular Design:** Key functionalities (e.g., user authentication, map rendering, weather data retrieval) is modularized to allow easier updates or bug fixes.
- The system uses **version control** (e.g., Git) to track and manage changes in the codebase.

7. Localization and Internationalization

- The system allows for future localization support to handle multiple languages.