**Motivation**

Disaster response is an underserved software market segment. The Google funded NASA ARC GeoCam project aims to serve this market by providing useful mobile applications to disaster responders. Members of the GeoCam team approached Carnegie Mellon Silicon Valley about having a student team work on GeoCam applications as part of their practicum course. The resulting applications are GeoCam Memo and GeoCam Talk.

**Problem**

Disaster response efforts are plagued by communication failures. Communication on traditional 2-way radios is tenuous requiring repetitive transmission and unnatural idioms which detracts from the information communicated. Disaster responders spend almost as much time attempting to communicate information as they do communicating it. Additionally, post mortem analysis of disaster incident responses are often the most valuable way to identify and improve operational deficiencies when deployed in the field. The generation of accurate incident reports by existing methods is tedious and error prone.

**Solution Design and Approach**

Communication between Android phones was facilitated by employing a web application developed with Python Django to serve as a message relay between phones. The GeoCam Talk and Memo Android applications allow the phone user to authenticate to the web app and subsequently post or retrieve messages intended for the logged in user. Android’s built-in location service and media recorder was leveraged to add Geospatial and Mp4 encoded audio content to messages. For GeoCam Talk, the Google Cloud to Device Messaging (C2DM) Service was used to allow the web server to push messages to Android phones in the field at the time a message is received. Most functionality is also available to non-Android phones via the mobile browser in an optimized web interface that takes advantage of HTML5 geolocation capabilities and the jQuery Mobile JavaScript library.

**Audience**

The applications are intended for use by disaster responders. Disaster responders have expressed interest in both applications as supplements and/or replacements of existing communication mechanisms like 2-way radio and disaster incident documentation tools.

**Previous Work**

GeoCam Talk and GeoCam Memo fit into an existing portfolio of open-source disaster response applications developed and managed via the GeoCam Team at NASA ARC. Existing applications include GeoCam Lens, GeoCam Track and GeoCam Aware.

**References**

Repositories: [http://www.github.com/geocam](http://www.github.com/geocam)

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