

DESCRIPTION. State the application's broad, long-term objectives and specific aims, making reference to the health relatedness of the project. Describe concisely the research design and methods for achieving these goals. Avoid summaries of past accomplishments and the use of the first person. This description is meant to serve as a succinct and accurate description of the proposed work when separated from the application. If the application is funded, this description, as is, will become public information. Therefore, do not include proprietary/confidential information. **DO NOT EXCEED THE SPACE PROVIDED.**

Visualization is a widely used and effective means of communicating information about complex relationships among variables, their geographic distributions, and of how those distributions change through time. Visualizations that are interactive (e.g. giving the user control over viewing perspective, display characteristics, and access to related statistical information) and animated (e.g. able to display change through time as a seamless sequence) comprise an intuitive environment for interrogating databases, extracting knowledge, and for formulating explanatory and other hypotheses. Most web-GIS employ a centralized architecture that sends graphics and queries over the www. Because of slow communication protocols this architecture is inherently incapable of supporting real-time interaction between the user, the visualization engine, and the georeferenced database. This project employs two new technologies, Space-Time Information Systems (STIS) and WebBots to develop an open-source system for

- o Interactive visualization of space-time change in cancer mortality patterns, and the uncertainties associated with those mortalities;
- o Exploring multivariate relationships in cancer mortality as a function of spatial scale.

This open-source system will be disseminated over the www, and is ultimately expected to increase our understanding of how mortality from different cancers covary, with one another, through space, and through time.

PERFORMANCE SITE(S) (*organization, city, state*)

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KEY PERSONNEL. See instructions on Page 11. *Use continuation pages as needed* to provide the required information in the format shown below.

Name	Organization	Role on Project
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