

# Inkos

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Your solution to disaster preparation

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# **Problem Statement**

# Problems

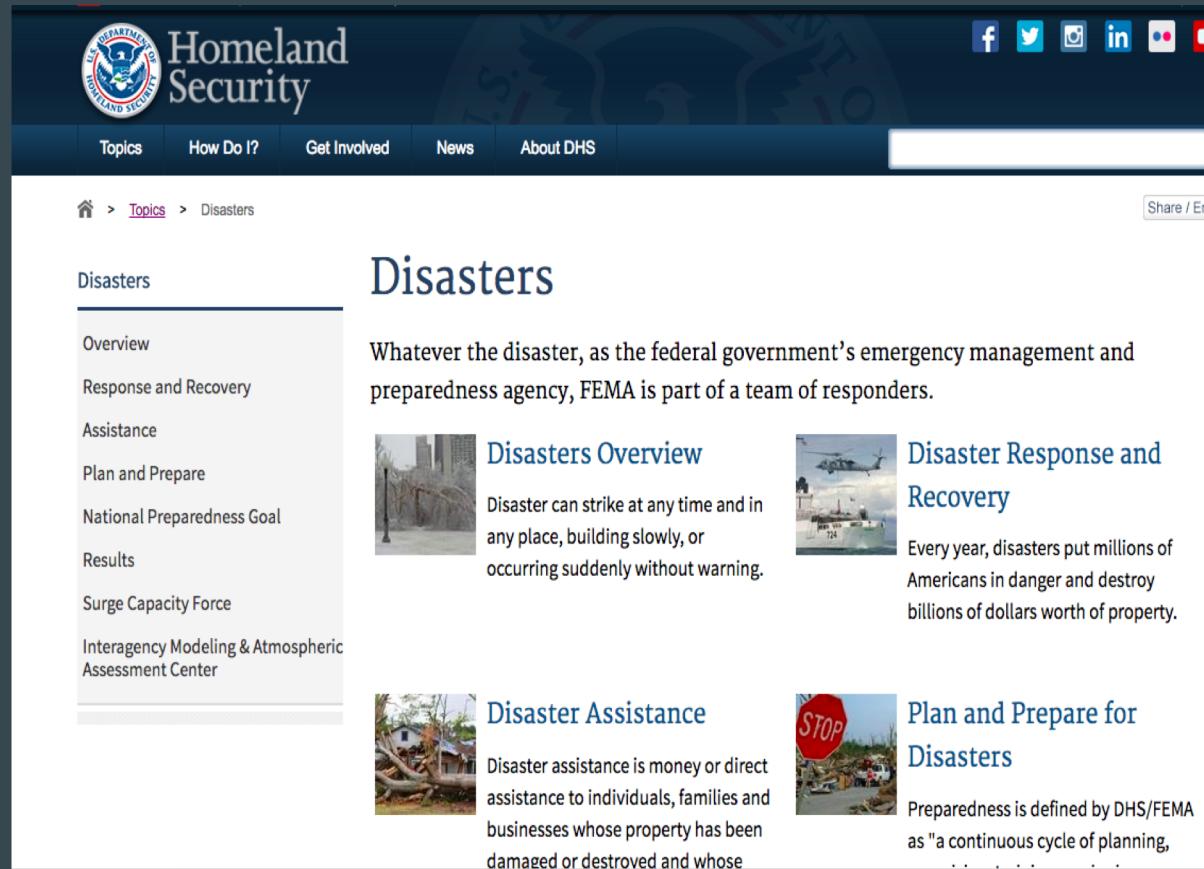
- Keeping track of impending emergency warnings and obtaining information on safe shelters can be difficult
  - Seeking shelter in nearby buildings and houses may be more favorable than moving to officially designated shelters
  - People close by may be in a better position to help people in crises but unaware of who requires their help
-

# Solutions

- *Instructions on How to Survive*
  - *Information on Find Shelters*
  - *Feature to Request Help*
  - *Feature to Volunteer Help*
-

# Related Works

# Department of Homeland Security



The screenshot shows the official website of the U.S. Department of Homeland Security (DHS) under the "Disasters" section. At the top, there's a navigation bar with links for Topics, How Do I?, Get Involved, News, and About DHS. Below the navigation is a main content area with a large heading "Disasters". A sub-navigation menu on the left lists categories like Overview, Response and Recovery, Assistance, Plan and Prepare, National Preparedness Goal, Results, Surge Capacity Force, and Interagency Modeling & Atmospheric Assessment Center. The main content area features several sections: "Disasters Overview" (with a photo of a destroyed building), "Disaster Response and Recovery" (with a photo of a helicopter and boat), "Disaster Assistance" (with a photo of a damaged house), and "Plan and Prepare for Disasters" (with a photo of a "STOP" sign). A banner at the bottom of the page reads "Whatever the disaster, as the federal government's emergency management and preparedness agency, FEMA is part of a team of responders."

- General arrangement of information on crisis reaction
- National-level service on
  - Response and recovery
  - Assistance
  - Plan and operation

# FEMA Transitional Sheltering Assistance Map



- Map-based display of hotels participating in the FEMA sheltering program
- No other types of possible shelter buildings, public or private, are shown

# Korea Ministry of the Interior and Safety

The screenshot shows the official website of the Korea Ministry of the Interior and Safety. At the top, there are links for '국가상징 알아보기' (National Emblem), '국민의 나라 정의로운 대한민국' (The Nation of the People, Just and Fair Korea), and the logo for '행정안전부' (Ministry of the Interior and Safety). Below the header, there are five main navigation tabs: '정보공개' (Information Disclosure), '고객민원' (Customer Complaints), '뉴스·소식' (News & Information), '정책자료' (Policy Materials), and '업무안내' (Work Guide). A red banner titled '비상시 행동요령' (Emergency Response Guide) is prominently displayed. On the left, there are two sections: '자연재난 행동요령' (Natural Disaster Emergency Response Guide) featuring a weather icon and a table of natural disasters, and '사회재난 행동요령' (Social Disaster Emergency Response Guide) featuring a house on fire icon and a table of social disasters.

태풍 호우	>	낙뢰	>	강풍·풍랑	>	대설	>
한파	>	폭염	>	황사	>	지진	>
해일	>	화산폭발	>	가뭄	>	홍수	>
미세먼지	>	지진해일	>	해수면 상승	>		

화재	>	산불	>	붕괴	>	폭발	>
교통사고	>	전기·가스 사고	>	승강기 안전사고	>	어린이 안전사고	>
유·도선 사고	>	수난사고	>	식용수	>	철도사고	>
원전사고	>	공동구 재난	>	대규모 수질오염	>	가축질병	>
댐 붕괴	>	전력분야	>	금융전산	>	감염병 예방	>
해양오염 사고	>	화학물질 사고	>				

- Instructions on how to survive
  - Details on how to react to various different disasters
- Minimalistic visible layout with
  - Pictures
  - Video clips

# **Interviews and Observations**

# Interview Tasks

1. Get information about sources on impending crises and disasters
2. Find and go to the location of nearby shelters
3. Make requests for help
4. Volunteer to help people in need

# Observations Across Interviews

## *Interviewees liked...*

- **Map-based interface:** When websites displayed shelter locations on a map, interviewees quickly determined how far different shelters were from their location based on intuition.
- **Minimalistic display:** Interviewees easily accessed and absorbed existing websites with sparse placement of information. In contrary, websites clustered with information was mostly dismissed and ignored.

## *Interviewees hated...*

- **Shallow information:** Existing websites with shelter locations lacked in-depth information, and interviewees had to make additional searches to find more information on shelter capacity, contact number, etc.
- **Scattered resources:** Every district government and volunteer organization had different websites, requiring interviewees to make multiple visits to gather preparation instructions or volunteer event information.

# Representative Tasks

# Task 1

Check for information on forecasted crises in your region and identify the steps that need to be taken in order to prepare for the crisis.

## Task 2

Search for public shelters nearest to your address and note down its capacity and location.

# Task 3

Make a request for help .

Identify a request for help in your area and volunteer to help.

# Prototype Tests

# Observations Across Prototypes

- **Affordance Issues:** Users were unsure of where to click on some pages due to lack of intuitive design such as on-hover color change for buttons, etc.
- **Feedback Issues:** Users were not certain when they had completed their tasks.
- **Unclear Instructions:** Several input field labels were framed in such a way that users were unsure of what they were expected to enter.
- **Page Flow:** The sequence of pages the user expected to navigate from prior experiences informed a lot of their interactions with our prototypes.
- **Aesthetic vs. Usability:** Some design choices made to maintain aesthetic consistency ended up confusing the user or detracting from usability of the prototypes.

# Notable Examples

The Inkos website features a weather forecast for the next four days:

- Wednesday, Nov 6: 42 F, Windy
- Thursday, Nov 7: 38 F, Heavy Rains
- Friday, Nov 8: 40 F, Heavy Rains
- Saturday, Nov 9: 47 F, Cloudy

A large image of the Brooklyn Bridge is displayed, with a caption below it:

Severe Thunderstorms, Including the Threat of a Few Tornadoes, Will Return to Parts of the Midwest, Ohio Valley Sunday (Nov 5)

Pattern Change Brings Warm Start to November in the U.S. South, Midwest and Northeast, But a Change Looms For Next Week

Utilities warn that power could be out for days in Northeast

Chicago to see coldest Halloween in over 2 decades

The Inkos website highlights "YOUR SOLUTION TO DISASTER PREPAREDNESS!"

What is Inkos?

Keeping track of emergency warnings and obtaining information about safe shelters can be hard due to the many different resources offered by individual states and counties. Plus, in some cases it's often a better idea to seek shelter in nearby buildings and houses than official shelters. Neighbors and people close by may also be in a better position to help people in crises but may be unaware of who needs their help. Inkos provides a one-stop resource for instructions on how to survive in various disasters, information on nearby shelters, and also allows you to request for help from volunteers or volunteer your own help to somebody in need.

How To Survive

Find Shelter

Request Help

Volunteer Help

The weather forecast for the next four days is as follows:

- Monday, Nov 21: 38 F, Partly cloudy
- Tuesday, Nov 22: 37 F, Windy
- Wednesday, Nov 23: 37 F, Partly cloudy
- Thursday, Nov 24: 36 F, Partly cloudy

# Notable Examples (continued)

**Make a request for help to your location**

Submit your information to post your request on the website listings.

**Success!** Your request has been posted on the website listings. ×

**Name:**

**Address:**

**Contacts:**

**Date:**

**Success!** Your request has been posted on the website listings. ×

Thank you! Your request has been posted to the Inkos Volunteer Help listings! Search for your address or ZIP code in the Volunteer Help page to view the listings. If you don't see your request in the listings, please contact us at [help@inkos.com](mailto:help@inkos.com)

[Click here to visit the Volunteer Help page.](#)

# Notable Examples (continued)

Date	Time	Distance	Description
11/22/2017	3:00PM - 7:00PM	0.2 Miles	ABC organization is distributing 1000 disaster relief kits for people affected. Volunteers needed.
11/22/2017	2:00PM - 3:00PM	0.3 Miles	Lend your support to families affected in Hurricane Natalie
11/22/2017	4:00PM - 6:00PM	0.3 Miles	XYZ Corp. is giving out free meals to individuals in need.
11/22/2017	2:00PM - 3:00PM	0.3 Miles	Volunteer your house as shelter for individuals/families who have lost their homes.
11/22/2017	4:00PM - 6:00PM	0.5 Miles	Lend your support (financial,emotional) to families and individuals affected in storm.
11/23/2017	12:00PM - 3:00PM	0.6 Miles	XYZ corporation is distributing 1500 disaster survival kits for people affected. Volunteers needed.
11/23/2017	6:00PM - 9:00PM	1.2 Miles	Lend your support to families affected in the downtown flooding.
11/23/2017	5:00PM - 10:00PM	1.7 Miles	XYZ corp. is giving out free meals to families and individuals in need. Donations welcome.
11/24/2017	11:00AM - 3:00PM	3.0 Miles	Volunteer your house as shelter for individuals/families who had their houses destroyed.
11/24/2017	4:00PM - 7:00PM	3.7 Miles	Lend your support (financial, emotional, shelter) to families and individuals affected in storm.
11/25/2017	6:00PM - 9:00PM	4.0 Miles	JKL Corp. has pledged the distribution of 500 free meals. Volunteers required.
11/25/2017	11:00AM - 4:00PM	4.3 Miles	Red Cross is putting together school kits to be distributed amongst children below 14 years.
11/25/2017	12:00PM - 2:00PM	5.0 Miles	Lend your support to families affected in wake of the hurricane devastation.

Click on an event to volunteer

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Index	Name	Distance	Address
1	Evanston Public Library	0.5 Miles	1703 Orrington Avenue, Evanston, IL
2	Northwestern Technological Institute	0.7 Miles	2145 Sheridan Road, Evanston, IL
3	Ryan Center for the Musical Arts	0.7 Miles	70 Arts Circle Drive, Evanston, IL
4	Ryan Field	1.2 Miles	1505 Central Street, Evanston, IL
5	Evanston Township High School	1.2 Miles	1600 Dodge Avenue, Evanston, IL

Click on a corresponding shelter number in the list below for more information

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# Final Prototype Demo

Inkos Website (<https://jlakshmi235.github.io/inkos/>)

# Thank You!

