REPUBLIC OF CAMEROON

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PAIX-TRAVAIL-PATRIE

MINISTERE DE L'ENSEIGNEMENT SUPERIEURE

UNIVERSITE DE BUEA

CEF 440: Internet Program and Mobile Programming

TASK 5

Group 18

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May 2024

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UI Design and Implementation

Introduction

For this task, we used the designing tool FIGMA in other to come out a high level fidelity prototype of our system.

Our Disaster Management Mobile Application (ResQ) aims to provide timely and critical information to users during natural or man-made disasters. The primary goal is to facilitate communication, provide real-time updates, and offer resources to help users stay safe and informed. Effective UI design for such an application must prioritize clarity, usability, and reliability under potentially stressful conditions.

Key Features of ResQ

1. **Real-Time Alerts and Notifications**: Immediate updates on disasters such as earthquakes, floods, storms.
2. **Emergency Contacts and Services**: Quick access to emergency numbers, hospitals, shelters, and services.
3. **Location-Based Services**: Information relevant to the user's current location, such as disaster prone area, safe zones and evacuation routes.
4. **Resource Access**: Guidance on first aid, survival tips, and resource availability (food, water, medical supplies).
5. **Community Communication**: Tools for users to communicate with family, friends, or local authorities.
6. **Accessibility Features**: Design considerations for users with disabilities such Protanopia, Tritanopia, Deuteronopia, Achromatopsia.

UI Design Principles ResQ

1. **Clarity and Simplicity**:
    - **Clear Information Display**: We used straightforward language and simple icons to convey important information quickly.
    - **Minimalist Design**: By avoiding clutter to ensure the interface is easy to navigate, especially in high-stress situations.
    - **Prominent Alerts**: Critical updates are highly visible and distinguishable from other content.

2. **Consistency and Familiarity**:
    - **Standard Icons and Layouts**: By using familiar symbols (e.g., a bell for notifications, a phone for emergency calls) to reduce learning curves.
    - **Consistent Navigation**: Keep navigation patterns uniform across different sections of the app.
3. **Feedback and Responsiveness**:
    - **Immediate Feedback**: Users receive instant feedback on their actions, such as sending a message or accessing a resource.
4. **Accessibility and Inclusivity**:
    - **Text Size and Color Contrast**: Ensuring readability through appropriate font sizes and high-contrast color schemes.
    - **Screen Readers**: compatibility with screen readers for visually impaired users.
    - **Touch-Friendly Elements**: Design buttons and controls are easily tappable, considering users might be in motion or using one hand.

Application name

An application name is more than just a label it is a critical aspect of the app's identity and plays a significant role in user engagement, branding, and functionality. The name chosen for our app is "**ResQ**".

- The term "ResQ" was gotten from the creative variation of the word "Rescue," often used in branding for applications, products, or services related to safety, emergency response, and disaster management.

  The image below if the logo of our application:

Application Designed Elements

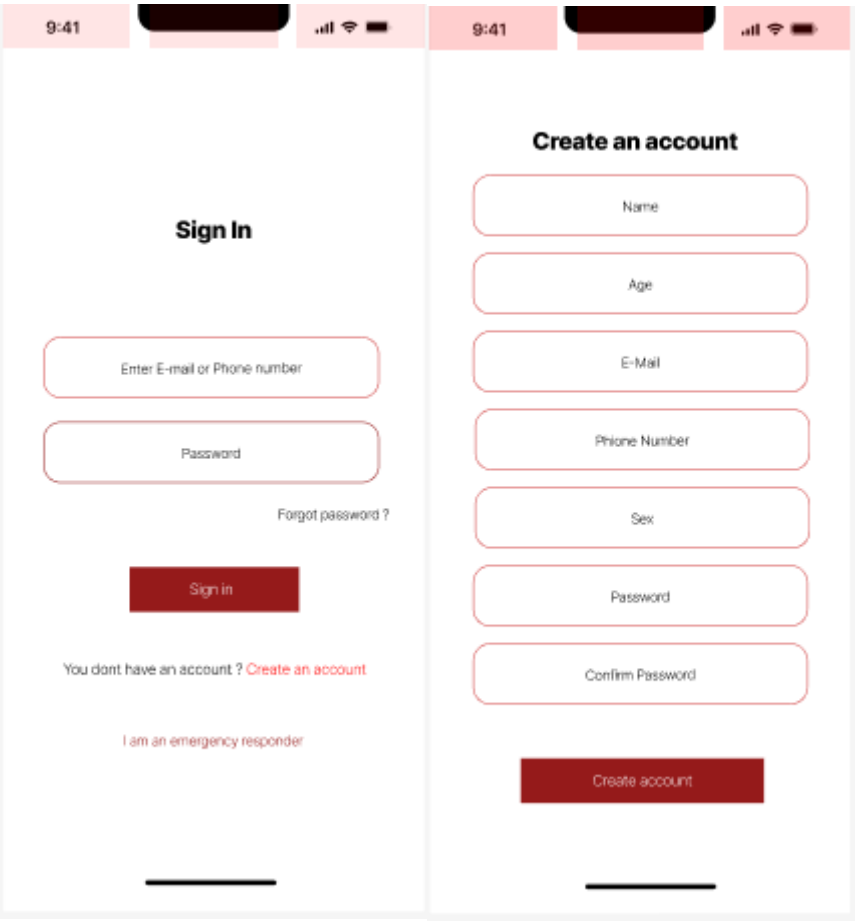
Designing a disaster management mobile application requires careful consideration of various UI and UX elements to ensure that it is effective, reliable, and easy to use in emergency situations. Below are the critical design elements we integrated into our application;

I. For citizen:

a) Authentication:

Authentication is a crucial component for any mobile application, especially for a disaster management app where the integrity, security, and accessibility of data are vital.

The figures below shows the authentication pages for our disaster management mobile application



UI Flow for Authentication

1. **Welcome Screen**:

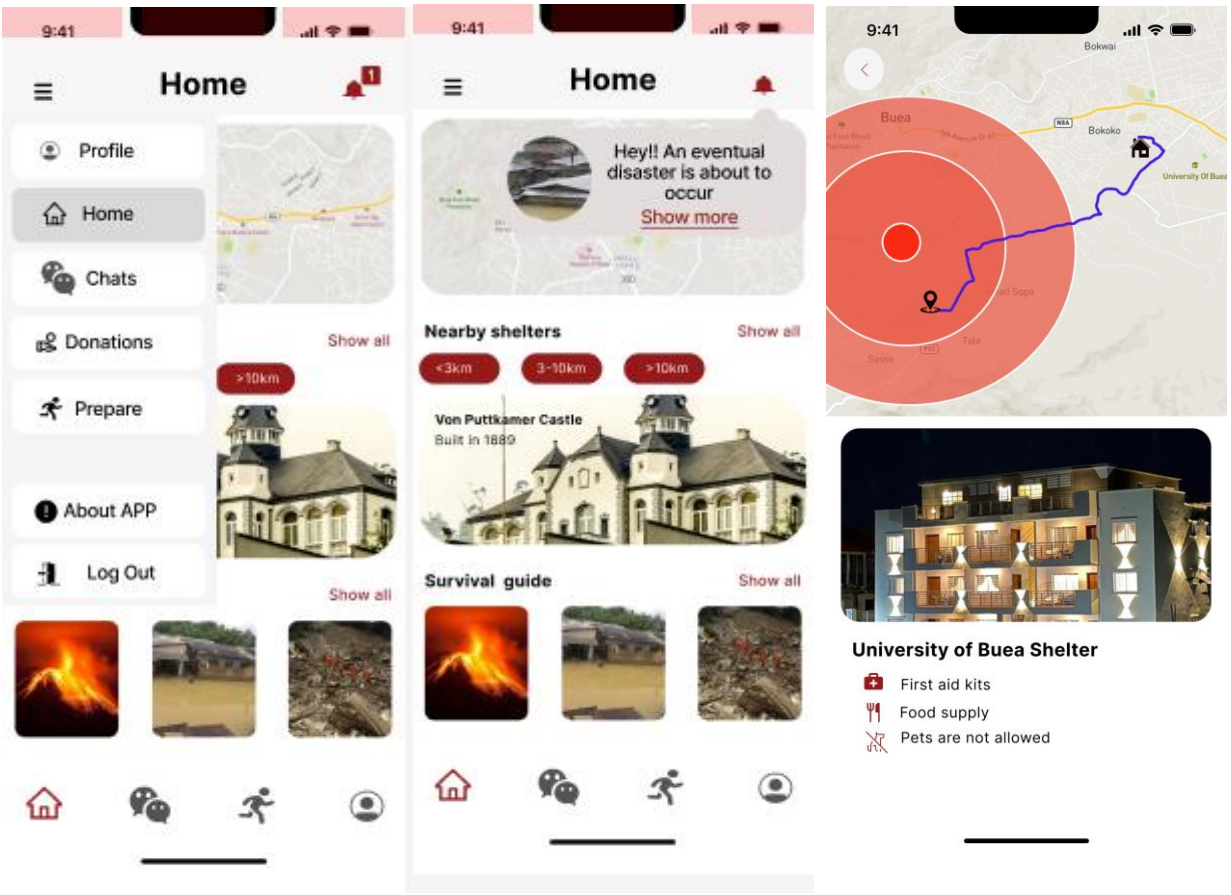
- Provides options to register or login.

2. **Registration Screen**:
    - Form fields for entering user details.
    - Verification step is required (e.g., email verification).
3. **Login Screen**:
    - Fields for entering email/username and password.
    - "Forgot Password" link to navigate to password recovery.
    - Option for creating an account into our system.
    - Option to go towards the emergency responder section

b) Home Screen:

The home screen of our disaster management mobile application serves as the central hub where users can quickly access critical information and functionalities. Given the context of disaster management, our screen prioritizes clarity, ease of use, and quick access to essential features.

The figures below show the Home page for our disaster management mobile application



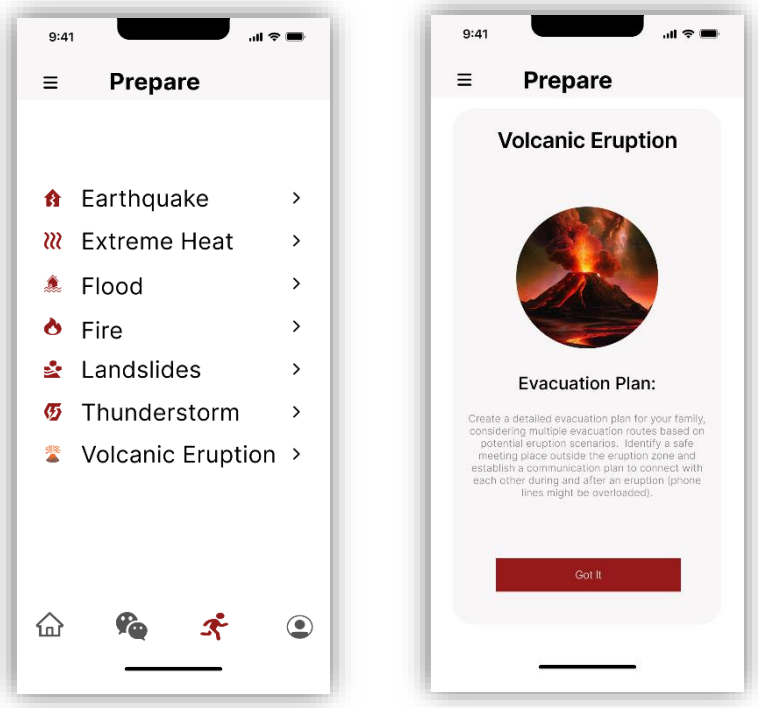
UI Flow for Home Screen

1. **Home Screen**:
    - Provides a menu and a notification button
    - Provides a map containing his actual position
    - Provides access to a navigation bar containing the home, chats, prepare, profile button.
    - User can have access to shelters and survival guides.
2. **Notification Button**:
    - Helps users to access his notifications about eventual disasters or updates about the disaster evolution
3. **Menu Button**:
    - It serves as a gateway to various secondary features and functionalities of the app that are not immediately visible on the home screen such as donations, prepare, about app and log out.

c) Prepare:

The **Prepare Screen** in our disaster management mobile helps users proactively prepare for potential emergencies. It provides resources, tools, and guides to equip users with the knowledge and supplies they need to effectively respond to disasters. The goal is to ensure users are ready and can minimize risks when disaster strikes.

The figures below show the preparation page for our disaster management mobile application

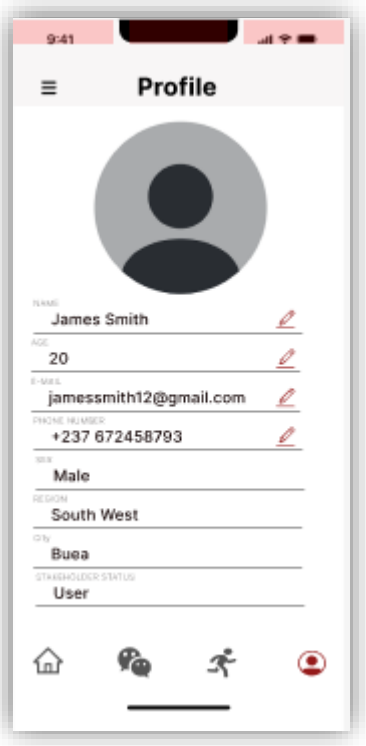


Here the user has access to educational resources about preparing for a disaster so that they can be ready both physically and mentally.

d) Profile Screen:

The profile screen of our disaster management mobile application serves as a centralized location for users to view and manage their personal information.

The figure below shows the profile page for our disaster management mobile application



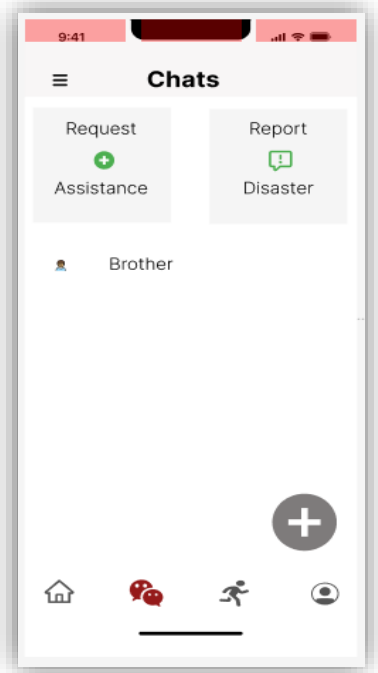
From the above profile screen, the user can modify his information such as:

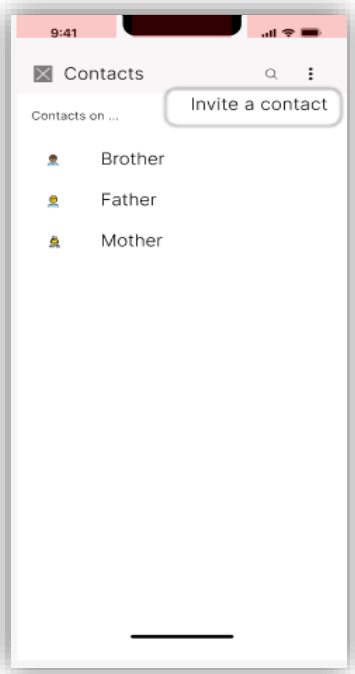
- Name
- Age
- Email
- phone number

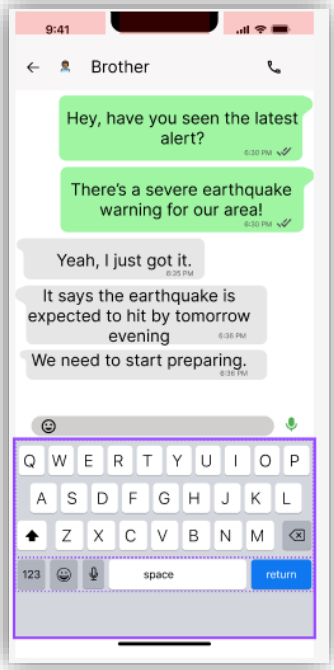
e) Chats:

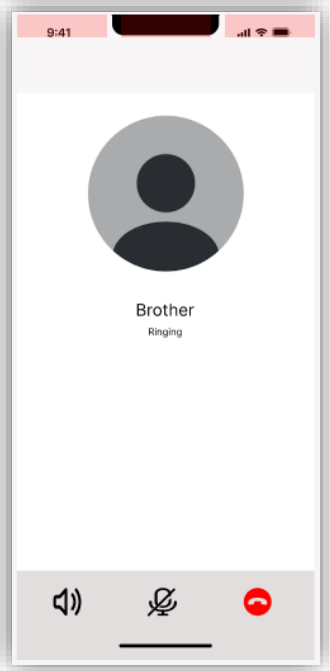
It facilitates communication and coordination among users and emergency responders during a disaster. It enables real-time messaging, which can be crucial for sharing information and requesting help.

The figures below shows the chat page for our disaster management mobile application









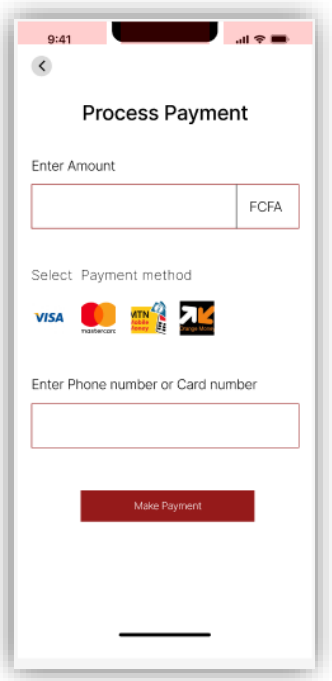
UI Flow for Chat Screen

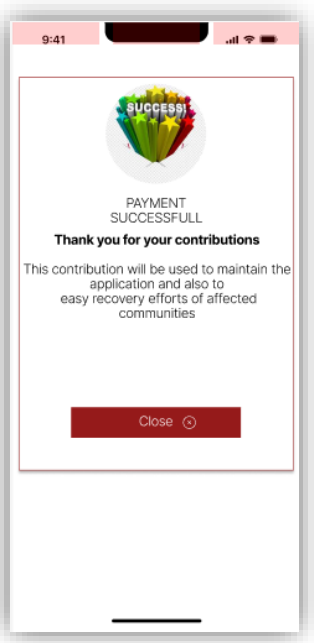
1. **Request Assistance**:
    - Allows the user to request different types of assistance during the course of a disaster.
    - He can request different types of assistance such as medical assistance, rescue and evacuation, shelter and housing, safety and security, pets and animals.
2. **Report Disaster**:
    - Allows the user to provide a picture of disaster symptom containing the location, date and time the picture was taken.
3. **Communicate with other users**:
    - Allows the user to communicate with other users of the application in other to coordinate response efficiently

f) Donations:

The donation screen of our disaster management mobile application serves as a platform where users can contribute financially to support relief efforts during or after a disaster. This screen is crucial for mobilizing resources quickly.

The figures below show the donation page for our disaster management mobile application

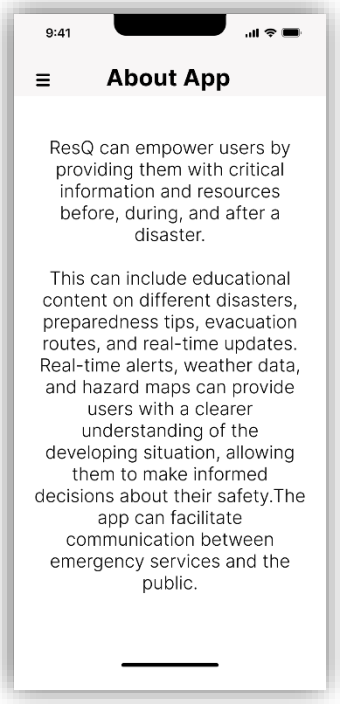




g) About app:

The "About" screen in our disaster management mobile application serves as an informative section that provides users with detailed information about our application, its purpose, the organization behind it, and other relevant details. This screen is essential for building trust and credibility, offering transparency, and helping users understand the app's mission and operational aspects.

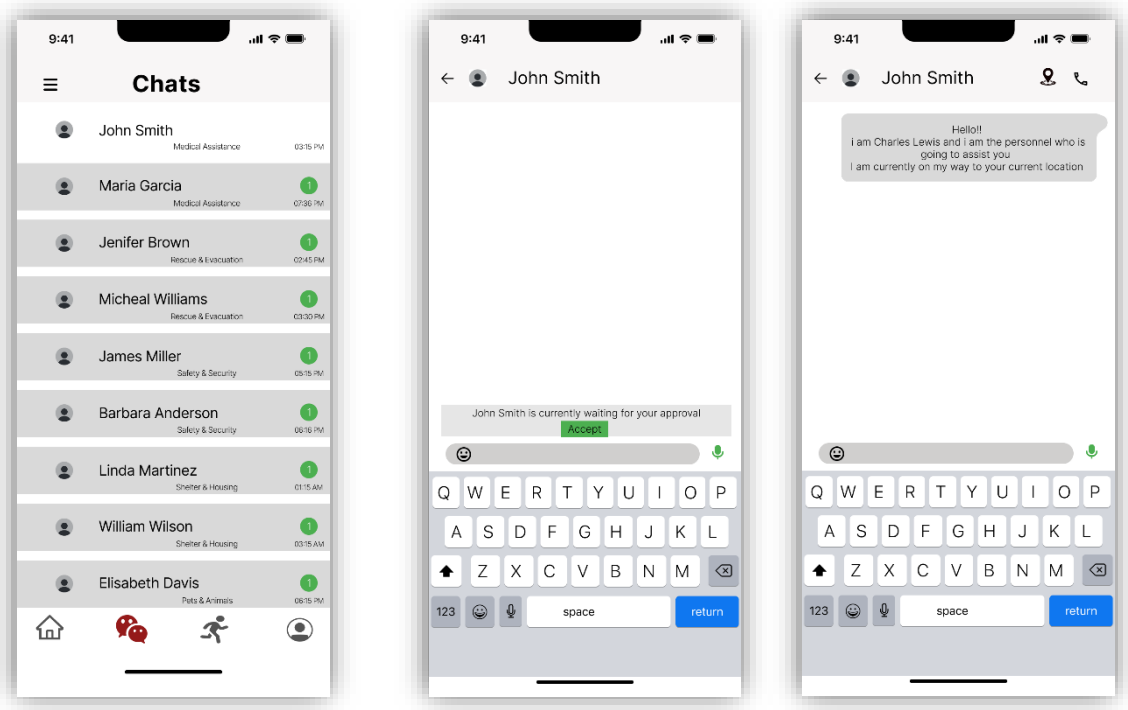
The figures below show the about app page for our disaster management mobile application



II. For Emergency Responders:

In our application, the emergency responder has nearly all the functionalities of the citizen as stated above except functionalities such as donation, report disaster, request assistance. Nevertheless, it has additional functionalities on the chat

The below figure shows the chat screen of the emergency responder



The emergency responder is able to see the users who has requested for assistance classified according to priority level for example a request for medical assistance has the highest priority level compared to other types of assistance.

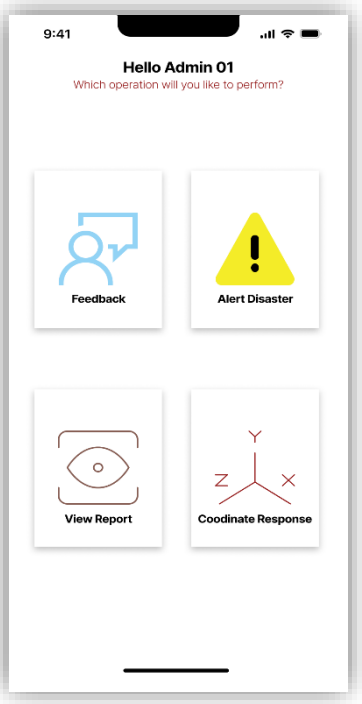
Once an emergency responder chooses to accept the assistant request of a user, an auto generated message is sent to the user containing the name of the emergency responder coming to assist the user. The emergency responder can also have access to the mapping position of the user in other to easy rescue.

III. For Admin:

1. Home Screen:

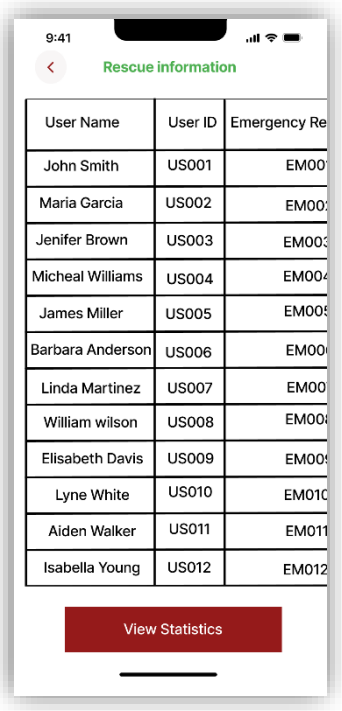
Some of the functionalities available on the home screen of the admin include;

- Feedback
- Alert Disaster
- View Report
- Coordinate Response



2. Feedback:

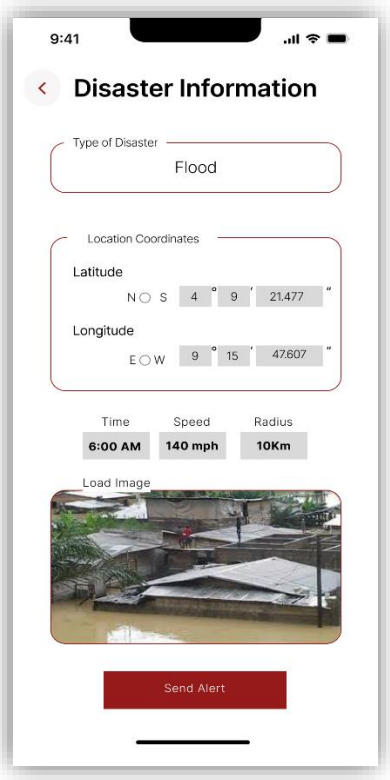
Here the admin is able to see information about users requesting for assistance such as the user name, user ID, responder ID assisting the various users, type of assistance requested and the status (whether ongoing or ended).



The above statistics button shows a graph of the type of assistance requested against the number of user request which can help in efficiently coordinating disaster response.

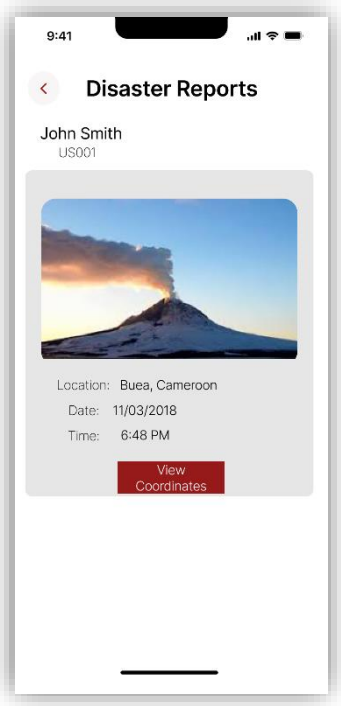
3. Alert Disaster:

Here the admin sends notification about the disaster which is then represented on a map to ease user comprehension.



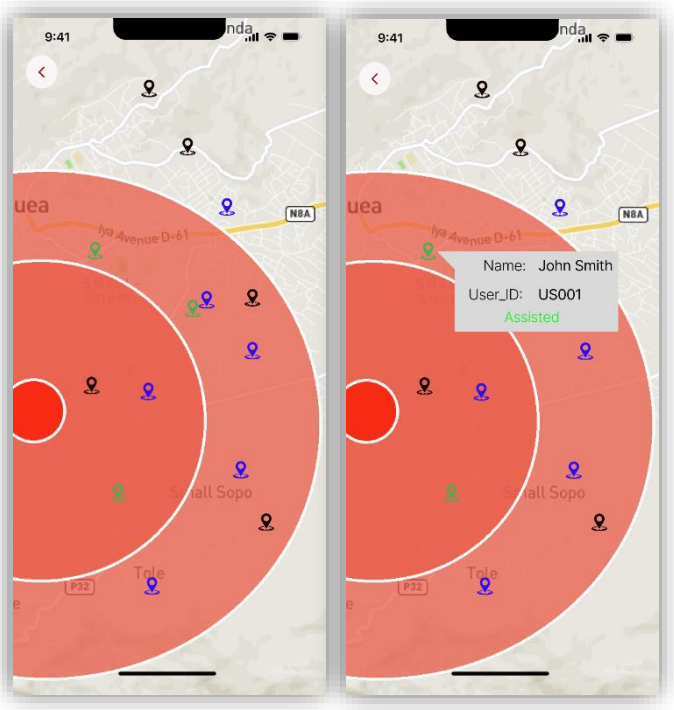
4. View Report:

Here the admin is able to view the picture of the report of an eventual disaster send by a user containing information such as the location, date, time with a possibility to access the longitude and latitude coordinates representing the position of the user.



5. Coordinate response:

Here the admin is able to see the position of each user and emergency responder then distinguish whether the user has requested for assistance or not.



Conclusion

Designing the user interface (UI) for a disaster management mobile application is a critical and complex task that requires balancing functionality, usability, and accessibility. This application is not just another tool; it's a lifeline during crises, making the stakes high for delivering a well-thought-out and user-friendly interface.

Figma Design Link

https://www.figma.com/file/5wU0s8dDudS0ADhVMh7qXZ/Untitled?type=design&node-id=0%3A1&mode=dev&t=su7iwo8pNwQBfTkI-1