

VACCINE

Visual Analytics for Command, Control, and Interoperability Environments
A U.S. Department of Homeland Security Center of Excellence

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Benefit: GeoDeliberator supports better risk communication and situation understanding through map-mediated online discussion. It allows individual perceptions and knowledge to be externalized and meaningfully visualized and associated by time, issues, and arguments, and space. Visual analytic techniques are applied to annotations for building coherence and shared values.

Map-mediated Online Deliberation

Facilitating Participatory Risk Assessment in Communities

When threats are imposed on a community, the appropriate actions to be taken depend on the nature and severity of the risks as perceived by the community. Unfortunately, risk understanding by individuals can be fragmented, biased and incomplete, and they need to be communicated, related and reconciled in order to build adequate risk understanding aligned with the community value. GIS technologies, combined with web services, have the potential to assist the communities at all levels of participation. However, the existing approaches have made limited impact on increasing the risk communication capacity of local communities. In this project, we developed methods in using map-based online discussion to facilitate participatory spatial decision-making processes in local communities, which support three important dimensions in a shared discussion space: (1) the information space, (2) the argumentation space, and (3) analysis space. The three dimensions aim to support deliberative community networks.

To explore the potential of using geospatial annotation technology to facilitate map-based online discussion among various stakeholders in local communities, we developed a prototype system, GeoDeliberator. The features of this system are based on the conceptual understanding of map-based discussion space. GeoDeliberator explicitly links participants' discussion contributions with their geographic references on the map. It provides an effective communication and analysis platform to enrich the dialogues among various stakeholders in spatial decision-making processes. For example, participants can circle an area directly on the map to which they want to draw attention and obviate the need for specialized language in order to orientate the other participants to an object under discussion. Such visual discussion support tools can encourage the public to actively participate in community discussion

The screenshot displays the GeoDeliberator web application interface. At the top, the browser address bar shows the URL: <http://130.203.158.62/geoannotator/index.html?userid=9&username=Bo#>. The page title is "GeoAnnotator" and it indicates "The current user is Bo".

The interface is divided into several panels:

- Group Panel (1):** Located on the left, it shows a tree view of "Active Groups". The "Smoke-Free Campus" group is expanded, listing members: Bo, Mike, Ben, Alan, Kevin, Scott, Anthony, and Frank. Below this, there are options for "Designated Smoking Spots", "Smoke-Free Bars", "Personal Note", and "Open Groups".
- Annotation Panel (2):** Below the group panel, it shows a table of annotations. The table has columns for "Id", "Author", and "Date".

Id	Author	Date
78	Bo	11/30/2008
79	Bo	12/1/2008
91	Bo	12/13/2008
- Map Panel (3):** The central part of the interface is a satellite map of a city street grid. Red "no smoking" symbols are placed on various buildings. A blue footprint is highlighted on a building, with a tooltip showing "No. 51 Footprint" and "1 annotations about this footprint...".
- Annotation creation panel (4):** On the right side, there is a "Create a new annotation" form. It includes a "Comment:" field with the text "I agree that we should provide some designated smoking rooms here." and a "References:" section with checkboxes for "Annotations", "Footprints", and "IST Building". Below this is a "Shared Level:" section with radio buttons for "Shared with everyone", "Shared with all registered users", "Shared with group members", and "Just me". A "Note:" at the bottom says "Use the selection tool on the map to select the related footprints." and there are "Save" and "Cancel" buttons.

GeoDeliberator's User Interface: (1) Group Panel, (2) Annotation Panel, (3) Map Panel, (4) Annotation creation

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<http://www.VisualAnalytics-CCI.org>