Exposure Towards Personalized Image Search Concerning Social Sharing System

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Abstract - Social networking websites like Facebook, Twitter, YouTube, allows users to tag comment, like and unlike the shared files or images. Rapid Increase in the search services for social websites has been developed. We are providing two options to the user while uploading the images, one is private and another is public, so that the user can share the images or comment the images. We use this social annotation and propose a framework which considers the query relevance and also the user preference. The web search experience will be advanced by generating the return list according to the user preference. User generated metadata can be used to generate the personalize image search result. The proposed framework contains three components. 1. Keyword Based Search- keyword is submitted in the search box then images are searched based on the query entered by the user .2.User Specific Modelling- In this component the search is performed with the support of the user interest. The user submitted query is mapped with the user interest which is specified in the user profile. The result on retrieval experiment shows enhancement in search performance.3.Collective filtering-Collects the opinion of many users to recommend new items to the compatible users.

Keywords: Social Annotation, Personalized Search, Tagging, Collective Filtering.

I. INTRODUCTION

Google Search is the most popular search engine today. It uses the most popular paradigm called Keyword Based search. Despite of simplicity and efficiency, the performance of keyword-based search is far from satisfying. Many search engines do not provide result according to user interest. Users have faced poor experience on search. For example, if a user is an animal lover and user wants to search the images of 'tiger', the normal web search will display around 50,000 of images which may contain the images of tiger shark, tiger butterfly and many images which are related to the keyword 'tiger'. The result will contain many irrelevant images and searching a relevant one from 50,000 images is a difficult task. So user will not get the correct results and accuracy of retrieving is also low. This happens because user has a different intention for the same query. For example let us take the keyword 'jaguar'. Generally, the jaguar has two different meanings one is animal and another one is a car. Searching the keyword 'jaguar' by animal and by car has two different meanings. So to tackle this problem the

personalization concept comes into picture. Personalized search is a search which considers the user interest [1]. In other words we can say personalized search is a profile based search because the user has to log in into his account to perform searching [6]. In the above example the person is an animal lover. So by searching with personalization will extend the user search experience on large extent.

In personalized search it will cover all the images of user in which he/she is interested in [7], [8]. It means output contains only animal images i.e., tiger images. Personalized search is the best example which will enhance the user web search experience.

The Online Photo Sharing Websites like Facebook, Flickr, allows users to tag the images, to upload the images, and allows to share the images with other friends also. The social networking media sites have three characteristics 1.users create or provide content in a variety of media types.2.User comment on content.3.User evaluate content either actively participating in voting or passively by using content. We are using the Photo sharing websites for personalized search [3]. These social sharing websites allow users to annotate their social activity which will be monitored for getting the personalized search result. This system will provide not only a personalized search but also the personalized search with ranked images. Collected opinions of many users to recommended new items to like minded users in which user are asked to rate the items on a universal scale. The system analyses opinions from many users to identify and shares a similar opinion about items and recommends new items that they are user liked.

II. RELATED WORK

In the research community of personalized search, evaluation is not an easy task since relevance judgment can only be evaluated by the searchers themselves. The most widely accepted approach is user study [9], [10], [11], where participants are asked to judge the search results. Obviously this approach is very costly. In addition, a common problem for user study is that the results are likely to be biased as the participants know that they are being tested. Another extensively used approach is by user query logs or click through history. However, this needs large-scale real search

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logs, which is not available for most of the researchers.Social sharing websites provide rich resources that can be used for personalized search evaluation. User's social activities, such as rating, tagging and commenting, indicate the user's interest and preference in a specific document.

The personalized search is possible both with contacts and with tagging. D. Lu and Q. Li [4] has explained about the personalized search with a contact and personalized search with tags. Contact is the important part to get the user interest while using the social sharing websites for personalized search. User use this contact for different reasons such as to follow the friends, uploading the new images, tagging the images, following the photographer whose images are interesting etc. By considering this information the user interest is calculated. Therefore they viewed the user contact as an expression of user interest.

In the personalized search by using tags the tagging concept is used [2]. In this system the user expresses his interest while uploading, posting the images. We cannot understand the content of the image. For that reason we are using metadata which is data about data is expressed in a number of ways in social sharing websites, through tags, comments and rating. All the contents are user driven. In existing schemes the query document which gives the non-personalized relevance and the user interest which gives the personalized relevance are mapped separately. Finally both of these documents are merged together to get the final list of ranked images. This merges strategy is not trivial. So the speed of operation is low.

III. METHODOLOGY

In proposed framework the query document which gives the non-personalized relevance and the user interest document which gives the personalized relevance are considered and there is no need to merge these documents. To get the user interest the popular activity tagging is considered.

TAGGING

Tagging became popular by many photo sharing websites, which allows you to add the descriptive tag or perform like and unlike actions etc. It uses uncontrolled vocabulary. Tagging means highlighting any property of an object. We can add any property to an image while uploading the image. Suppose, if we want to upload the image of a tiger then we can add tags like animal, mammal etc.

The proposed framework is divided into four steps as shown in Fig.1

    A. Keyword based search

    B. User specific Modeling

    C. Personalized Search

    D. Ranking model

A. *KEYWORD BASED SEARCH*

This is the first phase. The keyword based search gives the non personalized relevance. When the user searches for any keyword say 'a' then tags of the images containing the keyword 'a' are retrieved from the database. If user will search for complete word say 'jaguar' then the images related to that word are displayed as a result. The result may contain the irrelevant information i.e., it contains the images of jaguar animal, jaguar car and other images related to the word 'a'. This phase gives the non-personalized results of image.

B. *USER SPECIFIC MODELLING*

The second phase is user specific modelling. It plays a very important role in getting the result. In the first phase we get the query document according to non personalized relevance. The user interest document is generated from the tagging system. The user has to enter his interest in his contact. User may change his interest if he wants. Based on the user interest the document is created. The main purpose of user specific modelling is to map user interest and query document which will be given by the keyword based search. The irrelevant images are filtered out and the relevant images are displayed to the user. The result of mapping is given as input to the personalized search phase.

C.*PERSONALIZED SEARCH*

This phase gives the result of personalized search. The images which are relevant to the user entered query and user interest are retrieved based on the mapping of query relevance and user preference.
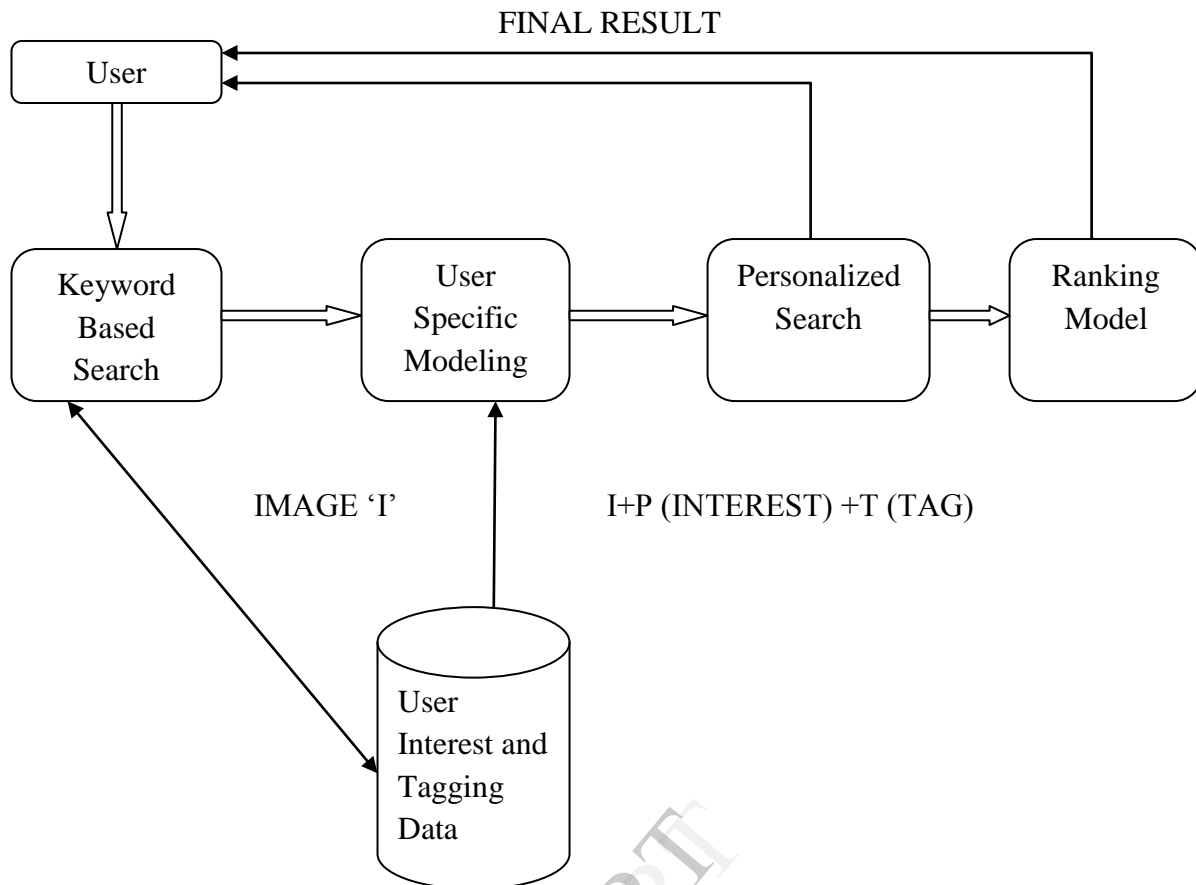
FINAL RESULT

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User  ← ← FINAL RESULT

User → Keyword Based Search → User Specific Modeling → Personalized Search → Ranking Model

                IMAGE 'I'          I+P (INTEREST) +T (TAG)

User Interest and Tagging Data
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Fig.1.Proposed Framework

D. RANKING MODEL

In this phase the relevant images of user query are ranked on the basis of the popularity of the image [5]. The user generated metadata through his everyday activity on photo sharing websites is used to get the popularity of the image. Based on that popularity the ranking model works. The result will give the priority to that image which is most popular among the search result. The image which is more popular is displayed first. In this paper, we take a number of likes for an image to get the popularity of an image.The image which has maximum number of likes will be displayed first and the image which has the least number of likes will be displayed last.This paper handles simple keyword based queries and the complex and multiple word queries. We are using the metadata created by user by monitoring the social activities of user on social sharing websites. It is difficult to find the user interest on the basis of tagging data collection because the tags can be anything. So we include the visits and comment options on the social sharing websites to evaluate the user interest. The above framework is extends to files

also. We can upload the files, tag the files and perform searches in the files also.

IV. RESULTS

The personalized search result is as follows: first whenever the user submits his query the keyword based search is performed and all the images which are related to the keyword are displayed to the user. This is a non-personalized search. In other words we can say that the results contain irrelevant information. Now we have to convert these non-personalized results into personalized result. For that purpose, the user has to click on any of the images on the result of non-personalized results. On this click event the non-personalized search images are filtered. All the irrelevant images are filtered out and the relevant images are displayed to the user i.e., user interested images are displayed to the user. This is the personalized image search. Then the user has to again click onto any image of the personalized image search result. On this click event the ranked result of images is displayed to the user. In ranking module, the images are ranked on the basis of popularity.
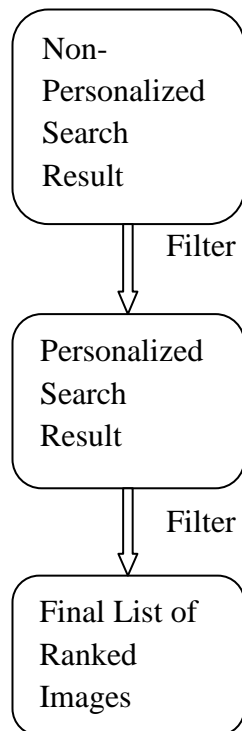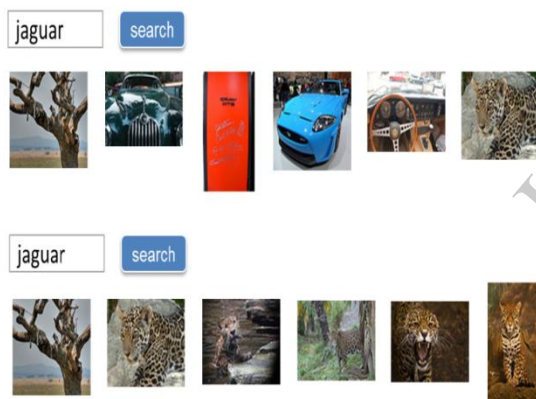
Fig.2.Steps of Operation

Fig.3.Example for (top) non-personalized and (bottom) personalized search results for the query 'jaguar'.

The personalized search images are filtered again to get the ranking result. Fig.2 shows the above steps in a diagrammatic representation. Fig.3 shows an example for non -personalized and personalized image search results. The non-personalized search returned results only based on the query relevance and displays jaguar car images as well as wild cats on the top. While personalized search considers both query relevance and user preference, therefore the personalized results from an animal lover rank the leopard images on the top.

V. CONCLUSION

We presented three step personalized search. We simultaneously consider the user preference which is helpful for the personalized search to enhance the search experience. This Personalized search is mainly based on the metadata created by the user on the social photo sharing websites. We present the novel framework which will specify the difference between the non personalized search and the personalized search, as the first step is the non personalized search. The personalized search will improve the searching experience of the user.

REFERENCES

[1] B. Smyth, "A community-based approach to personalizing web search, "Computer, vol. 40, no. 8, pp. 42–50, 2007.

[2] M. J. Carman, M. Baillie, and F. Crestani, "Tag data and personalized information retrieval," in SSM, 2008, pp. 27–34.

[3] D. Carmel, N. Zwerdling, I. Guy, S. Ofek-Koifman, N. Here"ll, I. Ronen,E. Uziel, S. Yogev, and S. Chernov, "Personalized social search based on the user's social network," in CIKM, 2009, pp. 1227–1236.

[4] Y. Cai and Q. Li, "Personalized search by tag-based user profile and resource profile in collaborative tagging systems," in CIKM, 2010, pp.969–978.

[5] J. Teevan, S. T. Dumais, and E. Horvitz, "Personalizing search via automated analysis of interests and activities," in SIGIR, 2005, pp. 449–456.

[6] K. Sugiyama, K. Hatano, and M. Yoshikawa, "Adaptive web search based on user profile constructed without any effort from users," in WWW, 2004, pp. 675–684.

[7] S. Bao, G.-R. Xue, X. Wu, Y. Yu, B. Fei, and Z. Su, "Optimizing web search using social annotations," in WWW, 2007, pp. 501–510.

[8] D. Zhou, J. Bian, S. Zheng, H. Zha, and C. L. Giles, "Exploring social annotations for information retrieval," in WWW, 2008, pp. 715–724.

[9] J. E. Pitkow, H. Sch¨utze, T. A. Cass, R. Cooley, D. Turnbull, A. Edmonds, E. Adar, and T. M. Breuel, "Personalized search," Commun. ACM, vol. 45, no. 9, pp. 50–55, 2002.

[10] P.-A. Chirita, W. Nejdl, R. Paiu, and C. Kohlsch¨utter, "Using odp metadata to personalize search," in SIGIR, 2005, pp. 178–185.

[11]P.-A. Chirita, C. S. Firan, and W. Nejdl, "Personalized query expansion for the web," in SIGIR, 2007, pp. 7–14.