NEAREST ATM NAVIGATION SEARCH FOR SPATIAL QUERIES

ENDLACHERUVU RAMESH,
M.Tech (CSE), Priyadarshini Institute of Technology & Management

R.MADHURI DEVI,
Associate Professor (Dept.of CSE),
Priyadarshini Institute of Technology & Management

ABSTRACT:

The Geographic Web search engines find the location and navigate you to the nearest ATM. The Location Based Service is used to identify the location and navigates to the particular geographic region Nearest ATM. The spatial databases maintain multidimensional objects and provide easy access to with their region with different collection criteria. For example instead of considering all ATMs, a nearest neighbor query would instead ask for the ATM that is the closest among those whose ATMs contain "SBH" , "SBI", "IDBI" all at the same time. In this paper we are finding best solution such queries is IR^2-Tree , IR^2 combines the Rtree with hash based functions.

Keywords: *Spatial queries, IR2 trees, predicate, spatial inverted index, multidimensional data*

INTRODUCTION:

In this paper we develop an Application for find Nearest ATM's, and Navigates to the Particular ATM which one user select. It also Display that ATM's Name , Address , Distance and Duration Time. These Details are Collected from Google maps Server. By using This Application user easily find nearest ATM'S. This Application first Find user's Current Location by using Network Provider or GPS Sensor on user's mobile. After find user's location based on that location's latitude and longitude Points find nearest ATMs by send request to Google Maps server. If The Request is Successful Application download data from server this data in JSON (Java Script Object Notation) format. This is the format used to transfer data over Network instead of xml. Application converts the JSON formatted data into user understandable format. There are Two API keys used in this Android Application. One for display Google map in Application (Google Maps API key for android) and another one for find nearest ATM's (Places API Key). These two API keys are very important for this Application. These keys are unique .One Application can have more than one API keys.

LITERATURE SURVEY

Many applications need finding objects that are nearest to a given location that contains a group of keywords. An increasing variety of applications need the economical execution of nearest neighbor (NN) queries affected by the properties of the spatial objects. Owing to the recognition of keyword search, notably on the net, several of those applications enable the user to produce a listing of keywords that the spatial objects ought to contain, in their description or alternative attribute. For example, real estate websites enable users to go looking for properties with specific keywords in their description and rank them in line with their distance from a given location. We tend to decision such queries spatial keyword queries [12]. A spatial keyword query consists of a query space and a group of keywords. The solution could be a list of objects hierarchical in line with a mix of their distance to the query space and also the connection of their text description to the query keywords. A simple nevertheless widespread variant that is employed is the distance first spatial keyword query, wherever objects square measure hierarchical by distance and keywords square measure applied as a conjunctive filter to eliminate objects that don't contain them. Unfortunately there's no economical support for top-k abstraction keyword queries, wherever a prefix of the results list is needed. Instead, current systems use ad-hoc combos of nearest neighbor (NN) and keyword search techniques to tackle the matter. For an example, associate points R-Tree is employed to seek out the closest neighbors associate points for every neighbor an inverted index is employed to envision if the query keywords area unit contained. The economical methodology to answer top-k spatial keyword queries is predicated on the combination of knowledge structures and algorithms utilized in spatial in- formation search and Information Retrieval (IR). Particularly, the strategy consists of building an Information Retrieval R- Tree (IR2- Tree) that could be a structure supported the R- Tree. At query time an incremental algorithm is employed that uses the IR2-Tree to efficiently produce the top results of the query. The IR2-Tree is a R-Tree wherever a signature is supplementary to every node v of the IR2- Tree to denote the matter content of all spatial objects within the sub tree nonmoving at „v". The top-k spatial keyword search formula that is impressed by the work of Hjaltason and Samet [14] exploits this data to find the highest query results by accessing a bottom portion of the IR2-Tree. This work has the subsequent contributions:

- The matter of top-k spatial keyword search is outlined.
- The IR2-Tree is as an economical categorization structure to store spatial and matter data for a group of objects Economical algorithms also are bestowed to take care of the IR2-Tree, that is, insert and delete objects.
- An economical progressive formula is bestowed to answer top-k spatial keyword queries mistreatment the IR2-Tree.

R-TREE:

R-Tree makes use of solely Associate in Nursing R-Tree organization. Given a distance-first top-k spatial keyword query, the algorithmic rule initial finds the top-1 nearest neighbor object to the query purpose Q.p. Then it retrieves that object (since the R-tree solely contains object point- ers) and compares that object's matter description with the keywords of the query. If the comparison fails then that object is discarded, and therefore the next nearest object is retrieved. The progressive NN algorithmic rule is employed. This method continues till Associate in nursing object is found whose matter description contains the query keywords. Once a satisfying object is found it's came back and therefore the method repeats till k objects are came back. The drawback of this algorithmic rule is that it"s to retrieve each object came back by the NN algorithmic rule till the top-k result objects are found. This doubtless will result in the retrieval of the many "useless" objects. Within the worst case (when none of the objects satisfies the query's keywords) the whole tree must be traversed and each object must be inspected.

PROBLEM DEFINITON:

An automated teller machine (ATM) is a computerized telecommunications device that provides the clients to have financial transactions in public space using non-cash media card without the need of going to the bank. Therefore, people can easily have their transaction done by using the ATM. However, for those who are not familiar with area, will found out that they hardly to find an ATM that is nearby to their current location. So, it will bring difficulty in searching for ATM when someone who is out of cash and needed it urgently for emergency use. As the result, with a device that can locate the ATMs for different type of banks in location are in the user's fingertips.

The best method to date for nearest neighbor search with keywords is due to Felipe ET AL [12]. They nicely integrate two well-known concepts: R-tree [2], a popular spatial index, and signature file, an effective method for keyword based document retrieval. By doing so they develop a structure called the IR2-tree, which has the strengths of both R-trees and signature files. Like R-trees, the IR2-tree preserves objects" spatial proximity, which is the key to solving spatial queries efficiently. On the other hand, like signature files, the IR2-tree is able to filter a considerable portion of the objects that do not contain all the query keywords, thus significantly reducing the number of objects to be examined. The IR2-tree, however, also inherits a drawback of signature files: false hits. That is, a signature file, due to its conservative nature, may still direct the search to some objects, even though they do not have all the keywords.

IMPLEMENTATION:

A user enters query for search, then query preprocessing is performed to remove stop-words and non-words from that query. Then SI-indexer builds index. To compress SI-index gap-keeping method is used where each element of a list, a point p, is a triplet. But gap-Keeping applied on only one attribute of the triplet. So, first 2D Z-curve values are considered then 3D Z-curve values are recorded values with single level gap-keeping. To make more compressed SI-index again generate index with two level gap-keeping, then search query and return results. The existing system uses SI-index and compressed index using gap keeping in single level. But further compression to second level consumes much less space as compared to single level and save space cost.

CONCLUSION:

There are many applications seen for calling a search engine that's ready to with efficiency support novel varieties of abstraction queries that are integrated with keyword search. The present solutions to such queries either incur preventative space consumption or are unable to provide real time answers. The planned system has remedied the situation by developing an access methodology referred to as the abstraction Inverted index (SI-index). Not solely that

the SI-index is fairly space economical, however additionally it's the flexibility to perform keyword-augmented nearest neighbor search in time that's at the order of dozens of milliseconds. Moreover, because the SI- index relies on the standard technology of inverted index, it's readily incorporable in a business search engine that applies huge similarity, implying its immediate industrial merits.

REFERENCES:

[1] S. Agrawal, S. Chaudhuri, and G. Das. Dbxplorer: A system for keyword-based search over relational
databases. In Proc. of International Conference on Data Engineering (ICDE), pages 5–16, 2002.

[2] N. Beckmann, H. Kriegel, R. Schneider, and B. Seeger. The R*tree: An efficient and robust access method for points and rectangles. In Proc. of ACM Management of Data (SIGMOD), pages 322–331, 1990.

[3] G. Bhalotia, A. Hulgeri, C. Nakhe, S. Chakrabarti, and S. Sudarshan. Keyword searching and browsing in databases
using banks. In Proc. of International Conference on Data Engineering (ICDE), pages 431–440, 2002.

[4] X. Cao, L. Chen, G. Cong, C. S. Jensen, Q. Qu, A. Skovsgaard, D. Wu, and M. L. Yiu. Spatial keyword querying. In ER, pages 16–29, 2012.

[5] X. Cao, G. Cong, and C. S. Jensen. Retrieving top-k prestige-based relevant spatial web objects. PVLDB, 3(1):373– 384, 2010.

[6] X. Cao, G. Cong, C. S. Jensen, and B. C. Ooi. Collective spatial keyword querying. In Proc. of ACM Management of Data (SIG- MOD), pages 373–384, 2011.

[7] B. Chazelle, J. Kilian, R. Rubinfeld, and A. Tal. The bloomier filter: an efficient data structure for static support
lookup tables. In Proc. of the Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), pages 30–39, 2004.

[8]. Y.-Y. Chen, T. Suel, and A. Markowetz. Efficient query processing in geographic web search engines. In Proc. of ACM Managementof Data (SIGMOD), pages 277–288, 2006.

[9] E. Chu, A. Baid, X. Chai, A. Doan, and J. Naughton. Combining keyword search and forms for ad hoc
querying of databases. In Proc. of ACM Management of Data (SIGMOD), 2009.

[10] G. Cong, C. S. Jensen, and D. Wu. Efficient retrieval of the top-k most relevant spatial web objects. PVLDB,
2(1):337–348, 2009.

[11] C. Faloutsos and S. Christodoulakis. Signature files: An access method for documents and its analytical performance evaluation. ACM Trans- actions on Information Systems (TOIS), 2(4):267–288, 1984.

[12] I. D. Felipe, V. Hristidis, and N. Rishe. Keyword search on spatial databases. In Proc. of International Conference on Data Engineering (ICDE), pages 656–665, 2008.