Abstract

GIS tool for plotting Minimum Bounding Rectangle (MBR), Convex Hull and Voronoi Diagram for given set of input points. To avoid conflict between different working entities in a particular region there needs to exist boundaries. For example, every household in a city is associated to a particular post office. If a house belongs to another region, it would be wasteful for a postman to go out of his way to make a delivery.

This is called the post office problem whose solution requires us to partition space in some way. The resulting partition of space is called a Voronoi diagram. This thesis involves,

Input:
To plot MBR, for set of US states.
To plot Convex Hull, set of capitals from US states.
To draw Voronoi Diagram, for set of capitals from US states.

Output:
Plotting a Minimum Bounding Rectangle (MBR) for a given point, if user selects MBR in tool bar.
Plotting convex hull for a given points, if user select convex hull option in tool bar.
Drawing Voronoi diagram for given points, if user selects Voronoi option in tool bar.

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