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## Project Summary

As natural disasters grow in frequency and severity, emergency response teams face widening gaps in communication, navigation, and coordination. Cyren is an AI-enabled disaster response ecosystem that streamlines frontline tasks, enhances situational awareness, and reduces emotional and cognitive strain for responders through modular tablets and HUD (heads-up display) interfaces.

Rooted in field research with Red Cross responders, Cyren addresses systemic challenges like outdated equipment, manual documentation, poor connectivity, and visibility issues. The solution provides real-time routing, automated tasking, prioritized communication, and smart inventory tracking—all designed to function in high-stress, offline-prone environments.

**Cyren is disaster technology for not just users, but heroes.**

## Problem & Opportunity

Disaster relief vehicles (ERVs) are often under-equipped to meet the situational demands of chaotic emergency zones. Our research revealed:

- Communication breakdowns between teams and dispatch.
- Paper-based workflows prone to error and overload.
- Navigation failures in environments with infrastructure damage.
- Lack of visual and audio cues to signal presence or mission type.

These gaps result in slower response times, reduced safety, and more trauma for both survivors and responders.

## How Might We...

- Enhance structural assessments to help responders quickly determine building safety on-site?
- Design a Red Cross vehicle siren that communicates intent and urgency more effectively
- Streamline call management to reduce delays and confusion during emergencies?
- Simplify form filling to make data entry faster, easier, and less error-prone for responders in the field?

## Research & Discovery Summary

We initiated an exhaustive research phase that integrated secondary sources, disaster reports, interviews, surveys, and case studies. This enabled us to align our course of action with the needs of frontline responders, survivor experiences, and systemic gaps.

- Spoke with Red Cross Savannah Senior Disaster Program Manager Kelly Crane
- Toured Red Cross facilities
- Explored and documented disaster relief and mobile feeding vehicles

Our analysis revealed consistent issues around disaster vehicle adaptability, communication failures, and usability shortfalls. These insights highlighted opportunity spaces in:

- Communication systems
- Rapid setup and reaction time
- User-friendly interfaces
- Modularity for evolving disaster needs

## Key Insights

- Volunteers struggle with unclear instructions and outdated tools
- Current systems lack task clarity, audible/visual distinction, and data traceability
- Responders need tools that are intuitive, durable, and connected offline

## Solution Overview

### Modular tablet interface

A rugged tablet with user-friendly design for use in any vehicle.

- Real-time task assignment, documentation, and team coordination
- AI-assisted form-filling and damage reporting
- Inventory tracking and supply chain visibility

### HUD (heads-up display)

Mounted display projecting key information while driving.

- Route navigation and ETA with rerouting
- Audio and visual cues to improve visibility in disaster zones

Cyren proposes a future-forward disaster vehicle interface ecosystem. Core concepts include adaptive interfaces, modular layouts, real-time communication tools, and intuitive, stress-reducing navigation systems—all grounded in frontline realities. Here are our two flagship solutions:

## Key Features

- Offline-ready AI for voice transcription, autofill, and routing
- Modular UI that adapts to user roles (e.g., logistics, medical)
- Smart notifications and call prioritization during information surges
- Accessibility-compliant UI designed for aging volunteers
- Built-in guidance (tutorials, allergen warnings, usage instructions)

## Supporting Materials

- Interactive prototype of the tablet and HUD interface
- 3D renders and models of the HUD and tablet case
- System-wide UX wireframes
- A full research + design process book
- A narrative video walkthrough
- Visual communication assets: poster, lookbook
- Custom-designed emergency siren audio

## Impact

By targeting real pain points experienced by Red Cross responders, Cyren directly improves:

- Response time and safety
- Data accuracy and recovery
- Responder well-being and decision-making
- Disaster zone communication infrastructure

## Other Artifacts

- Branding & Style Guide
- User Journey
- Information Architecture - Site Map
- Business Model Canvas
- User Personas

**Logo**

**Font**

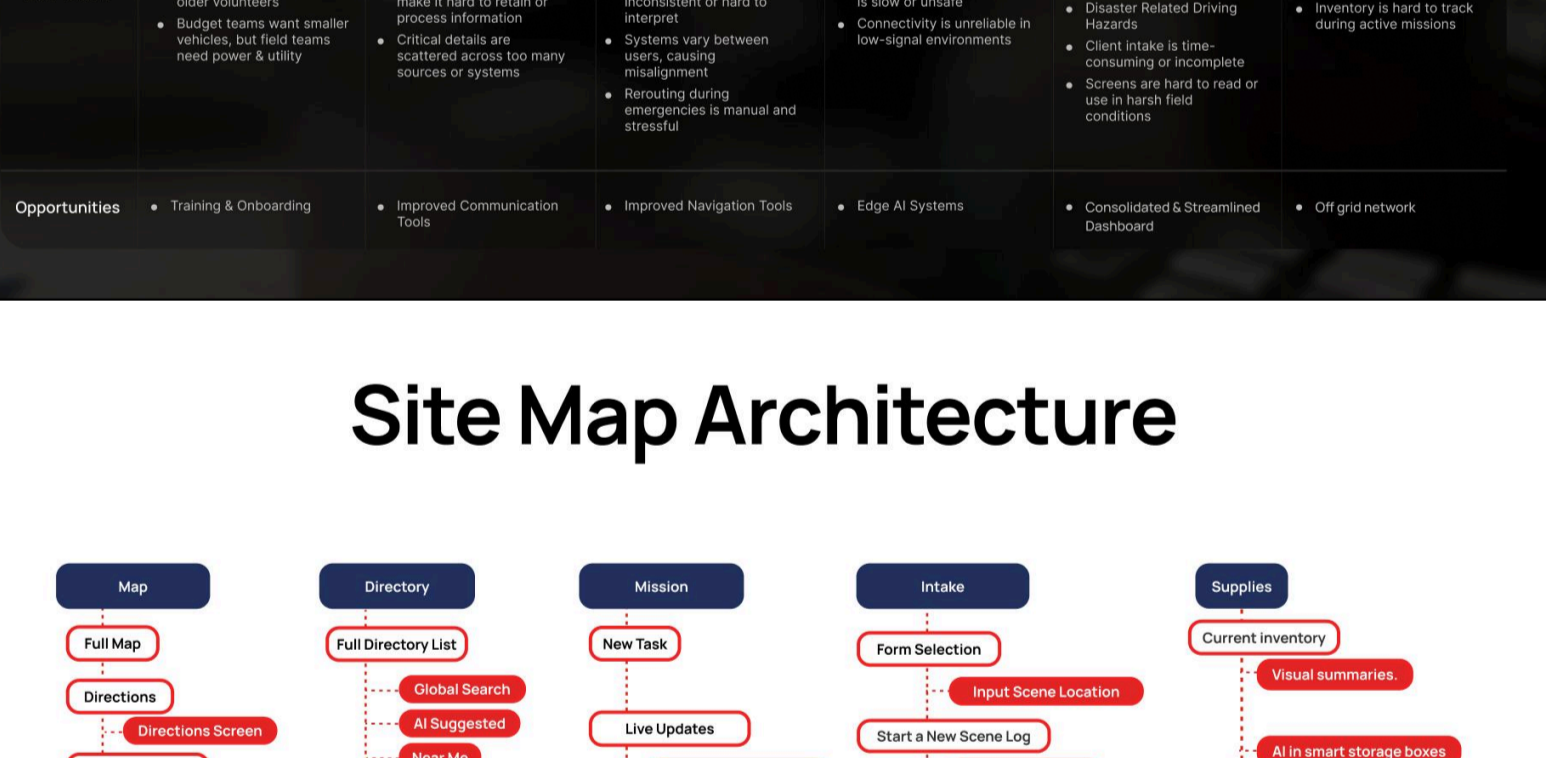
Manrope

40px H1 - Manrope  
36px H2 - Manrope  
28px H3 - Manrope  
24px H4 - Manrope  
20px Lead Paragraph - Manrope  
16px Body Paragraph - Manrope

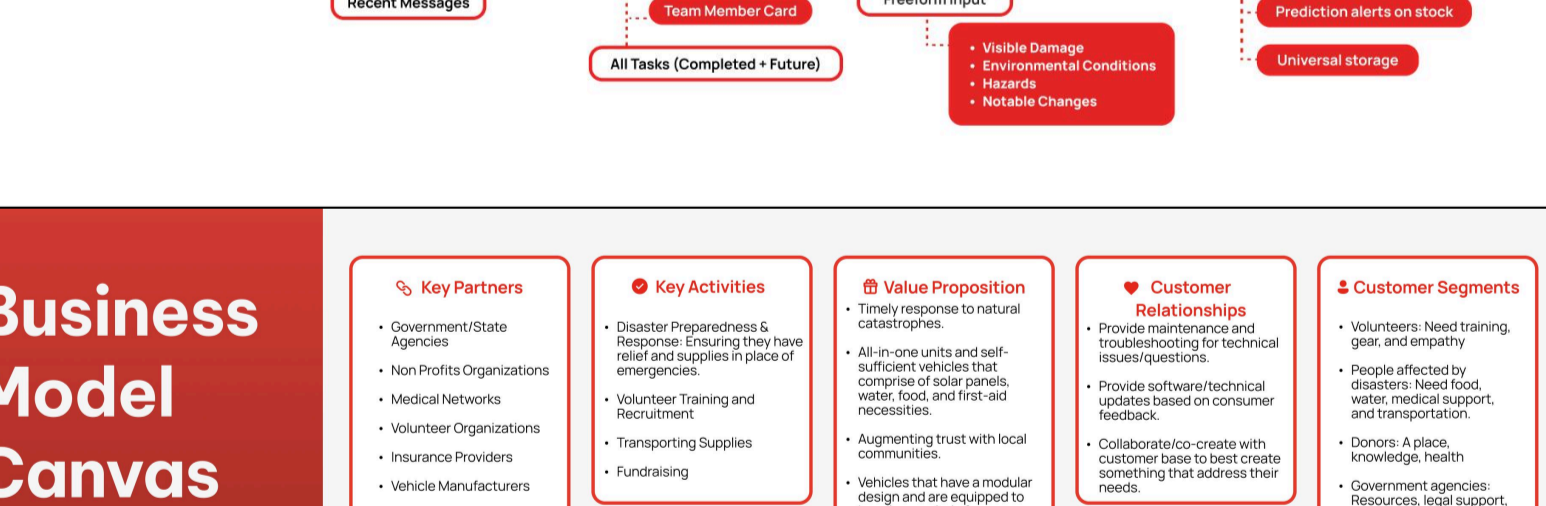
**Buttons**

**Icons**

# User Journey



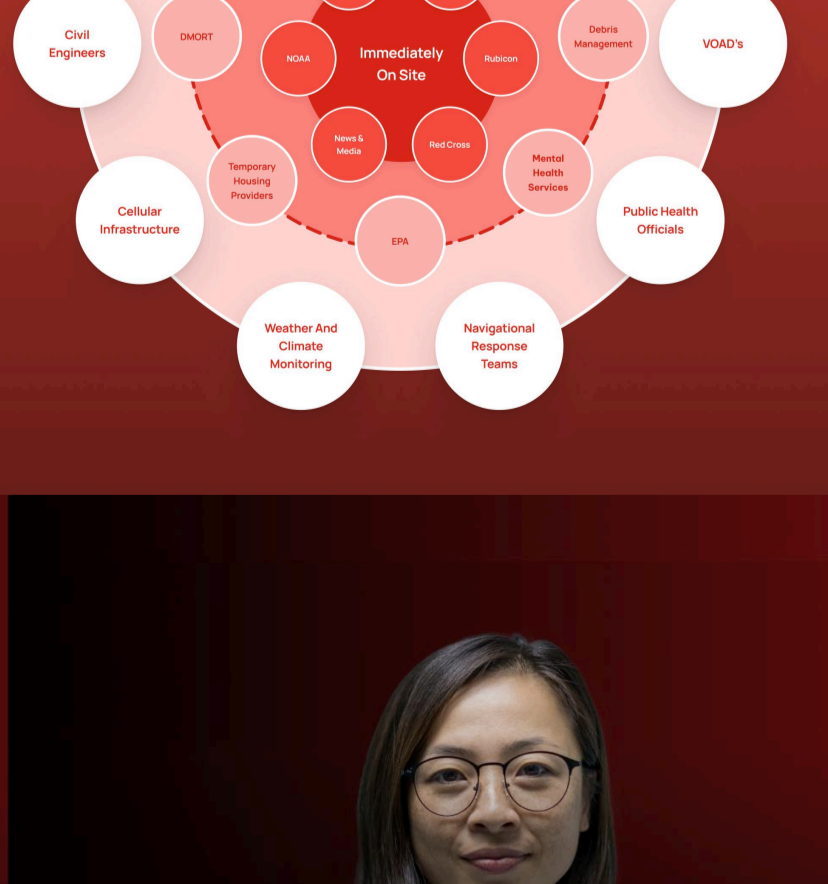
# Site Map Architecture



# Business Model Canvas

<p><b>Key Partners</b></p> <ul style="list-style-type: none"> <li>• Government/State Agencies</li> <li>• Non Profits Organizations</li> <li>• Medical Networks</li> <li>• Volunteer Organizations</li> <li>• Insurance Providers</li> <li>• Vehicle Manufacturers</li> <li>• Logistics &amp; Transport Companies</li> </ul>	<p><b>Key Activities</b></p> <ul style="list-style-type: none"> <li>• Disaster Preparedness &amp; Response: Ensuring they have relief and supplies in place of emergencies.</li> <li>• Volunteer Training and Recruitment</li> <li>• Fundraising Supplies</li> </ul>	<p><b>Value Proposition</b></p> <ul style="list-style-type: none"> <li>• Timely response to natural catastrophes.</li> <li>• All-in-one units and self-sufficient vehicles that comprise solar panels, water, food, and first-aid necessities.</li> <li>• Augmenting trust with local communities.</li> <li>• Vehicles that have a modular design and are equipped to handle a myriad of emergencies that include earthquakes, hurricanes, and wildfires to name a few.</li> <li>• Cold chain ready systems that have refrigerators to maintain optimal medicine and vaccine temperatures.</li> <li>• Vehicles with pre-approved border protocols for rapid customs clearance.</li> <li>• In-built vehicle infrastructure to provide mental health counseling for victims and family members.</li> <li>• Drone supported vehicles to provide and transmit data for live updates and resource allocation.</li> </ul>	<p><b>Customer Relationships</b></p> <ul style="list-style-type: none"> <li>• Provide maintenance and troubleshooting for technical issues/questions</li> <li>• Provide software/technical updates based on consumer feedback</li> <li>• Collaborative: create with customer base to best create something that address their needs.</li> </ul>	<p><b>Customer Segments</b></p> <ul style="list-style-type: none"> <li>• Volunteers: Need training, gear, and empathy</li> <li>• People affected by disasters: Need food, water, medical support, and transportation</li> <li>• Donors: A place, knowledge, health resources, legal support, coordination.</li> </ul>
<p><b>Channels</b></p> <ul style="list-style-type: none"> <li>• Social media</li> <li>• Community outreach</li> <li>• Disaster response</li> <li>• Volunteers</li> <li>• Training programs</li> <li>• Government partnerships</li> <li>• Website</li> <li>• Brick and mortar locations</li> <li>• Blood donation buses</li> </ul>	<p><b>Cost Structure</b></p> <ul style="list-style-type: none"> <li>• Per-mission</li> <li>• Vehicle purchase, customization, and maintenance</li> <li>• Fuel and operational logistics</li> <li>• Training and staffing (Drivers, medical, volunteers)</li> <li>• Insurance and permits</li> </ul>	<p><b>Revenue Streams</b></p> <ul style="list-style-type: none"> <li>• Government and public funding</li> <li>• Charity and donations (Individual and Corporate)</li> <li>• Sponsorships and resource donation (Vehicles and supplies, etc)</li> <li>• Emergency response funding (Public: appeal during disaster)</li> <li>• Insurance and legal support</li> </ul>		

# Ecosystem Map



**Volunteer**

**Victor Griffith**  
Archetype: The Caregiver  
Age: 68 | Male | New Jersey

"Just tell me where to go and what to bring—I'm here to help."

**HQ Manager**

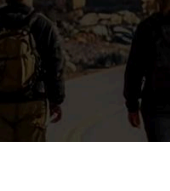
**Anna Mckenna**  
Archetype: Hero  
Age: 35 | Female | New Jersey

"Saving lives isn't a job — it's a calling."

## Special Thanks To



**American Red Cross**



**Kelly Crane**  
Sr. Disaster Program Manager at American Red Cross