Abstract

This paper presents a method for circular range searching in 2D geographical data for GIS. The proposed is based on the priority search tree (PST) developed by Edvard T. McCreight in the mid eighties. The Priority Search Tree is a data structure used for performing semi-infinite range queries. In the solution presented in this paper, the two operation of PST, Insert operation and EnumerateRectangle are combined for getting all data-points in a circular range. A query in this new data structure returns all points in circular range. The proposed circular range searching is the querying of all datapoints P which are the subset of dataset R and also locating in the circular range with the radius and the center is query point.
Radix Priority Search Tree in Circular Range Searching for GIS

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Index Terms

Computer Science
Information Science

Keywords
Circular Range Search  GIS  Priority Search Tree.