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# User Preferred Data Enquiry System Using Mobile Communications

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## ABSTRACT

Mobile device interaction with users serves various purposes such as location service, road map, traffic information. It also helps user connect to the 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 the 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. Iterative Ontology mapping algorithm is used to analyze and filter search queries and rank results accordingly. Users search histories are stored locally and search results are provided by the server in preference to existing search history information. The search history preferences 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. The 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. Moreover opinion mining is conducted to provide feedback and valuable suggestions given by the mobile users. Due to the different characteristics of the content concepts and location concepts, use different techniques for their concept extraction and ontology formulation. Moreover the individual users can use this search engine, which runs on android platform. They can give feedbacks and suggestions about the search result. Based on the feedback other users can get valuable information about the services available in their location or nearby location.

**Keywords:** ontology, personalization, feedback, mobile search engine

## INTRODUCTION

In mobile search, the interaction between users and mobile devices are constrained by the small form factors of the mobile devices. To reduce the amount of user's interactions with the search interface, an important requirement for mobile search engine is to be able to understand the users' needs, and deliver highly relevant information to the users.. Personalized search is a promising way to improve search quality by customizing search results for people with different information goals. Personalized search is one way to resolve the problem. In order to get a personalized search result to the mobile users, mobile search engine must be able to capture the user's interest. Here a question arises how to capture the user's interest? A practical approach is to profile the general information about the users and their search histories. A search engine may track and record a user's search history in order to learn the user's long-term interests. Mobile users who search on their mobile devices are looking for specific information, which is usually time or location-sensitive, so recognizing the importance of location information in mobile search, we separate concepts into location concepts and content concepts. In realistic terms, mobile search will get to a point where it can start to predict what users are looking for based on the time, location, personal preferences and actions being taken by users. In this personalization framework, adopt ontologies to model the concept space because they not only can represent concepts but also capture the relationships between concepts.

## RELATED WORK

Personalized Mobile search engine have been used to provide search result according to the priority of the user preference. Some of the existing personalized web search systems are based on the clickthrough data to determine users' preferences one among them [5] where Joachim's proposed to mine preferences from clickthrough data. Leung et al, [6] introduced an efficient approach to determine users' conceptual preferences from clickthrough data. Search engines [9] can often return better results to users by analyzing features such as user location or geographic terms in web pages and user queries. [6] Proposed a two-step strategy to improve retrieval effectiveness. In the first step, the system automatically deduces, for each user, a small set of categories for each query submitted by the user, based on his/her search history. In the second step, the system uses the set of categories to augment the query to conduct the web search. [5] Presented a Support Vector Machine (SVM) algorithm that leads to a convex program and that can be extended to non-linear ranking functions. Experiments show that the method can successfully learn a highly effective retrieval function for a meta-search engine.

## EXISTING SYSTEM

In the existing approach are utilize either content or location preference only. Most of the previous location based search systems needs a user's to manually describe their location preference (with latitude-longitude pairs or text form), or manually prepare a set of locations. The previous works on personalization do not tackle the problem of

privacy preservation. Moreover the existing approach focused mainly on page preferences not on the exact content preferences. Retrieve results based on web popularity rather than user's interests. Users typically view only the first few pages of search results relevant results beyond first few pages have a much lower chance of being visited. Mining the user preferences are evaluated by spying technique and Joachim's method. Ranking the search results are done by support vector machine algorithm. It evaluates the user preferences by analysing the clickthrough data alone. Feedback based user's preferences are not investigated.

## PROPOSED WORK

In the proposed system, the user required information can be accessed by personalized (custom-made) mobile search engine with a 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 Iterative Ontology mapping algorithm is used to analyse and filter search queries and rank results accordingly.optimizing the search results is obtained by P2R algorithm. The two algorithms used for simultaneous access of multiple personalized Search 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. The proposed system profiles both of the user's location and the content preferences in the ontology-based user profiles, which are automatically learned from search histories without requiring additional efforts from the user.

## EXPERIMENTAL ANALYSIS

### *Interpretation of User Queries*

If the user submits a query to the server, search queries are stored into a log. Different users might use same query in different way. Instead of considering the queries, extract the frequent phrases in the search log, thereby finding the relevance's between the phrases. As an example, assume that the query "student financial services" has been submitted to a web search engine and two retrieved pages url1 and url2 have been selected. Further, suppose that two phrases P1 ="student financial services" and P2 ="financial services" have already been extracted as frequent phrases by the OFSD algorithm.

### *Ontology Formulation And Mapping*

In the PMSE server side the ontologies are returned and the relationship between the content and location concepts is stored in the client side. When the user clicks on a search result, the clickthrough data together with the associated content and location concepts are stored in the clickthrough database on the client, so the PMSE server does not know the exact set of documents that the user has clicked on. If the user is

concerned with his/her own privacy, the privacy level can be set to high so that only limited personal information will be included in the feature vectors and passed along to the PMSE server for the personalization. On the other hand, a new method for ontology mapping that uses iterative algorithm where we combine standard string distance metrics with a structural similarity measure that is based on a vector representation. After all pairwise similarities between concepts have been calculated we apply well-known graph algorithms to obtain an optimal matching, consider the given figure1 as an example for matching a given ontology graph to another related graph. The algorithm is also capable of using existing mappings to a third ontology as training data to improve accuracy.

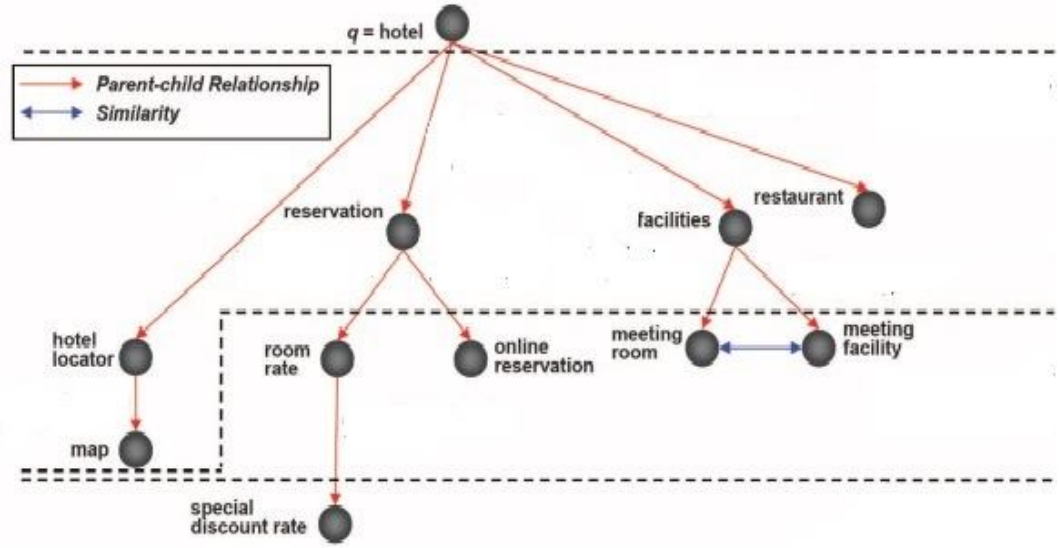


**Figure 1.***Ontology for query hotel. This photograph appears courtesy of* [*Kenneth, 2013].*

***Analyzing User Preference***

In order to get a personalized search result to the mobile users, mobile search engine must be able to capture the user's interest. Here a question arises how to capture the user's interest? A practical approach is to profile the general information about the users and their search histories. A search engine may track and record a user's search history in order to learn the user's long-term interests. User's clickthrough data are stored in clickthrough database, which is used for future preference adaptation. Analysing search history cannot give accurate results, so another aspect of getting a personalized result is based on implicit feedback by the mobile clients. The collaborative filtering systems produce personal recommendations by computing similarity between your preference and others. The idea is simple. If you need to select an item from the multitude of options with which you don't have any experience, you will rely on the choices made by other people who have same

preference and tastes as yours. The collaborative filtering systems record the preferences of a large group of people, select group of people whose preferences are similar to yours using a similarity metric. These are the people who have same taste in things as you do. Recommend options to you which other people who are in the same group as you prefer or like.

***Reranking The Search Result***

Once the preferences have been discovered, a ranking function optimizer can take the preferences as input data to optimize the ranking function of a search engine. Ranking the search results using RSVM do not perform well for multiple preferences. When a user submits a query on the PMSE client, the query together with the feature vectors containing the user's content and location preferences (i.e., filtered ontologies according to the user's privacy setting) are forwarded to the PMSE server, which in turn obtains the search results. P2R algorithm relies on user's clickthrough feedbacks as well as frequent phrases from the past queries. The search results are then re-ranked according to the weight vectors obtained from the PRRA training. Finally, the re-ranked results and the extracted ontologies for the personalization of future queries are returned to the client.

## CONCLUSION

In this paper, the search queries are ambiguous so effective methods for search engines to provide query suggestions on semantically related queries in order to help users formulate more effective queries to meet their diversified needs. Personalization is an important issue to ensure the preferences of users and relevance to context. To improve the retrieval effectiveness for the user queries, similarities between the queries are examined, frequent phrases are extracted. Relationships between the concepts are constructed in ontological graph to map the third ontology. Moreover preferences of particular community is analysed by valuable feedback and suggestions provided by the mobile users.

## REFERENCES

*[1]* K.W. T.Leung, D.L. Lee, and W.C. Lee (2010) "Personalized Web Search with Location Preferences," *Proc. IEEE Int'l Conf. Data Mining (ICDE).*

[2] Daniel Arechiga, Jesus Vegas and Pablo de la Fuente Redondo(2009) "Ontology Supported Personalized Search for Mobile Devices".

*[3]* W.T. Leung, W. Ng, and D.L. Lee, (2008) "Personalized Concept-Based Clustering of Search Engine Queries," *IEEE Trans. Knowledge and Data Eng.*, vol. 20, no. 11, *pp. 1505-1518.*

*[4]* Y. Xu, K. Wang, B. Zhang, and Z. Chen( 2007) "Privacy-Enhancing Personalized Web search," Proc. *Int'l Conf. World Wide Web (WWW).*

*[5]* W. Ng, L. Deng, and D.L. Lee(2007) "Mining User Preference for Search Engine Personalization," *ACM Trans. Internet Technology.*

[6] H. Li, Z. Li, W.-C. Lee, and D.L. Lee( 2007) "A Probabilistic Topic-Based Ranking Framework for Location-Sensitive Domain Information Retrieval," *Proc. Int'l ACM SIGIR Conf. Research and Development in Information Retrieval (SIGIR).*

*[7]* E. Agichtein, E. Brill, and S. Dumais(2006)"Improving Web Search Ranking by Incorporating User Behavior Information," *Proc. 29th Ann. Int'l ACM SIGIR Conf. Research and Development in Information Retrieval (SIGIR).*

[8] J. Teevan, M.R. Morris, and S. Bush( 2005) "Discovering and Using Groups to Improve Personalized Search," *Proc. ACM Int'l Conf. Web Search and Data Mining (WSDM).*

*[9]* Q. Gan, J. Attenberg, A. Markowetz, and T. Suel(2008) "Analysis of Geographic Queries in a Search Engine Log," *Proc. First Int'lWorkshop Location and the Web (LocWeb).*

[10] Fang Liu, Clement Yu, and Weiyi Meng(2004)"Personalized Web Search for Improving Retrieval Effectiveness" *IEEE Trans. Knowledge and Data Eng.*, Vol. 16, No. 1