Opinion Mining and Preferences Mining in Mobile Search

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ABSTRACT—*Mobile device communication with users serves various purposes such as location search, map, navigation etc. It also helps user connect with search engines. But the search query is limited to small words unlike those used when interacting with search engines through computers. This leads to drawback in effective communication between the user and the server through mobile device, as there are limitations in mobile device. Hence our proposed solution aids in better and faster result retrieval from querying search engine through mobile by using user's profile information in a secure way. Ontology ranked keyword search algorithm is used to examine and clean search queries and rank results accordingly. Users search history is stored locally and search results are provided by the server in preference to existing search history information. The search history preferences are categorize based on mining the content and location information along with the user's profile. Ranking of results helps the end user in easy access to the needed source, thus proving to be efficient. Our proposed system provides an innovative approach of searching the data on the input text, pattern of the text, spatial information relative search, User type specific search and finally Ontology based Search.*

Keywords— **Ontology, user preference, opinion mining, ranking function**

1, INTRODUCTION

Mobile search is an evolving branch of information retrieval services that is centered on the convergence of mobile platforms and mobile phones , or that it can be used to tell information about something and other mobile devices. Web search engine ability in a mobile form allows users to find mobile content on websites which are available to mobile devices on mobile networks. As this happens mobile content shows a media shift toward mobile multimedia. Simply put, mobile search is not just a spatial shift of PC web search to mobile equipment, but is witnessing more of treelike branching into specialized segments of mobile broadband and mobile content, both of which show a fast-paced evolution. Mobile search is important for the usability of mobile content for the same reasons as internet search engines became important to the usability of internet content. Early internet content was largely provided by portals such as Netscape. As the depth of available content grew, portals were unable to provide total coverage. As a result Internet web search engines such as Google and AltaVista proved popular as a way of allowing users to find the increasingly specialist content they were looking for. In an international journal article, 'Exploring the logic of mobile search', Westlund, Gómez-Barroso, Compañó, and Feijóo(2011) outline a thorough review of research on mobile search usage, and also

present an in-depth study of user patterns. They conclude that mobile search has started to change mobile media consumption patterns radically. They also emphasize that future developments of mobile search must be sensitive to the mobile logic. There is a similar situation developing in the mobile content industry. Given early adopter usage of mobile services, there has been a vast increase in the depth of content developed for mobile phones. There are now few large organizations that do not offer a mobile service of some sort. Most of the operators run their own portals that showcase the best available content. However, given the limitations of a mobile phones screen size and general navigability, most of available content that has been written for mobile users is effectively invisible to users. Research from Qpass suggests that less than 36% of an operator's portal is within 30 seconds navigation distance for the user - this being the expected time users expect to find content in .Beyond navigation is location-aware technology for mobile search. Mobile local search is 30% of all digital searches with a surge in growth expected world-wide in 2010. What is Mobile Local Search (MLS)? Are all searches local? What are the component technologies of a powerful MLS application? How can advertisers purchase inventory ad units available within the application structure? Mobile Local Search is the search and discovery of persons, places, and things within an identifiable space defined by distinct parameters.

1.1 Objective

The Main objective of this project is find an optimized way of accessing the information's stored in our repository. Based on the spatial data. Ontological way of searching with the user type options provides an optimized way of finding the data. We don't have an effective system to fetch the data based on the users feedback of same pattern. This provides a clear motivation for us to initiate this project.

1.2 Scope

The scope of the project is   the information that contains a text reminder of the requested information as well as links to location, services and other interesting information in the personalized mobile search area that the user has searched on.

2, SYSTEM ANALYSIS

System Analysis is a combined process dissecting the system responsibilities that are based on the problem domain characteristics and user requirements.

2.1 Existing system

In the existing system, the user required information can be accessed by personalized (custom-made) mobile search engine. This process of custom-made mobile search engine uses the concepts of mining in order to provide user requested information. In the existing system, categories of mining such as Age based mining –It is a technique of predicting the interest of different age groups at first and preferring it according to the age of the user .Ontology based mining-It is a technique of getting a word from user and providing information which have similar meaning to that word(eg, See, look, view, observe –These words are unique but drives same meaning)Location based mining –It is a technique of predicting preference and tastes of living beings based on locations and mapping it for

individuals. These are the mainly used category to mine from the database to satisfy user request.Algorithm namely SpyNB is used to find out preference extraction and privacy preservation.

2.1.1 Disadvantages of Existing System

There may be conflicts between individual age groups in accordance to individual's preference and tastes. Search results contain both relevant and irrelevant data's. Prediction may be reliable on negative documents

2.2 Proposed System

In the proposed system, the user required information can be accessed by personalized (custom-made) mobile search engine with an concept of user feedbacks and suggestions. This process also uses the concept of mining at first in order to satisfy user request. The categories such as Ontology based mining, age based mining, location based mining used in the existing system are also used to fulfill the user request. In the existing system prediction can be made based on the preferences and tastes under normal categorization; this in turn does not suggest user with best and valuable information. Hence the concepts of user feedback are proposed to provide users with best and valuable information. Using the feedback and rating of already used individuals, the information will be provided to the request after mining under category. This mining is categorized as opinion mining.

2.2.1 Advantages of Proposed system:

A mining concept called opinion mining is introduced. The conflict that arises based on the taste of the existing system in accordance to individual age group can be avoided. Accuracy in finding out the search results of location was notifiable. Suggested search result are found to be relevant.
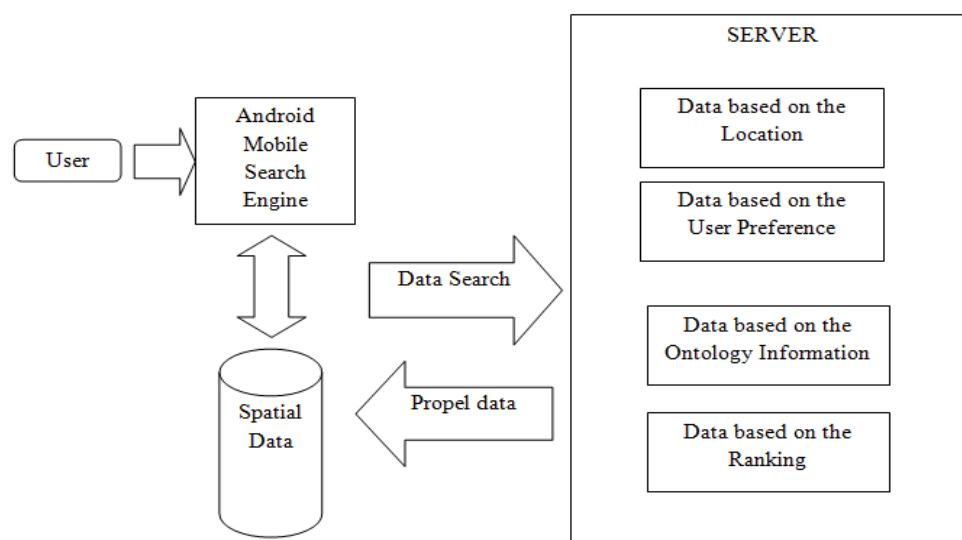
3, SYSTEM DESIGN

Figure.1 General Flow of Data

4, IMPLEMENTATION

Implementation is the stage of the project when the theoretical design is turned out into a working system.

4.1 User Information Settings Module

In this module, the basic profile information of the users such as name, age, location are received.

These information are considered mining the user interest aswel as to prefer future user of the personalized search engine.
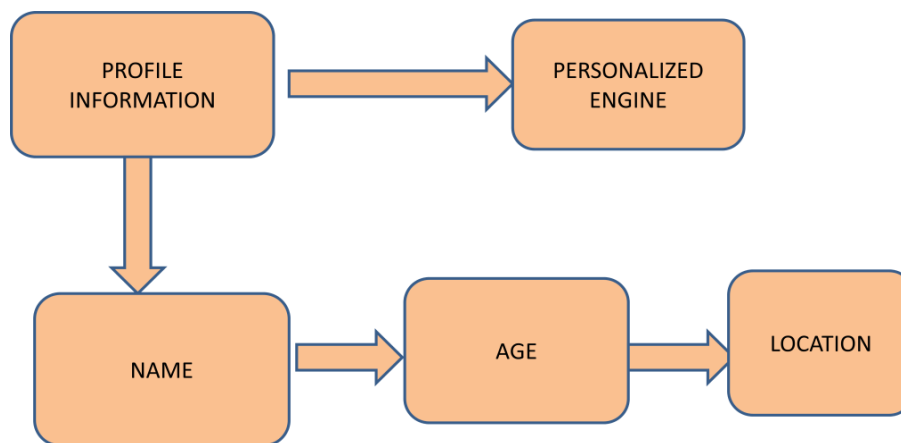

Figure.2 User Information Process

4.2 Server Process

4.2.1 Ontological Information Feed Module

Ontological is an grammatical vocabulary defined as a set of words that drives similar meanings.
In this module, a set of ontological information are fed into the system in order to satisfy the user request efficiently.
It tracks the similar and relevant words based on the ontological algorithm and stores in the database for fetching the results to the request of the user.

4.2.2 Spatial Search Module

Spatial search allows to take data that has a geographic location & enhance the search results by limiting them to a physical area.
In this module, the geographical locations are searched and it provides the user's habitat location preference results.
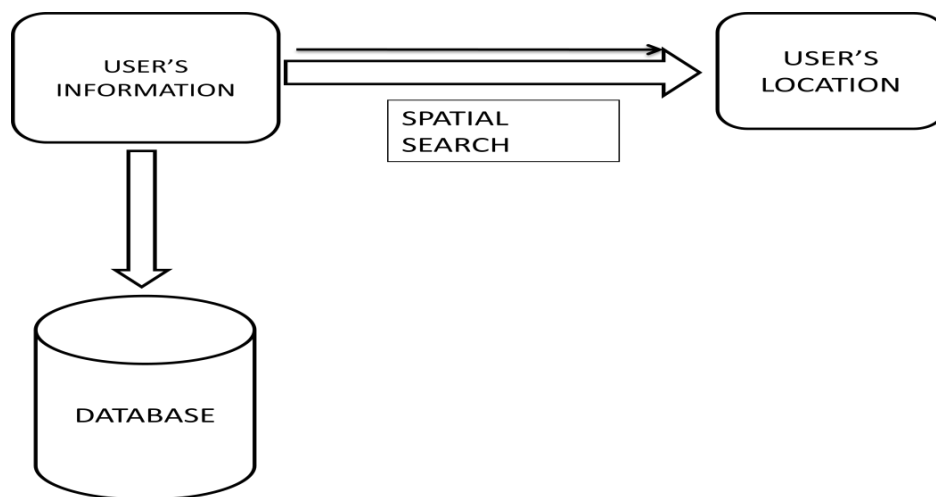
Figure.3 Spatial Search

4.3 User Preference Search Module

User opinion are gathered and the search results based on the preference and tastes of the individuals.
Spatial search allows to take data that has a geographic location & enhance the search results by limiting them to a physical area.
In this module, the geographical locations are searched and it provides the user's habitat location preference results.
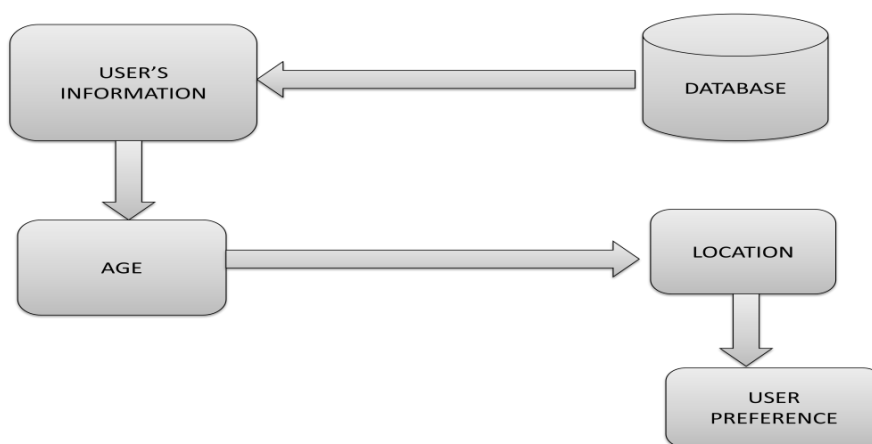

Figure.4 User Preference Search

User feedback are often known to be the opinion of the individual person on individual product. Preference identified age and location using the profile information's.

In this module, the feedback from the users are gathered in order to analyse the opinion of the individual about the product thereby to map it with other users with similar interests.

4.3.1 Personalized Ranking Functions

Ontology ranked keyword search algorithm is used to analyze and filter search queries and rank results accordingly. Users search history are stored locally and search results are provided by the server in preference to existing search history information. The search history preference are categorized based on mining the content and location information along with the user's profile. Ranking of results helps the end user in easy access to the needed source, thus proving to be efficient.

Personalized ranking function is the Process of getting frequently viewed search result. The search results are then ranked according to the user visit. Ranking is used to analyze and filter the unwanted queries. Ranking of results helps the end user in easy access to the needed source, thus proving to be efficient.

When a user submits a query on the client, the query together with the feature vectors containing the user's content and location preferences (i.e., filtered ontology's according to the user's privacy setting) are forwarded to the server, which in turn obtains the search results from the data base. The content and location concepts are extracted from the search results and organized into ontology to capture the relationships between the concepts. The server is used to perform ontology extraction for its speed.

4.3.2 Ontological Search

Ontological is an grammatical vocabulary defined as a set of words that drives similar meanings. In this module, the search results are produced according to the similar meaningful word of the search keyword. The link provided are according to meaning of the keyword requested as well as the ontological meaning of the keyword.

4.4 Ranking Function Optimization

Ranking function optimization, which optimizes the ranking (retrieval) function of a search engine according to the user's preferences. For example, for a particular query, q, if a user chooses to click a search result, la, but skips another one, lb, preference mining algorithms aim to discover the user's preferences from the click- through data, e.g., the user prefers search result la to lb for query q. Click through data (or we may simply say CT data) is a search engine log that records for each query the result list presented to the user as well as the links clicked on by the user.

V. CONCULSION AND FUTUREWORK

To improve the mobile searching efficiency in mobile telephones, a personalized searching technology based on subject-word customizing model is accessible, which is focused on the semantic association among subject words. First, a knowledge bases describing model about subject-word according to ontology is proposed. Second, the article researches to use the meanings of subject words to match combined and extended. Finally, the article builds the examples of subject-word knowledge bases, and then develops the original form of customizing searching system. Experimental results show that the model highly improves the recall ratio and the expansion of searching strategy. Also, the used space in the 3G mobile phones is been greatly saved compared with using professional searching engine.

In fact, one fifth of the mobile access users over web each day, according to Research Center report, and that number is on the rise. In mobile usage of accessed the web via a mobile browser - an increase with a enhanced features in order to provide this rapidly growing base of mobile web users with an optimal experience, more and more website owners are pursuing mobile web development to ensure that their website is optimized for Smartphone display. If the growing number of mobile web users alone isn't reason enough to convince website owners to embrace the mobile web, there are also a number of advantages worth considering.

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