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FOSS4G 2006 - Free And Open Source Software

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Implementation of Synchronous, Spatially-Referenced Discussions Between Multiple Users with Open-Source Web GIS and Database Tools

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This presentation outlines recent work at the University of Waterloo that has developed a prototype Web-based tool for synchronous, multi-user communication via a map interface. The tool, named MapChat, is based on several existing open source geospatial tools, including MapServer, PostGIS, and Chameleon, and uses AJAX-based techniques to enable synchronization of messages or map-based interactions between participants using standard web-browsers. The tool seeks to facilitate public input and perspectives to be assembled and analyzed in support of spatial decision making. To facilitate this it allows multiple users to participate in public or private threaded discussions between individuals and/or groups who can share and compare synchronously annotated map views. More importantly, integration of the manipulation of map objects with the users' comments (and vice versa) is enabled by allowing users to associate text messages in their discussions with spatial features or coordinates, providing direct association between the participants' discussion and the spatial data. This linkage between recorded discussion between remote (or co-located) decision participants and spatial reasoning evident in map data manipulation offers many possibilities for decision analysis and consensus building between participant groups. The presentation focuses on the technical design, functionality, and database schema that designed for the tool to meet the application needs. This includes the adaptation of the Chameleon interface to function using AJAX to avoid reloading the web page and maintain synchronization between users, and the representation of discussions using a database schema that allows recording of discussion elements and user interactions with to support the functionality of the tool.

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