

# NSF-CNPQ Collaboration – Issues in the Development of Spatial Spreadsheets and Browsers

## Researchers

University of Maryland

Hanan Samet

František Brabec

Gísli R. Hjaltason

The Federal University of Rio de Janeiro

Claudio Esperança

## Federal Agency Partners

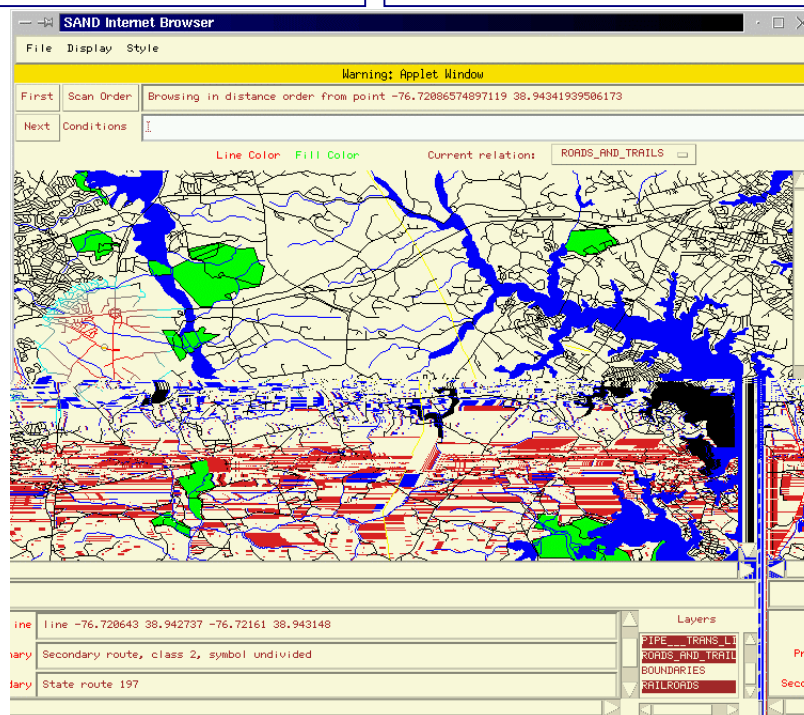
FGDC

FedStats

Supported in part by the National Science Foundation  
Digital Government Program

## ISSUES IN THE DEVELOPMENT OF SPATIAL SPREADSHEETS AND BROWSERS

Issues that concern the browsing of spatial and non-spatial data typical of geographical information systems (GIS) in a distributed DBMS environment are being investigated. These issues include techniques for storage and retrieval of large volumes of vector and raster data, their transmission and presentation at multiple resolution levels, and query optimization paradigms which favor incremental (pipelined) evaluation plans. The main goal of this project is to make possible for client applications to browse vast amounts of spatial and non-spatial data over a local and/or wide area network at truly interactive rates. We also focus on interaction paradigms that make it unnecessary to resort to conventional query languages such as SQL (although our graphical query paradigm could easily use SQL as an intermediate step). 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.



<http://www.cs.umd.edu/~hjs/quadtrees/index.html> - Spatial Index Demos

<http://www.cs.umd.edu/~hjs/pubs/sandtcl.ref.pdf> - Experience with SAND-Tcl: A Scripting Tool for Spatial Databases