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Benefit: *Our research indicates that most medium to small municipal police departments currently lack analytical tools and training to explore and make sense of their crime incident datasets. The GeoVISTA CrimeViz concept provides these crime analysts with an extensible, easy-to-use tool to support spatiotemporal crime analysis and mapping.*

To access the code libraries, please see:

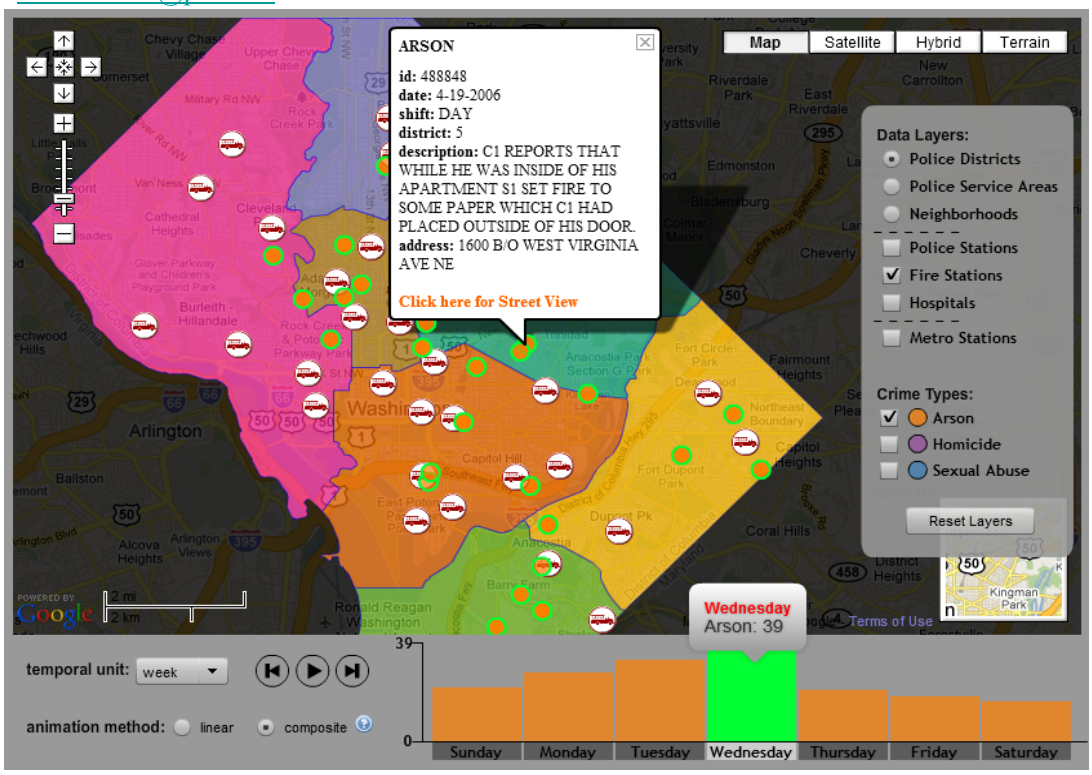
Roth, RE and KS Ross. 2009. Extending the Google Maps API for event animation mashups. *Cartographic Perspectives*. 64: 21-40.

GeoVISTA CrimeViz

Geovisual Analytics for Spatiotemporal Crime Analysis

GeoVISTA CrimeViz is an extensible web-based map application that supports exploration of and sensemaking about criminal activity in space and time. The current prototype illustrates the potential of the tool by visualizing a rich dataset of violent crimes published to the web in near real-time by the District of Columbia Data Catalog (http://data.octo.dc.gov/). The prototype implementation includes a central interactive map (using the Google Maps web mapping service), filtering by crime type, linear and composite animations and VCR controls, an interactive temporal legend that doubles as a frequency histogram, and a set of togglable reference map layers.

We are employing a user-centered design approach to guide development of the GeoVISTA CrimeViz concept. An initial usability assessment of version one of the application revealed interface and mapping problems as well as other bugs. The results were used to revise the DC CrimeViz prototype substantially. A typical screen in an analysis session that highlights key features is shown below. Our next step in the process is to gather more information about the current practice of crime mapping and analysis through interviews, surveys, and hands-on interactive sessions with law enforcement personnel. Feedback from these activities will allow us to identify core features currently available in other tools that must be implemented in GeoVISTA CrimeViz, as well as tasks that current tools do not support. If you are interested in providing your input to our tool development or want to learn more about the tool or results of our research, please contact: maceachren@psu.edu.



The composite animation function built into GeoVISTA CrimeViz allows crime analysts to create an average week-by-day, a month-by-day, or a year-by-month, making it easy to investigate cyclical patterns of crime. The above image shows an interesting peak of arsons during the midweek in the District of Columbia using the composite week-by-day feature. To try out this prototype, please visit: http://www.geovista.psu.edu/DCCrimeViz/