

Poster Proposal

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ABSTRACT

On this poster, I intend to show some techniques and attendant problems and solutions relating to mapping large world-wide datasets with widely distributed project team. Several methods for depicting, verifying, and labeling data are examined.

Categories and Subject Descriptors

H.4.2 [Information Systems Applications]

General Terms

Performance, Reliability, Human Factors, Verification.

Keywords

Geocoding, database, information visualization.

1. DISCUSSION OF POSTER

Geocoding very large datasets onto a geospatial substrate introduces a number of problems relating to data cleanliness, reliability, and representation. Compounding these issues are the difficulties encountered when working through email and telephone with widely separated team members. I depict a few of the issues which affected recent collaborative mapping work using ArcGIS software.

The interactive nature of geospatial mapping allows the cartographer an opportunity to try different overlays from the dataset, leading to some interesting and revealing maps. However, other team members who do not participate in the mapping process can only view static map images. Simple techniques can lead to successful support of a project team leader. For example, consider Figure 1. A quick bitmap of the world in Mercator projection can be rendered using a Perl mapping program called "Chizu", written by Mark Meiss and designed to make fast, simple bitmaps from geographic data files.

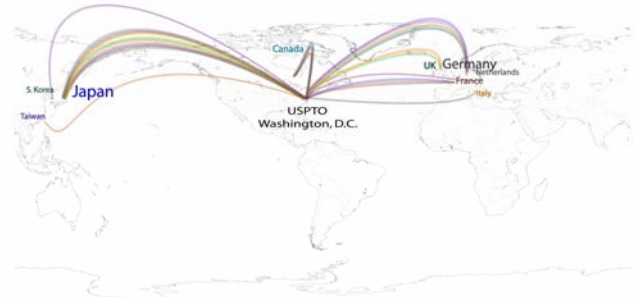


Figure 1. Concept proposal using Chizu and Adobe Illustrator

Such bitmaps can be opened in Illustrator and given quick vector overlays to demonstrate a concept. Collaborators can then modify the information visualization. This method of online communication allows rapid prototyping of ideas.

Geocoding offers several pitfalls for the unwary cartographer. One which occurs quite frequently in large datasets is mapping to incorrect coordinates. We observed, for example, university publishing locations which were hundreds of nautical miles from the nearest Pacific Island. Name ambiguities led to the mapping of Birmingham, Alabama onto Birmingham, England. Visual examination of all results and skeptical acceptance of automated geocoding techniques turn out to be Very Good Ideas.

Map exporting to various formats, even using "vector" formats, can lead to disappointing visual results. Great care must be exercised when exporting a map so that an acceptable resolution graphic will result.

Many methods for data overlays exist. The interactive process of developing maps using different techniques reveals the emergent properties of large datasets. This exploratory process is beneficial to the project team searching for novel, effective methods of data presentation.

This poster seeks to present several interesting issues surrounding the long-distance collaborative mapping of large abstract datasets.

2. ACKNOWLEDGMENTS

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