Computational Aesthetics for Geographic Maps

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General Approach:

Based on data from OpenStreetMap, map graphs are derived and abstracted and, thus, simplified. We use a forcedirected approach, orthogonalization, progressive meshes, and the Ramer-Douglas-Peuker simplification technique.



Colored Patches:

Inspired by the Substrate simulation, we add colored patches by adding "bristles" perpendicular to each original map edge. These bristles contain a constant and a random part and fade out toward the end, creating the effect of water-color patches. We randomly pick colors from palettes inspired also by Substrate or other sources.

Results:

The results depend on the order of application of the different abstraction techniques. Below we show a number of examples from different parts of the world, using different abstraction techniques. For city maps (e.g., Paris and New York), sometimes algorithmic abstraction is not needed at all due to the dense network of streets which cannot be abstracted much further without degenerating.





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OpenStreetMap http://www.openstreetmap.org/

