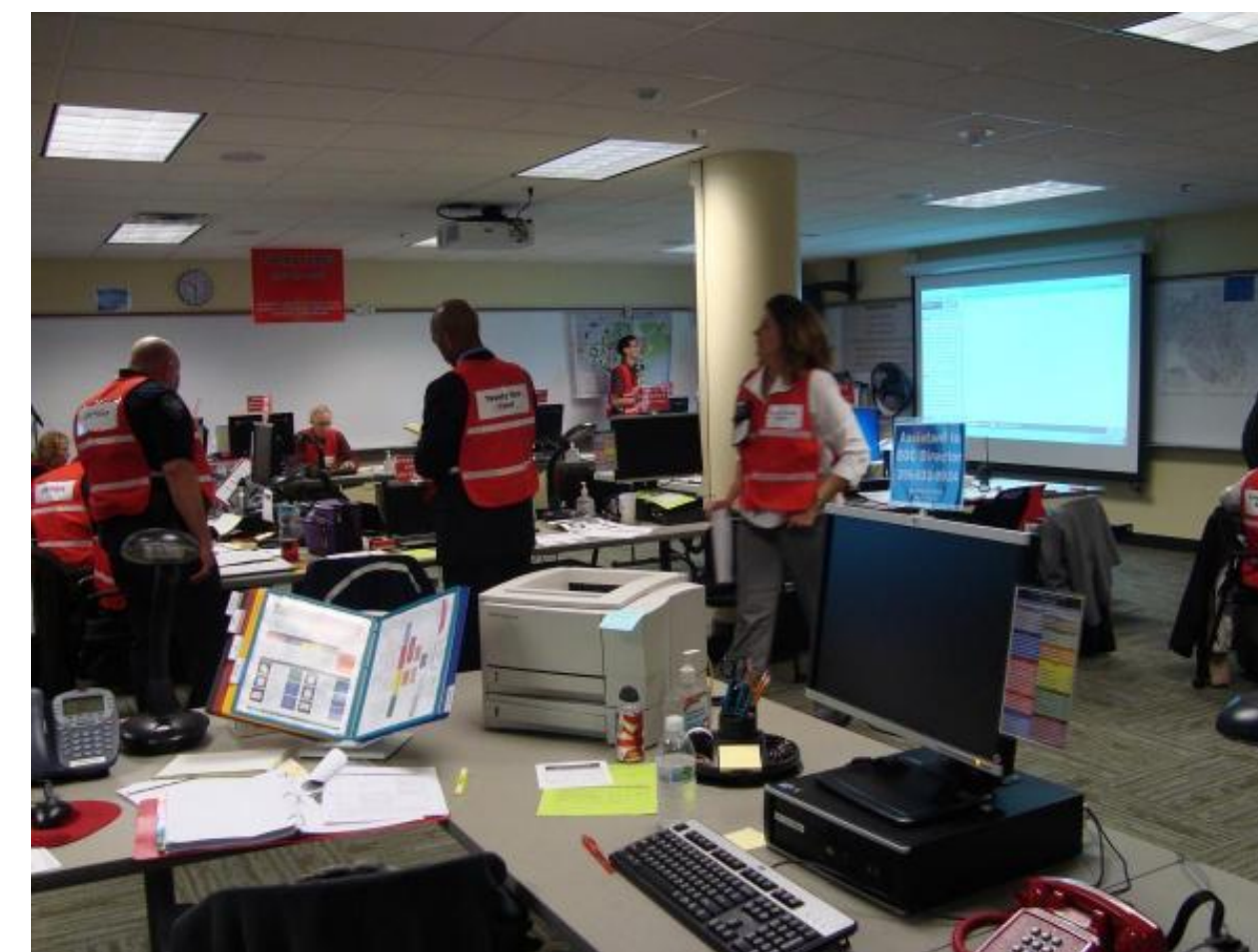


Design Considerations for Emergency Response Technologies

John Robinson, Jim Maddock, Jonathan Lee-Russo, Megan Torkildson

Problem

Fast and precise internal (departmental) and external (regional and public) communication is crucial for emergency responders. Saving seconds from initial communication saves hours in response time. Our study therefore aimed to determine the decisionmaking processes of emergency responders in crisis situations and to catalog their information needs.



Emergency Operation Centers (EOCs)

EOCs house emergency managers that organize response efforts. A common operating picture is vital for clear communication.

Methods

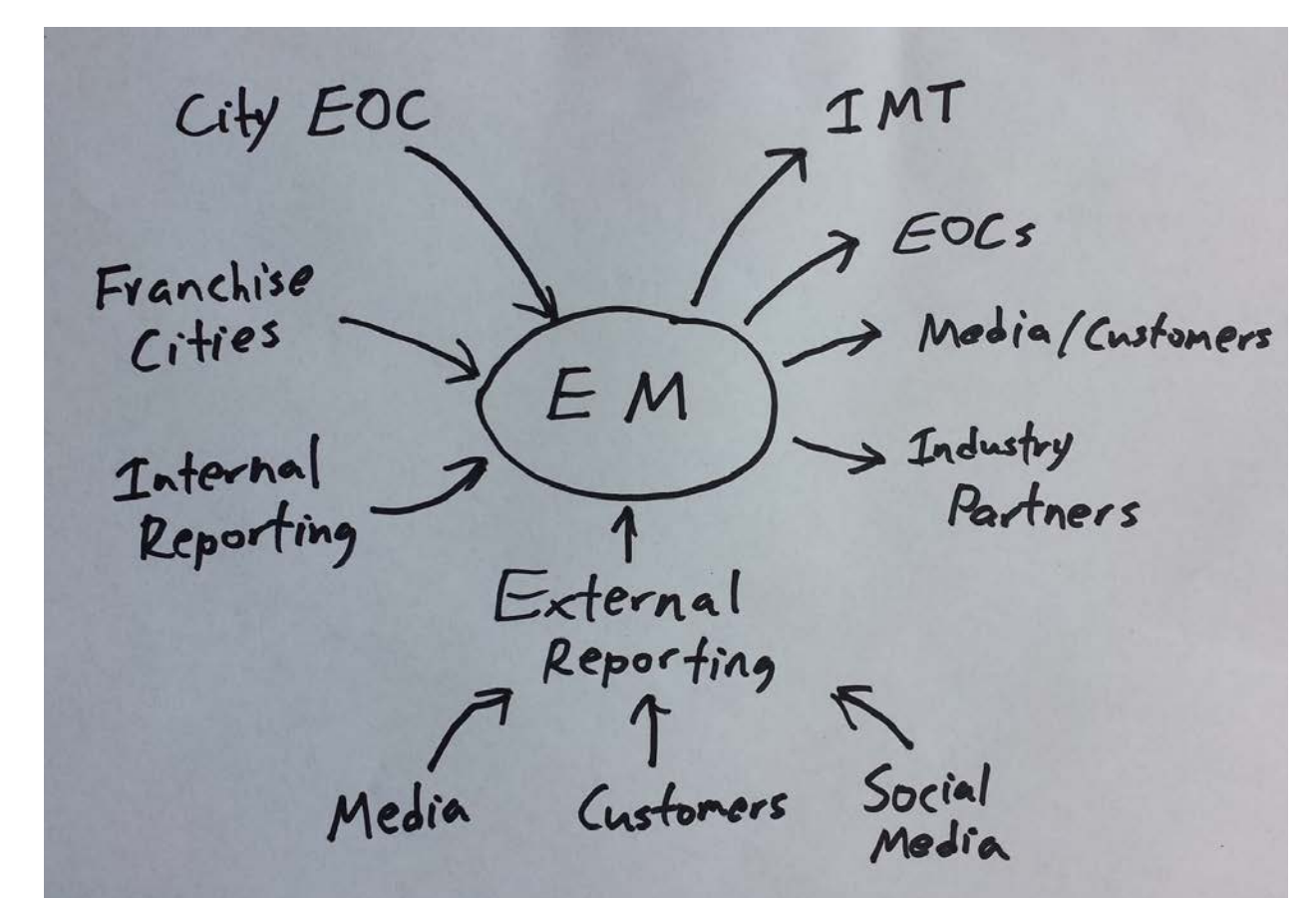
We conducted 9 user research sessions, and interviewed 12 participants. All studies were conducted near or at the participant's workplace and were audio recorded..

Each interview was coded using the following scheme:

- Difficulties / Obstacles
- Benefits
- Quotes
- Tools
- Social Media
- Communication

Each session involved three components:

- 1 Interview
- 2 Mind Map
- 3 Contextual Inquiry



Findings

Needs and Constraints

- Familiarity and regional standardization are vital for internal communication
- Time-critical problems and specialized communication needs create barriers for tool standardization
- Cultural and political barriers to information sharing can lead to communication difficulties between departments

Current Situation

- There are many varied communication and analytical tools across departments
- This abundance of tools without reasonable curation leads to an "application haystack"

Proposed Solution: EOC Communications Protocol

- Intuitive and familiar
- Regionally standardized
- Customizable

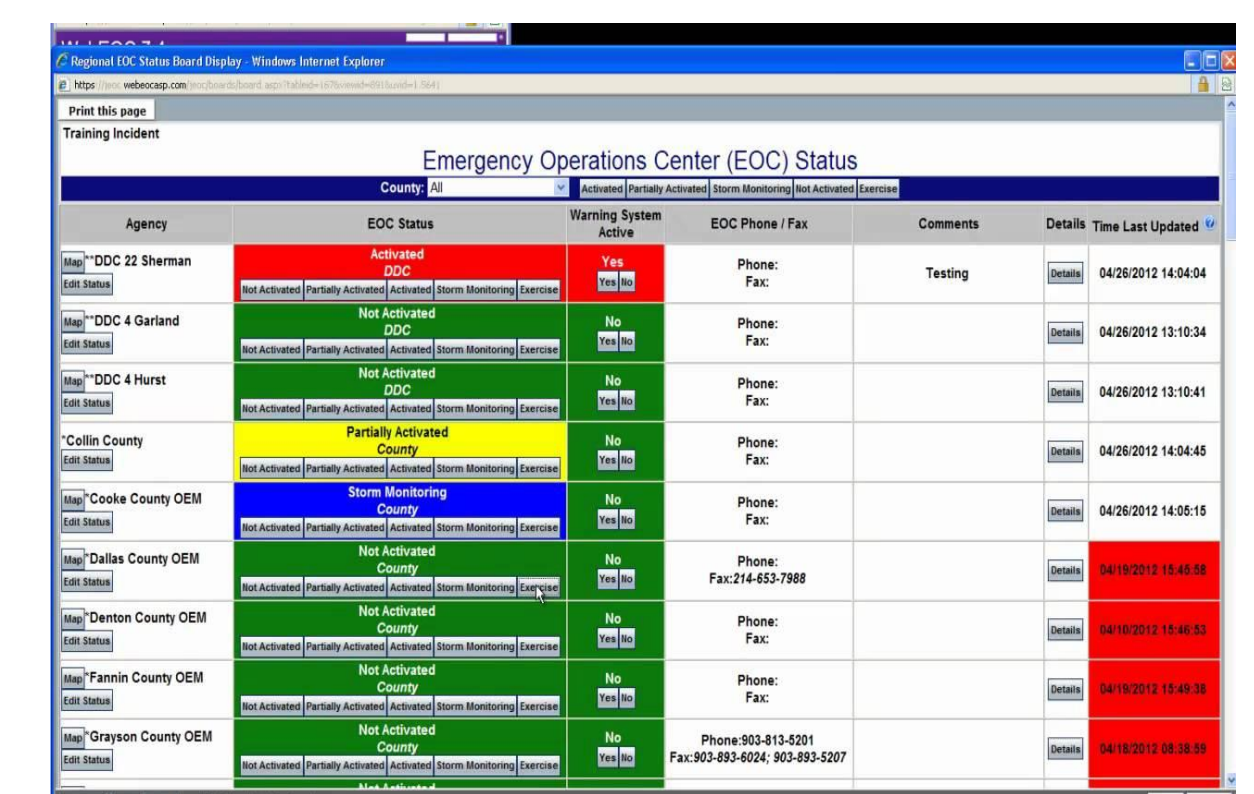
Current Tools

Each organization utilized their own set of tools, however, WebEOC, an information management tool, was constant. Communication tools and social media aggregation tools were also common.

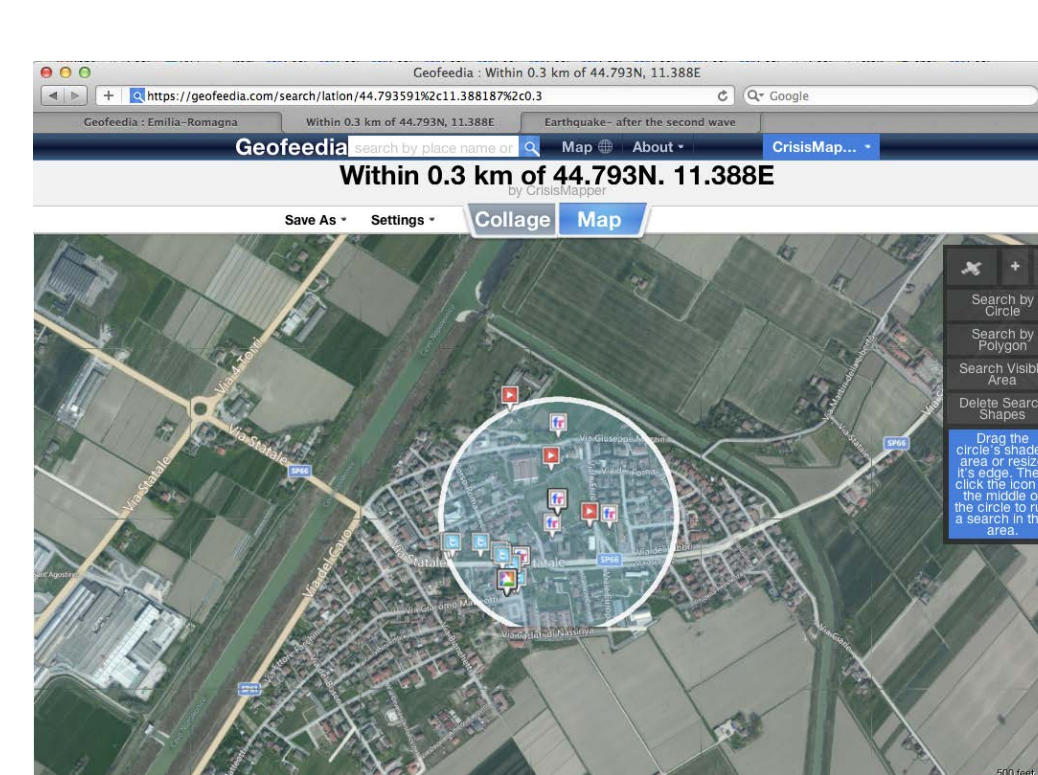
Yammer



WebEOC



Geofedia



Tweetdeck

