Voronoi-based continuous query processing for mobile users

ABSTRACT:

The emerging location-detection devices together with ubiquitous connectivity have enabled a large variety of location-based services (LBS). Location-based services are becoming popular for mobile users. The mobile users’ location plays a key role to provide the service from one side, but it other side it is dimension of their privacy, so it necessary to keep the user information anonymous to the other parties. Since one important issue in LBS is to achieve an accurate service, hence it is important to use the mobile user accurate location. Using the location accurately raises some concerns on behalf of the user’s privacy. One solution for meeting this requirement is using by the means of a anonymizer. Anonymizer uses K-anonymity cloaking the user location to K-anonymizing spatial region (K-ASR). Traditional K-anonymity method needs complex query processing algorithms at the server side and have drawback of tracking user. In this paper we have proposed a new model for mobile users to retrieve the result quickly and increases user’s privacy.

Existing System

• Existing techniques cannot be used effectively in a wireless broadcast environment, where only sequential data access is supported.
• It may not scale to very large user populations.
• In an existing system to communicate with the server, a client must most likely use a fee-based cellular-type network to achieve a reasonable operating range.
• Third, users must reveal their current location and send it to the server, which may be undesirable for privacy reasons
Proposed System

- This System is a novel approach for reducing the spatial query access latency by leveraging results from nearby peers in wireless broadcast environments.
- Our scheme allows a mobile client to locally verify whether candidate objects received from peers are indeed part of its own spatial query result set.
- The method exhibits great scalability: the higher the mobile peer density, the more the queries answered by peers.
- The query access latency can be decreased with the increase in clients.

System Requirement Specification

Software Interface

- JDK 1.5
- Java Swing
- SQL Server

Hardware Interface

- PROCESSOR : PENTIUM IV 2.6 GHz
- RAM : 512 MB DD RAM
- MONITOR : 15” COLOR
- HARD DISK : 40 GB
- KEYBOARD : STANDARD 102 KEYS
- MOUSE : 3 BUTTON

No of Modules

- Wireless Data Broadcast
- Sharing-Based Nearest Neighbor Queries
**Wireless Data Broadcast**

- In general, there are two approaches for mobile data access.
- One is the on-demand access model, and the other is the wireless broadcast model.
- For the on-demand access model, point-to-point connections are established between the server and the mobile clients, and the server processes queries that the clients submit on demand. For the wireless broadcast model, the server repeatedly broadcasts all the information in wireless channels, and the clients are responsible for filtering the information.
- An example of such a system is the Microsoft Direct Band Network.
- The advantage of the broadcast model over the on-demand model is that it is a scalable approach.
- However, the broadcast model has large latency, as clients have to wait for the information that they need in a broadcasting cycle. If a client misses the packets that it needs, it has to wait for the next broadcast cycle.

**Sharing-Based Nearest Neighbor Queries**

- At first, by scanning the on-air index, the k-nearest object to the query point is found, and a minimal circle centered at q and containing all those k objects is constructed.
- The MBR of that circle, enclosing at least k objects, serves as the search range. Consequently, q has to receive the data packets that covers the MBR from the broadcast channel for retrieving its k-nearest objects.
- The other problem with this search algorithm is that the indexing information has to be replicated in the broadcast cycle to enable twice scanning.
- The first scan is for deciding the kNN search range, and the second scan is for retrieving k objects based on the search range.
Therefore, we propose the Sharing-Based Nearest Neighbor (SBNN) query approach to improve the preceding on-air kNN query algorithm.

The SBNN algorithm attempts to verify the validity of k objects by processing results obtained from several peers. Table 1 summarizes the symbolic notations used throughout this section.

**REFERENCE:**