

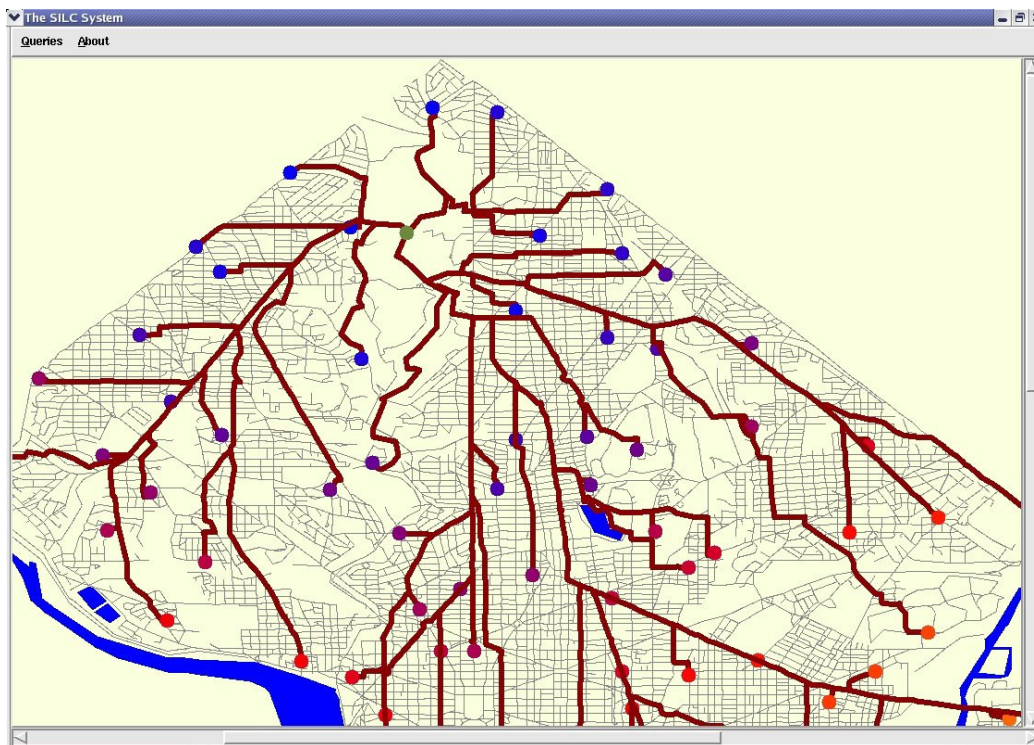
# Issues in the Development of Spatial Databases and Browsers for Spatial Networks

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The issues that concern real time query processing on large spatial networks are investigated. These issues involve functionalities for processing a wide range of spatial queries such as nearest neighbor finding and spatial joins on spatial networks of sufficiently large sizes, with applications to location-based services and locational analysis. We introduce the SILC framework that enables efficient processing of spatial queries and is also sufficiently resilient to allow real time processing of both approximate and exact spatial queries on spatial networks. Another important goal of this project is to make it possible for client applications to browse and query vast amounts of spatial and non-spatial data on large spatial networks at truly interactive rates. Our work makes use of the SAND spatial database system and the SAND Browser, both of which have been developed at the University of Maryland, although the proposed framework is general enough to be applied to most existing commercial databases with little modifications to the system.



<http://www.cs.umd.edu/~hjs/quadtree/index.html>  
<http://www.cs.umd.edu/~hjs/pubs/cacm03.pdf>  
<http://www.cs.umd.edu/~hjs/pubs/silc2005.pdf>

**Spatial Index Demos**  
**Use of the SAND Spatial Browser for Digital Government Applications**  
**Efficient query processing on spatial networks**