

DHS Science and Technology Directorate

News Extraction from Public Data Feeds for First Responders

Current Challenge

Every day up to 500 million tweets are sent, sharing a tremendous amount of data with followers. The frequency with which tweets are generated often increases during emergencies or major incidents, representing a massive external source of information that could be tapped by responders.

No individual human could hope to read and digest every social media post made in a day, nor even every tweet sent near a major emergency during the hour in which the emergency occurs. The overwhelming nature of the volume of social media renders the information the social media posts may contain inaccessible for incident responders, who are in the best position to make use of additional information.

Reading and Filtering Public Twitter Postings

The News Extraction from Public Data Feeds for First Responders project seeks to develop a data-sifting social media ingestion system to help responders gain improved situational awareness without requiring large amounts of human attention.

To do this, the project is designing, building and testing a software suite to interface with a social media platform and extract valuable posts, serving this news up to first responders while allowing them to engage more deeply with specific postings if desired. Twitter has been chosen as the initial service of interest due to its ease of use and relatively wide reach.

User Engagement with First Responder Subject Matter Experts

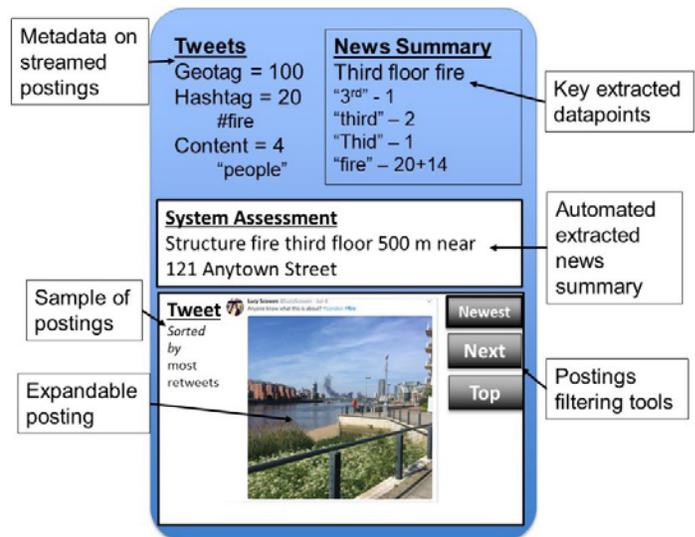
This project will include interaction with subject matter experts (SMEs) across the nation's community of professional and volunteer first responders. By understanding their experiences and needs to guide development, the automated tools will focus on social media data of highest interest and use. The project will use lessons learned from this engagement to pull useful information out of the large datasets generated in any social media environment.

Provides Additional Situational Awareness for First Responders

Human attention is a scarce but invaluable resource in crisis situations or emergency incidents. When paired with up-to-

date knowledge of a situation's specific characteristics and backed by human judgment, there is no substitute for human attention as a tool for focusing other resources in the most effective way on a responsive timescale.

Notional User Interface



Notional User Interface for the tool under development, showing proposed aspects of the interface, as well as content digestion and sorting mechanisms.

Milestones

This project completed a successful kickoff in June 2018 and is proceeding toward a preliminary design review in October 2018, to be incorporated with ongoing user engagement throughout 2018 and early 2019.

Stakeholders and Collaborators

The primary developer for this tool is ExoAnalytic Solutions, Inc., of Mission Viejo, California, through their office in Reston, Virginia.

Additional input from first responders in Los Angeles, San Diego, and Silver Spring, Maryland, is being provided. Engagement with SMEs across the country will continue.