Semantic Geotagging
Enabling More Effective Disaster Response Through Better Information Sharing
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Overview
• Goal: a system to support the collaborative construction of situational awareness, providing better and efficient shared understanding of a complex disaster.
• Semantic Geotagging is a location-based hypermedia system. It provides an easy-to-use and mobile device-appropriate semantic layer to a geographically-based common operating picture.
• The project enables dispersed emergency responders to enter and browse information.

Challenges
• To provide a simple, usable structure for organizing and browsing a large body of information.
  • An efficient mechanism to handle information overload.
  • An organizational structure that can be easily applied when new messages are generated.
• To define an API to support diverse clients.
• To integrate with EOC systems, such as GGSN’s common operating picture.

Information Architecture
• A geo-spatial interface for initial access to incident information.
• An intuitive set of typed links, based on a theory of conversational coherence, to organize follow-up information into natural, browsable conversational threads.
• Targeted communication and organized semantics

Technical Architecture
• A multi-client/server architecture
• A native Android client which implements native cache and content synchronization based on the pull model
• A web-based Google Maps client
• A cloud-based server implemented in Ruby on Rails

Future Work
• Implement speech-to-text functionality.
• Conduct more usability tests.
• Provide real-time notifications by subscription.
• Integrate with publicly accessible information.

References
[1] Ray Bareiss, Martin Griss, Steven Rosenberg, and Yu Zhang, Semantic Geotagging: A Location-Based Hypermedia Approach to Creating Situational Awareness