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## PSEAP: A Personalized Search Engine for Android Phones

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**Abstract:** This paper presents the searching on the basis of image. The goal of image based search is to find related images or to find out more information about that specific image. Now a day, the use of cell-phones is increased. The PSEAP is based on image, keyword and location search. For the purpose of location search, GPS system of android cell-phone is used. In this, re-ranking is based on the user's interest has received wide attention in information retrieval. In PSEAP, we used client-server model. Up to some extent, privacy of client is maintained in PSEAP.

**Keywords:** PSEAP, Android, Location based search, Image based search, Click through data, WWBADS, GAHWS, OMF.

### 1. INTRODUCTION

The past search history is built up over time when an Internet user indicates interest in topics by clicking links, putting movies in queue, reading news stories and so forth. The usage of mobile devices has been increased for last 11-12 years. PSEAP is based on client-server model. In which client is on the android platform and server is on the computer. User can search through metadata or search for information in the pages by querying using keywords or by using images. The personalized mobile search engine uses concept, principle for search results. The concepts are further classified into two types content concept and location concept [3]. For capturing the information global positioning system (GPS) of mobile is used. Location based services today are part of everything from control systems to smart weapons.

Image based search is innovative approach of PSEAP. To overcome the problem of content based searching image based searching is useful. You can use a picture as your search to find related images from around the web. Search by image works best when the image is likely to show up in other places on the web. So you will get more results for famous landmarks than you will for personal images like your latest family photo.

### 2. LITERATURE REVIEW

Re-ranking the search results was currently available for personalized search engine. In this, elimination of the duplicate links is done by using the algorithm called WORD WEIGHTAGE BASED APPROACH FOR DOCUMENT SELECTION (WWBADS). After

getting huge links, we reorder them by using "GAHWS". Existing works such as require the users' to manually define their location preferences explicitly (with latitude-longitude pairs or text form). With the automatically generated content and location user profiles, our method does not require users to explicitly define their location interest manually [6]. Personalized mobile search engine to extract and learn user's content and location based on users click through. To capture user's mobility, the system used users GPS locations. The system has proposed privacy parameter to address privacy issues. The privacy parameters facilitate smooth control of privacy exposures while maintaining good ranking quality [2].

#### 2.1 Ontology:

In general, ontology is the study or concern about what kinds of things exist-what entities there are in the universe. The ontology-based, multi-facet (OMF) framework is an innovative approach for personalizing web search results by mining content and location concepts for user profiling. To the best knowledge of the authors, there is no existing work in the literature that takes into account both types of concepts. This paper studies their unique characteristics and provides a coherent strategy to integrate them into a uniform solution [6]. PSME server sends new ontology that describes the new relationships from the concepts used in the search results. This will be stored in the client space. Then click through data is also stored in the client database

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whenever he clicks a link [3]. In practical terms, developing ontology includes:

- Defining classes in the ontology,
- Arranging the classes in a taxonomic(subclass-superclass)hierarchy,
- Defining slots and describing allowed values for these slots,
- Filling in the values for slots for instances.

### 2.2 Content based:

Content based image retrieval is opposed to traditional concept based approach. In content based searching, user fires query by using one or more than one keywords. In content based searching sometimes we get relevant results and also irrelevant results. Content based means that the search analyzes the contents of the images rather than the metadata such as keywords, tags, or description associated with the image. The term content in this context might refer to colors, shapes, or any other information that can be derived from the image itself.

## 3. PROPOSED WORK

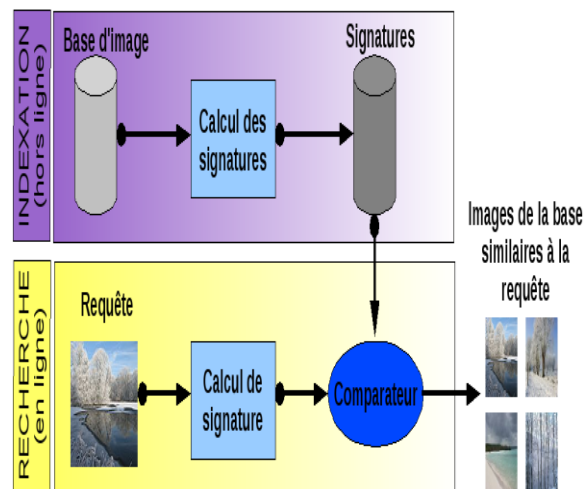
Most commercially successful image search engines are text-based. The new proposed system work on image based search, location based search and keyword based search. None of the previous system support simultaneously to the image and location searching .In PSEAP, it considering location or image search simultaneously and produces result for both.

### 3.1 Image based search:

Generally image has two types two-dimensional and three-dimensional. Two dimensional image includes dimensional image includes statue, hologram etc. Images based search will help you find the interesting photos in the easiest way possible. Image based searching is the fastest growing search services on the internet. We can search with an actual image that we see on the web, or that we have on our computer, to search for similar images or to find out more information about that specific image. In content based searching sometimes we get relevant results and also irrelevant results. To overcome this problem we are using image based searching. PSEAP searches based on images you upload. It uses image identification technology rather than keywords or metadata. The resulting search contains more relevant images. The results are presented in order of relevancy. The usefulness of an image based search depends upon the relevance of the results it returns.

Fig 1 shows, actual working of the image based search. When we are search with the help of image then the image which we are uploaded on the search engine then that image is recognized according to

shape, size, color etc. That image is compared with the images which are already present in the database of server. After comparing the relevant results are returned to user.



**Fig 1:** Image based search

### 3.2 Location based search:

Location based search is a technology that lets people search for local things using mobile equipment such as mobile phones, PDA’s and other mobile devices. In this, when user fires a query it provides the location as well as documents related to that query. In location based search, location queries focusing on location information. Location based search is the search and discovery of persons, places and things within an identifiable space defined by distinct parameters. For location based search Global Positioning System (GPS) tracking is used. GPS is a space-based satellite navigation system that provides location and time information in all weather conditions.

**TABLE 1:** Examples of Location based search

Document	Search Result	Content (ci)	Location (li)
d1	Vitthal temple	Online Reservation	Pandharpur
d2	Iscon temple		Solapur
d3	Aishwrya Hotel	Meeting room	Nashik
d4	Sayaji water park	Entry Rate	Akluj

Table1 showing example for location based search. In Table1 first document or query is “Vitthal temple”, this provide result like where the Vitthal temple is situated such as in which state or city. Location based search is an information service and has number of uses in social networking. Yokoji [1]

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proposed a location-based search system for web document.

### 3.3 Re-ranking:

Re-ranking means having a specified rank in a hierarchy. In this, re-ranking is based on the user's interest has received wide attention in information retrieval. When user enters the query, the results are obtained from the backend (the backend may be search engine like google, yahoo etc.). Re-ranking concept arises to rank the retrieved text and web. The high ranked text or web is used as noisy data for further ranking process.

The following figure shows the actual working of the re-ranking process:

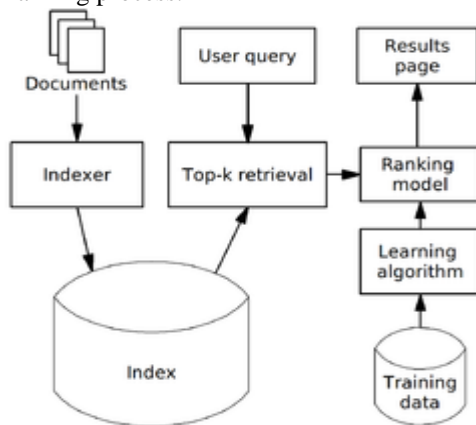


Fig 2: Re-ranking process

PSEAP ranks the web pages based on behavioral, geographic and temporal re-ranking.

- Behavioral- This type of re-ranking, ranks the pages based on search history, last query etc.
- Geographic- In this, ranking can changes based on the location of user. We are using GPS for trace the location of user.
- Temporal- In this, ranking is based on the user activities. (daily, weekly, monthly etc.)

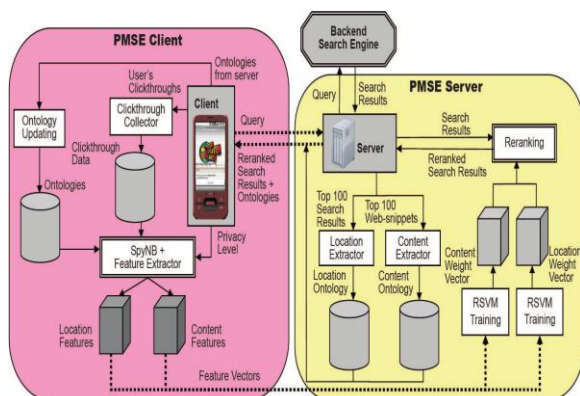


Fig 3: The general process flow of PMSE[2].

Existing system does not consider the issue of client's privacy but in PSEAP up to some extent, privacy of client is maintained. Most existing systems are content based so sometimes we are getting irrelevant results also. The fig 1 shows the client server architecture. It consist the two major activities such as re-ranking and ontology update. When user fires a query on client then that query is forwarded to server for performing the ontology and which will returns the result from backend search engine i.e. google, yahoo etc. The feature vectors from the client are then used in RSVM training to obtain a content weight vector and location weight vector, representing the user's interest based on users content and location preferences for re-ranking [2]. Ontology returned from server which contains the relationship between the concepts extracted from the search results. All the results are stored in the database.

## 4. CONCLUSIONS AND FUTURE WORK

Now a days, many of mobile phones are operating on Android OS, so this application is useful for mobile users to access speed fast and highly relevant results according to users interest and location. We will use bubble filter concept in future. In this, result of a personalized search in which a website algorithm selectively guesses what information user would like to see based on information about the user.

In future we can also add the multi-color feature. Example, in multi-color searching, if we are uploaded image of red color for searching results related to that then all the images of red color are retrieved from database such as red apple, red tomato or anything related to red color.

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