BUSINESS RECOMMENDER SYSTEM

RANKING BASED LOCATION AWARE BUSINESS RECOMMENDER SYSTEM

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ABSTRACT

- Aiming to provide users with location aware data analytics system
- For each user selected region, the recommender system can identify the most important functionality features of the region by identify the User Generated Content(UGC) with in the region
- The Recommender System can calculate the spatial boundary of the region
- Choosing Business locations is the main application of this recommender system

AIM

To recommend the users with best options of selecting the best location in accordance with the user's selected region.

EXISTING SYSTEM

BASIC ALGORITHM

Given a user-selected region R, the basic algorithm first searches for all the leaf nodes in the R-Tree within the region, then scans the keywords of all locations in the leaf nodes, and sorts the keywords by the word score (Equation (1)) and finally returns top-k keywords.

Score = (TF w in R/TF all words in R)*log(Count all POIs/Count POIs containg w)

Equation (1) is similar to the term frequency and inverse document frequency (TF–IDF), but we treat the region as a document in the TF part, and treat the locations as documents in the IDF part. Since TF–IDF wins great reputation in search engines, we adopt the revised version as the keyword score, and other score equations maybe effective too.

DISADVANTGES OF EXISTING SYSTEM

(1) **Searching all locations & sorting all keywords**.

searches all locations in the region
extracts the keywords of each location online
sorts all keywords by keyword score

(2) **Analyzing from scratch**

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The basic method has to compute the results from scratch.

PROPOSED SYSTEM

Users may possibly use three main operations on the map to do location-aware analytics –

zooming in,
zooming out and
panning

1.Obviously, each time the system receives a location-aware analytics query, we can keep the nodes within the query region and utilize them to answer subsequent queries.

2.In this way, when the system receives some similar location aware analytics queries, the system can utilize the results of the recorded information from previous queries and avoid the search from scratch, which can improve the efficiency.

ALGORITHMS OF PROPOSED SYSTEM

ZOOMING IN

- When a user zooms in the map, the area of the region decreases.
- The new region must be a subregion of the original region.
- Given that the system has already recorded the last searched nodes.
- The new nodes which represent the new region is also a subset of the last searched nodes.
- The system can quickly return the new top-k results, just by traversing the searched nodes and selecting the n odes that locates in the new region.
- Thus can avoid another time-consuming recursively search from the root node.

ALGORITHMS OF PROPOSED SYSTEM

ZOOMING OUT

- When a user zooms out the map, the area of the region increases.
- The original region becomes a subregion of the new region.
- This means it requires more nodes to represent the new region.
- The system can directly accept the recorded leaf nodes according to previous queries.
- From each of them to backtrack their parent nodes recursively to locate the new added leaf nodes.
- The algorithm also avoids a recursively search from the root node.

ALGORITHMS OF PROPOSED SYSTEM

PANNING

- Panning the map is a more complicated process than zooming in and zooming out.
- But it shares the similar strategy with them.
- If the new region intersects with the original region, the system can directly use parts of the recorded leaf nodes which locate in the new region.
- Then backtrack their parent nodes from them, and get all eligible leaf nodes.
- If the new region has no overlap with the original region, the system has to do a recursively search from the root node.

ADVANTAGES OVER EXISTING SYSTEM

- Businesses will regularly investigate detaily to select the location for their new business.
- Given the type (keyword or category) of business and some candidate regions ,the system recommends along the road instantly.
- The business recommender system can be used for travel recommendation.
- We can support the users draw lines on the map, and the busimess recommender system automatically expands the lines to some nearby regions and integrates the keywords of all the regions

MODULES

1.Searching Location related to the keyword
2.Clustering locations related to groups
3.Computing the convex hull of cluster of locations
4.Mapping convex hull to road network