Addressing Situational Awareness Analytical Systems: an InfoVis Approach

A task-scenario prototyping technique for the development of support tools for emergency response and recovery.

How can we bring together social media as a source of crisis information, data mining, and visualization principles into the development of response and recovery systems?

1. Create a sense-alert general overview of incidents, including their relevant attributes. Act as an alert system for emergency managers in operation.

Task: Supervisory control-sampling. Create a system of visual clues to support monitoring of the information flow.

Vis: - Maps and GIS
    - Glyphs coding (using color, shape, brightness and size)

2. Allow emergency managers to influence and work with the overall information available.

Task: Navigating through Information

Vis: - Zooming and panning over maps
    - Filtering
    - Brushing and linking

3. Provide emergency managers with detailed information about one incident, the sources of the information and its distribution.

Task: Receiving Information details for selected items

Vis: - Details-on-demand.
    - Pointing and clicking
    - Frequency distribution charts: dor matrix, ring charts

Observation and Evaluation

The Vancouver EOC activation during the GreyCup final.

- Identify patterns of the actual usage of social media information.

- Identify visualization techniques and tools that are currently embedded in the ongoing tasks of emergency operations.

Nadya Calderon, Sabrina Hauser, Lyn Bartram Ph.D, Brian Fisher Ph.D
ncaldero@sfu.ca