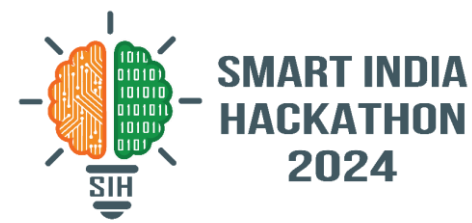
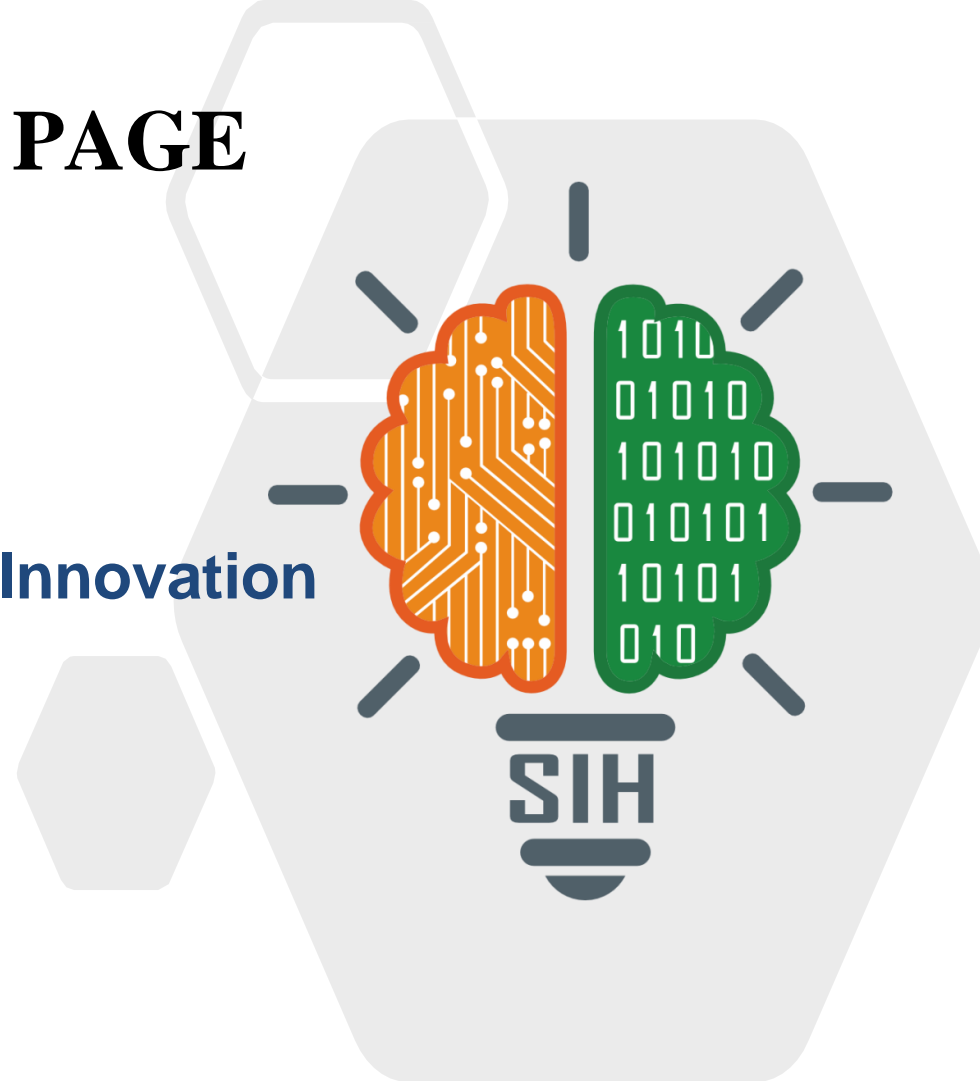


SMART INDIA HACKATHON 2024



TITLE PAGE

- Problem Statement ID – **1587**
- Problem Statement Title- **Student Innovation**
- Theme- **Disaster Management**
- PS Category- **Software**
- Team ID-
- Team Name: **WHITE HATS**



ALERT-X

Alert-X is a comprehensive disaster management platform designed to assist users at every stage of a disaster: before, during, and after.

Pre-Disaster: Preparedness

- Early Warnings:** Provides real-time alerts based on location's weather forecast reports.
- Emergency Preparedness:** offers the ability to pre-register emergency contacts and shelters. Based on notification shelters can prepare/collect resources for future requirements.

Register Shelter on website

Type of Organisation:
Select Type

Name of Organisation:
Name of Organisation

Location: Latitude:

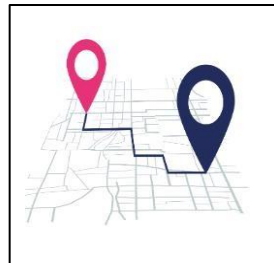
Longitude:

Locate Me

Your Email.....

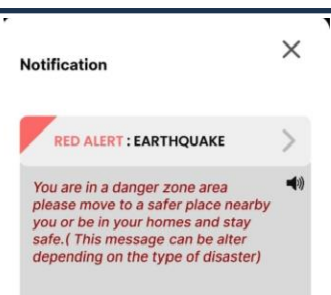


Nearby Shelters listed on app

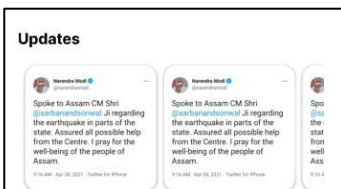


Navigation to nearby shelter

Real Time Notifications for the user and the shelters as well to collect resources (along with audio message)

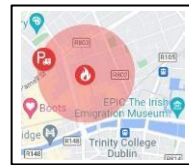


Updates

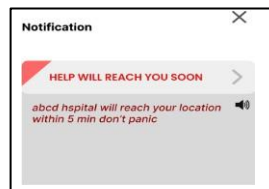


During Disaster: Response

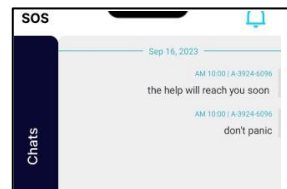
- Real-Time Alerts:** Notifies users of ongoing emergencies and provides directions to nearby shelters and auto read audio messages for old ages and people non familiar to phones
- Quick Communication:** Automatically informs registered contacts about the user's safety and location, even people can communicate offline or last location is sent in case of phone damage. Updates helps agencies to reach the location on time.
- Exchange of resources:** agencies can communicate through website portal and communicate for resources



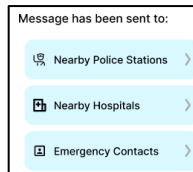
Real Time Alerts



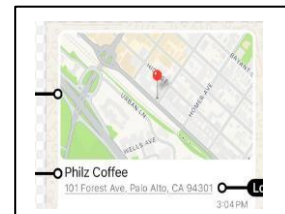
Periodic notification until the help reaches along with audio messages



Quick Communication(between the help centers and with the victims)



Quick help Contacts



Last location sent to the help agencies and contacts in case phone's damaged



Exchange of resources within communities to overcome scarce situation

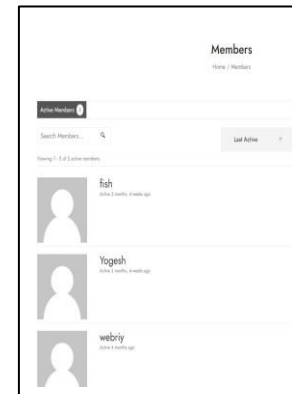


Offline Communication

Post-Disaster: Recovery

- Community Collaboration:** Connects users with rescue agencies and volunteers to aid recovery. Individuals as well as agencies can volunteers for help in donations etc.
- Fundraising and Support:** Facilitates fundraising for disaster relief efforts via the website.
- Resource requirements:** agencies can request resources via message through the website portal

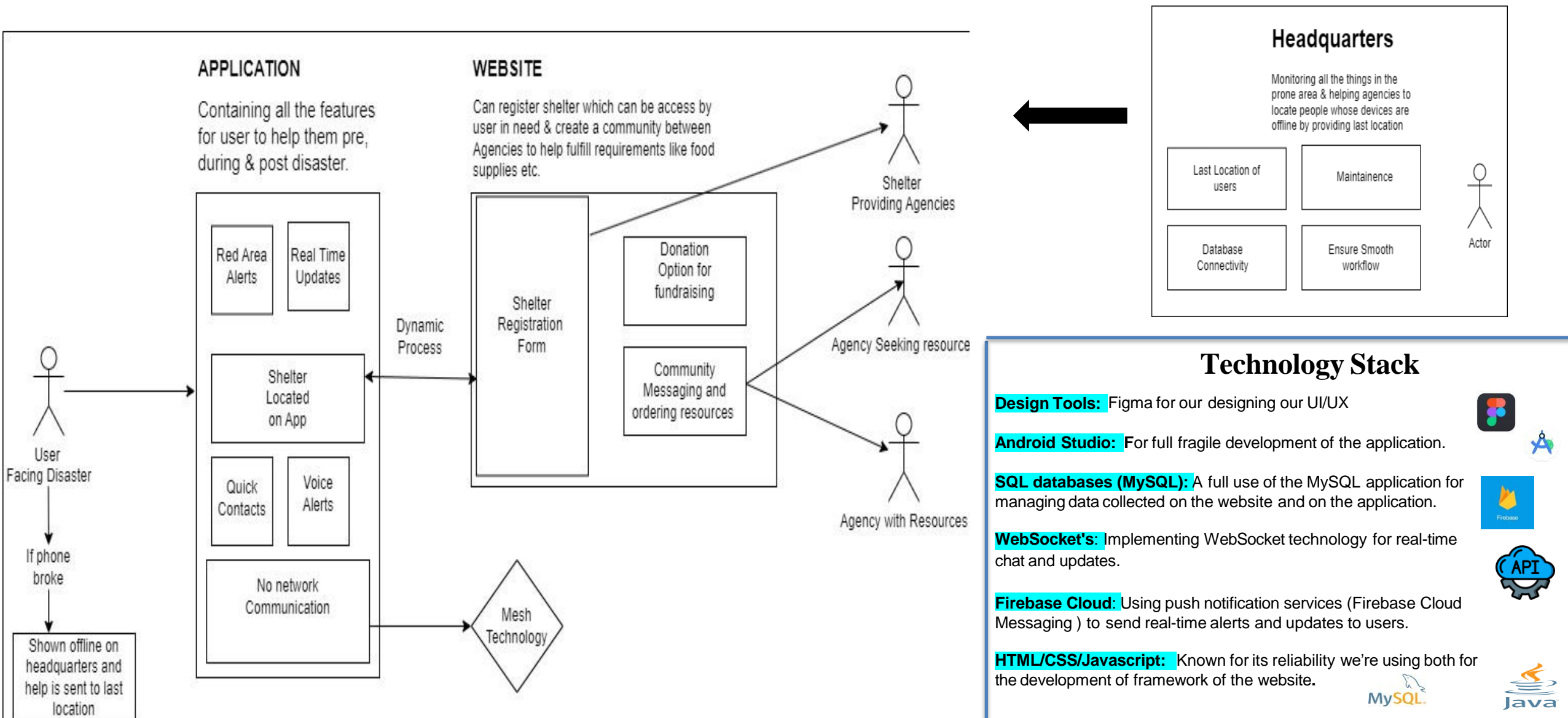
Community Collaboration of different government bodies and NGOs



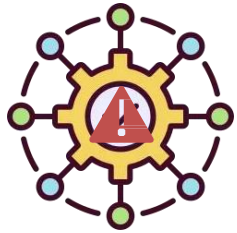
Fundraising for future pre-cautionaries



Donate



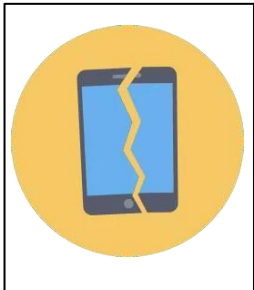
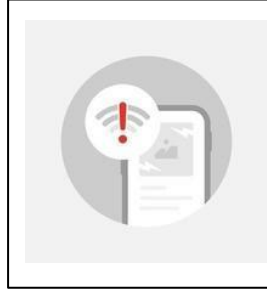
Potential challenges and risks



Technical Failure



Data Breach

No phone
accessBudget
OverrunsNetwork
Outage

Analysis of the feasibility of the idea

**Technical Feasibility:**

All the technologies and frameworks used are feasible in nature.

**Operational Feasibility:**

The user and the providers can access the interface easily as it has a user friendly user interface (UI).

**Economic Feasibility:**

The budget depends on the scalability and currently the making cost of the project is null i.e. 0.

**Security Check:**

The SSL certification ensures the security of all the data stored.

**Location Tracked:**

The last location is taped and can be used for tracking

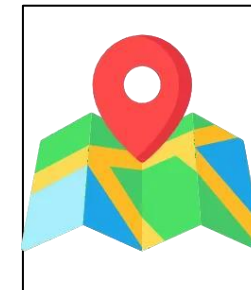
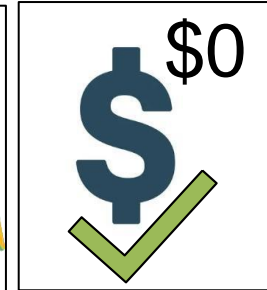
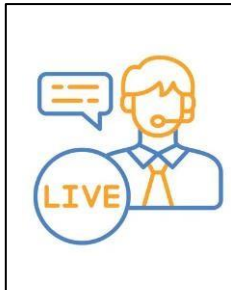
**Offline Communication**

The mesh technology helps in communication at the time of network outage by making each phone a node & creating a network within the range.

Strategies for overcoming these challenges

Smooth integration
with modern APIs.

Cyber Secured

Last Location
Retrievedmaking Cost
Is 0Offline
Communication
at the time of
network outage

Potential Impact on the Target Audience:

• Immediate Impact:

- **Emergency Response:** Faster disaster response, Improved access to resources.

• Long-Term Impact:

- **Community Resilience:** Enhanced preparedness, Reduced losses.

• User Experience:

- **Ease of Use:** Simplified information access, Increased engagement

- **General Public:** Have positive impacts -: Real time information , prepared-ness, resources, emergency contacts & communication, resource allocation, post disaster recovery, psychological support, enhanced public awareness.



- **Vulnerable Population:** For children/old age/ disabled automated voice messages (similar to notification with audible text) would help them reach safe spots without the app engagement

Benefits of the Solution:

Social Benefits:

- **Enhanced Safety:** Improved safety and disaster preparedness.
- **Community Support:** Support Strengthened community bonds.

Economic Benefits:

- **Cost Savings:** Reduced economic losses.
- **Resource Optimization:** Efficient use of resources.

Environmental Benefits:

- **Reduced Environmental Impact:** Minimized ecological damage.
- **Sustainable Practices:** Promotion of eco-friendly practices.

Health Benefits:

- **Improved Health Outcomes:** Better health and safety.
- **Reduced Stress:** Enhanced mental well-being.

Community Organizations: The community trying to help & looking for a connectivity can get help with the features like shelter registration for providing shelters and communicating within themselves for resource exchange.



Emergency Responders: The emergency responders like fire fighters, police and other relief providing agencies can make a community to have a conversation and look for resources in need.





1. Research Papers and Articles:

- **Real-time communication systems in disaster management:Example:**
 - Wi-Fi Based Real-Time Communication for Disaster and Emergencies. (2020). *ResearchGate*. [Read Paper](#)
 - Messaging Through Other Media. (n.d.). *SAMHSA Disaster Response Template Toolkit*. [Read Paper](#)

2. Technical Documentation:

- **API Documentation for Real-Time Alerts:**
 - Google Cloud. (n.d.). *Using the Alerting API*. [View Documentation](#)
- **Guidelines for Implementing Offline Communication Solutions:**
 - The Big Picture People. (n.d.). *Why Offline Communication Is Important*. [View Guidelines](#)

3. Case Studies:

- **Successful Implementations of Disaster Management Platforms:**
 - Tulane University. (n.d.). *Technology in Disaster Management*. [Read Case Study](#)
- **Lessons Learned from Recent Disasters:**
 - National Academies of Sciences, Engineering, and Medicine. (n.d.). *Chapter 9: Lessons Learned*. [Read Case Study](#)
- **Emergency Management Standards:**
 - Emergency Management Accreditation Program (EMAP). (n.d.). *The Emergency Management Standard*. [View Standards](#)

5. Tools and Frameworks:

- **Real-Time Communication Tools:**
 - Agora. (2022, May 10). *Real-Time Communication Tools for Online Messaging*. [Explore Tools](#)
- **Offline Communication Tools:**
 - Companow. (n.d.). *Online vs. Offline Communication: Choosing the Best Strategy*. [Explore Tools](#)