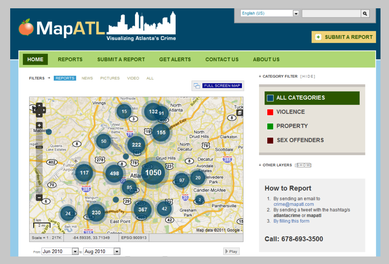
FIELDEX: Crisis Mapping in Humanitarian Interventions

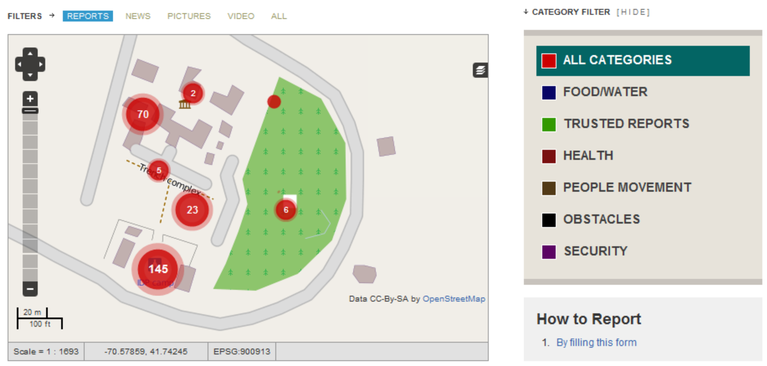
The emerging field of crisis mapping is based on the use of **open source technology** to aid in the response to humanitarian emergencies using **crowd-fed data**. Platform tools are centered on combining information collection, visualization, and analysis to create “live” and dynamic **maps** of social, political, and environmental crises.

Ushahidi is a non-profit organization that develops free open source software for information collection and interactive mapping. Based on the concept of crowd sourced data, the platform allows users to submit reports using **mobile phones** or the **internet**.

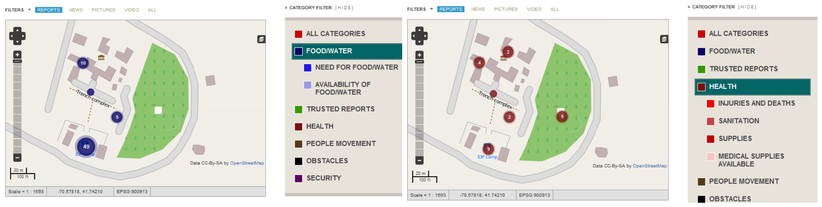


An example of an ongoing use of the Ushahidi platform is “MapATL,” a volunteer-driven initiative to map crime in Atlanta.

The Field Exercise in Stability Operations (**FIELDEX**) is a simulation in which we used crisis mapping technology to map an unfolding humanitarian crisis in the fictional country of Comootros. While a group of students from our class participated in the exercise on the ground, the majority of the class remained at Tufts in a “situation room” to organize and manage the incoming information.



Main FIELDEX CrowdMap



CrowdMap: Food/Water Layer **CrowdMap: Health Layer**

Methods

The root of crisis mapping technologies lies in the mobile phone, specifically its SMS capability. Messages are received by a program called **Frontline SMS**, which links a standard cell phone with a laptop, enabling it to store and transfer information while simultaneously sending out messages in return.

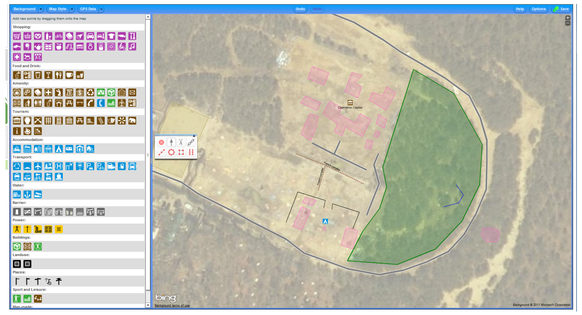
This incoming data is then transformed into usable information in Ushahidi. The base layer for this map primarily comes from another Volunteered Geographic Information platform, **Open Street Map**, which gives users an online toolset to trace satellite imagery.

Our class in the situation room at Tufts University divided into three teams:

- The Administration Team maintained phone contact with trusted sources
- The Logistics Team categorized SMS data while maintaining blog and twitter posts
- The Operations Team mapped raw data on to the CrowdMap

Challenges

- Frontline SMS was inoperative throughout the crisis
- The responsibility of **expectation management**
- Realistically, texting is not a priority in a crisis situation
- Staffers in the situation room had trouble agreeing on categories, leading to misclassification and wasted time
- Maintaining consistent **civilian participation**
- The iPhone app for CrowdMap access was non-functional



Open Street Map: Simulation Field

Analysis & Conclusions

Our simulation intended for crisis mapping to close the **information gap** between on-the-ground actors in a conflict scenario. This goal of a circular flow of information was difficult to attain as reports took time to publish, could not easily be confirmed, and categories were not specific nor conducive to the information sharing required during this exercise. The team became overwhelmed by the volume of texts, and thus was unable to effectively disseminate information.

There are many **benefits** to using crisis mapping tools in various kinds of humanitarian emergencies. These platforms add a new dimension of accountability to human actions; mapping these reports provides a tangible record of events like human rights abuses that have historically been repressed or denied.

Despite the benefits of crisis mapping platforms, there remain many **technical and social challenges** to implementing these tools in humanitarian situations.

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