A Document Proximity Based Approach and Location Aware Keyword Query Suggestion in Web Environment


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Abstract
We design a location-aware keyword query suggestion framework. We propose a weighted keyword-document graph, which captures both the semantic relevance between keyword queries and the spatial distance between the resulting documents and the user location. The graph is browsed in a random-walk-with-restart fashion to select the keyword queries with the highest scores as suggestions. To make our framework scalable, we propose a partition-based approach that outperforms the baseline algorithm by up to an order of magnitude. The appropriateness of our framework and the performance of the algorithms are evaluated using real data.

Keywords
Keyword Document Graph, Keyword queries, Spatial distance, Baseline Algorithm

I. Introduction
Data mining is the information of domain we are mining like concept hierarchies, to organize attributes onto various levels of abstraction. A Spatial Keyword query is an approach of searching qualified spatial objects by considering both the query requester’s location and user specified keywords. Taking both spatial and keyword requirements into account, the goal of a spatial keyword query is to efficiently find results that satisfy all the conditions of a search. Searching is a common activity happening in data mining. This motivated to develop methods to retrieve spatial objects. A spatial objects consists of objects associated with spatial features. In other words, spatial objects involve spatial data along with longitude and latitude of location. The importance of spatial databases is reflected by the convenience of modeling entities of reality in a geometric manner. For example, locations of restaurants, hotels, hospitals and so on are often represented as points in a map, while larger extents such as parks, lakes, and landscapes often as a combination of rectangles. Many functionalities of a spatial database are useful in various ways in specific contexts. For instance, in a geography information system, range search can be deployed to find all restaurants in a certain area, while nearest neighbor retrieval can discover the restaurant closest to a given address. However, existing keyword suggestion techniques do not consider the locations of the users and the query results. Users often have difficulties in expressing their web search needs they may not know the keywords. After submitting a keyword query, the user may not be satisfied with the results.

Writing the queries is never easy because usually queries are short and words are ambiguous because user may not know how to use query in web search so that we suggest a user to use a single word query it makes the user to feel comfortable when they enter a keyword query[1]. However, none of the existing methods provide location aware keyword query suggestion, such that the suggested keyword queries can retrieve documents not only related to the user information needs but also located near the user location[2]. This requirement emerges due to the popularity of spatial keyword search that takes a user location and user-supplied keyword query as arguments and returns objects that are spatially close and textually relevant to these arguments [3]. For example the tourist may also search for all the hotels which are within 10 miles of the airport and provide the two amenities in order to compare the hotels’ reviews and prices. For retrieving the qualified hotels, the tourist will launch a Fast Nearest Search query with ranking parameters for the first search; the query results are hotels. Last, we test our query suggestion approach on the search log. The experimental results clearly show that our approach outperforms keyword document graph and fastest nearest search in both coverage and quality of suggestions.

II. Literature Survey
Search engines should provide better assistance especially when rare or single-term queries are input, and that they should dynamically provide query suggestions according to the searcher’s current state. It will further investigate the usage of query suggestion with data sets including user information to propose a query reformulation taxonomy specifically designed for query suggestion classification, and to improve query suggestion functionality based on our insights.

A given a query submitted to a search engine, suggests a list of related queries. The related queries are based in previously issued queries, and can be issued by the user to the search engine to tune or redirect the search process. It will further improve the notion of interest of the suggested queries and to develop other notions of interest for the query recommender system. For example, finding queries that share words but not clicked URL’s.

It introduces a technique for mining a collection of user transactions with an Internet search engine to discover clusters of similar queries and similar URLs. The information we exploit is “clickthrough data”: each record consists of a user’s query to a search engine along with the URL which the user selected from among the candidates offered by the search engine. It is not resolved by the work is how best to combine the complementary strategies of content ignorant and content-aware clustering. Each method has weakness.

Keyword suggestion techniques consider the locations of the users and the query results. This approach is very useful to find the nearest location of the user. After submitting a keyword query, the user may satisfy with the results. Existing keyword suggestion techniques do...
not consider the locations of the users and the query results. Users often have difficulties in expressing their web search needs they may not know the keywords. After submitting a keyword query, the user may not be satisfied with the results.

III. Existing System
Keyword suggestion in web search helps users to access relevant information without having to know how to precisely express their queries. Existing keyword suggestion techniques do not consider the locations of the users and the query results; i.e., the spatial proximity of a user to the retrieved results is not taken as a factor in the recommendation. However, the relevance of search results in many applications (e.g., location-based services) they did not give the correct correlation. A baseline algorithm extended from algorithm BCA is introduced to solve the problem. Then, we proposed a partition-based algorithm (PA) which computes the scores of the candidate keyword queries at the partition level and utilizes a lazy mechanism to greatly reduce the computational cost. The performance of the proposed algorithms is low.

IV. Proposed System
In we proposed to providing keyword suggestions that are relevant to the user information needs and at the same time can retrieve relevant documents near ideas, but aims at optimizing different objective functions. The concept of prestige-based spatial keyword search. The SI-index comes with two query algorithms based on merging and distance browsing respectively. To design a variant of inverted index that is optimized for multidimensional points, and is thus named the Spatial Inverted index (SI-index). To remedy the situation by developing an access method called the spatial inverted index (SI-index). Not only that the SI-index is fairly space economical, but also it has the ability to perform keyword-augmented nearest neighbor search in time that is at the order of dozens of milli-seconds.

V. Advantages
1. Keyword suggestion techniques consider the locations of the users and the query results.
2. This approach is very useful to find the nearest location of the user.
3. After submitting a keyword query, the user may satisfy with the results.

VI. Architecture Diagram
There were three modules admin login, User Query Search, Location Search, Recommended Place where in login we can create the user and log on to the particular user and in Query search we can provide our query it will produce result based on query. In Location Search we can provide the location based on latitude and longitude results it will find nearest location based query and also recommend the nearest place.

VII. Requirements
A. Software Requirements
Operating system - Windows, Front End- HTML, Java, Jsp, Servlet, J2ee, Coding Language- JAVA, Application Server-Tomcat 5.0/6.X, Script-JAVA script, Server side script-JAVA server pages, Database-MYSQL, Database Connectivity-JDBC.

B. Hardware Requirements
Processor Pentium Dual Core 2.00GHZ, Hard disk - 40 GB RAM - 2GB (minimum), Floppy Drive - 1.4MB.

VIII. Modules Description
The project contains Four modules:
- User Location Aware
- Query Location Aware
- User Query
- Keyword Query Suggestion

IX. Implementation
A. User Location Aware Module
This is the first module the user can be authenticated whether the user is valid user or not. before that the user wants to register first. In registration the user have to give user name, password, mail id, location of the current place. For a security purpose the details will be encrypted before stored in to the data base. If the user is valid the user enters in to the application.
B. Query Location Aware Module
In this module the search details will be register like hotel name, location, special menu in the hotel and land mark. This module is used to view the details of the search query when the user searches in the search engine. In this module we have to find latitude and longitude when we give the location of the place.

Fig. 4: Location Registration

C. User Query
In User query module the user give a query to find the place. For example the user wants to give a current place and searching item in a search engine, like current place vadapalani and menu biriyani.

Fig. 5: User Query Module

D. Keyword Query Suggestion
In this module the Suggestion of a searching query will be display depending upon the latitude and longitude of the user. We use Fast nearest Neighbor Search to find the nearest place of a user. The Location of the particular place will also display in a Google map.

Fig. 6: Query Based Suggestions

Fig. 7: View the Location in Map

Fig. 8: View in to Particular Website

X. Conclusion
In this paper, We proposed a location based keyword query search that are relevant to the user information need at the same time can retrieve relevant document near the user location. Existing keyword suggestion techniques do not consider the locations of the users and the query results. The relevance of search results in many applications (e.g., location-based services) is known to be correlated with their spatial proximity to the query issuer. Users often have difficulties in expressing their web search needs they may not know the keywords. After submitting a keyword query, the user may not be satisfied with the results so that we can provide single keyword query and location then it calculate the distance based on the query and location using the fast nearest search and provide the results based on user query and nearest to the location.

References
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