AN IMAGE RANKING USING GOOGLE IMAGE SEARCH

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ABSTRACT: Millions of images can be found on internet and a number is continuously growing day by day and tendency of people to searching different images on internet has also grown to a large scale .Earlier this was done by retrieving relevant images from different databases, but this was not too satisfactory because the images retrieved could not satisfied the users expectation, So there is need to retrieve digital images from the huge database instantly and accurately within less time. Digital images has played important role in many fields like weather forecasting, medical diagnostic etc. This approach will consist searching digital image using google image search optimization, we use the JSON interface to return images and any references and then we re-rank image using the concept of sub keys. This approach also removes the duplicate images from the ranked images.

KEYWORDS: Digital images, JSON, Medical diagnostic, Subkeys.

I. INTRODUCTION

Now a day's people search anything on internet which includes the search of digital images In large scale and search in normally based on the text. There are certain issues with Text search. Whenever user types any keyword it gives large pool of images and these images are ranked using the label or text of the images. In that large images there are many images which irrelevant to the query keyword. Such Ambiguous results are displayed because any keyword can have many different meanings which is beyond the users expectations. Again user can not exactly describe the content and Appearance of the image. It important to refine the images search and providing help for getting the result the way user wants and that too accurately and instantly. Content based image retrieval is study which is used to search digital images from the huge database; it divides images into two groups relevant and irrelevant. It has many applications in the field of image processing [6],[7]. This technique uses google image API and json interface and then re-rank the images. Methodology simple and comprehensive. Take advantage of the ability of google search optimization, many times we use search done even if ranking the images. The user manually enters the keyword only once. It has some limitations like continuous queries from google for a large number of images; this will affect the processing speed of the program. Unable to thoroughly remove the same image that the content and the information from the different sources.

II.RELATED WORK

In image retrieval, image search is done by the content or the pixels of their images in order to return results that match a particular query. There are different algorithms that draw the color Shape and texture feature of the image. CBIR mainly has two parts feature extraction and similarity Measurement [1]. Zhou bing, Yang xin-xin [2] presented technique for content based parallel image retrieval where system uses the Symmetrical Color-Spatial Features (SCSF)to represent the content of an image system

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adopts the Browser/Server (B/S) mode and It has several retrieval servers to supply the service of content-based image retrieval .it uses only one feature color for image matching. it has feature storage server which stores the features of images and retrieval server which groups the features into some clusters according to the similarity and with the support of several retrieval servers, the system could responds to many users at mean time .YUXIN Chen,Bo Luo, Xue-Wen Chen[3] represent technique which Integrates textual and visual features to rank the images. It captures the meaning of each text term in visual feature space and re-weights visual features according to their significances to the query terms. This is not suitable for some abstract keywords.

Another technique by anuja khodaskar, S.A.Ladhake [4] presents the content based image retrieval using Knowledge based inference engine; it holds a collection of general principles which can apply to any problem which are stored in knowledge base. The system also holds a collection of specific details that apply to the current problem which are held in writing memory. There is one more approach proposed by S.Manoharan and Dr.S.Sathappan [8] which represents the hybrid filter technique for image retrieval. it uses anisotropic morphological filters, hierarchical Kaman filters to extract the feature of the images and then similarity is computed using the distance measure of mahalanobis distance .In image retrieval using feature levels [9] different features of images are categories into levels and then feature similarity is performed on query image and database image. Here each image from all the image classes is compared. Image retrieval by compact image signature generation [10] represents the technique where Nonsubsampled Contourlet Transform and Fuzzy-C-means is used to extract a compact image signature based on geometrical information. To enhance the classification support vector machine is used. Again fuzzy ranking membership function is used to accurately classify the images

III. ADVANTAGES OVER CURRENT METHODS.

In content based image retrieval image properties are used. many system uses image feature like color, shape, texture etc, here new features are used like titleNoFormatting feature is used which provides title without formatting, tbUrl which provides path of the image ,originalContentUrl which provides the etc .we here take the advantage of the google search optimization ,many times we used search done even if ranking the image. Our methodology is simple and user has to enter the keyword only once. The system is efficient and user friendly because it gives good results.

IV.PROPOSED SYSTEM ARCHITECTURE

The term content based image retrieval used for searching the image based on the content of the image where we use different features of the image. Content based image retrieval retrieves the images which are based on visual features such as color, texture, shape etc. [9]. Here we are using features which provides path of the image, height and width of image in pixel .In conventional image retrieval system, salient features of query image is extracted and compared with that of database images but this is very time consuming process. This system architecture consists of the searching and re-ranking of the image in the following manner.

IMAGE SEARCHING

In image search, search stage consists of searching for the image that user want .Here user will first enter the query keyword and large pool of images will be displayed. We are taking the advantage of google search optimization. Here we use jsonobject and jsonarray, jsonobject and jsonarray which return image and any references. Jsonobject is way to store information in an organized, easy-to-access manner. It gives us human readable collection of data and we can declare any number of properties using this. Jsonarray is used store more complicated information together. It gives us the interface by using that we can provide the input key to search and we get the pool of relevant images as a result. Image search is done as follows

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Use JSONObject and JSONArray to return images and any references. Based on these two objects we can get the image object returned.

```
URL url = new URL ("https://ajax.googleapis.com
/ajax/services/search/images?" + "v=1.0&q=" + input
+ "&userip=INSERT-USER-IP");
```

Input: the key to search

The results:

```
JSONObject _node = json.getJSONObject
("responseData").getJSONObject ("cursor");

JSONArray _arr = _node.getJSONArray ("pages");
```

We build an object class to store these images, called Img class which uses the following properties

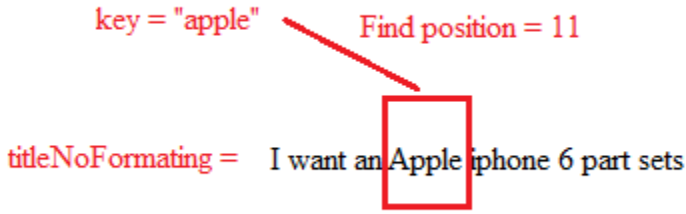
- titleNoFormatting: it supplies the page title associated with search result.
- tbUrl: this feature supplies the path of the image.
- originalContextUrl: it supplies the path of the page containing the image.
- tbWidth: it provides the width of the image in pixel.
- tbHeight: it provides the height of the image in pixel.

Store the result into Img list.

```
for ( int   i = 0; I < arr.length () ; i++)  {

Img objImg = new Img ();

objImg.originalContexUrl  =  arr.getJSONobject  (i.
getString ("originalContextUrl") ;

objImg.tbUrl=arr.getJSONobject(i).getString
("tbUrl") ;

objImg.titleNoFormatting  =  arr.getJSONobject  (i).
getString (".titleNoFormatting") ;

objImg.tbHeight  =  arr.getJSONobject  (i).
getString("tbHeight") ;

objImg.tbWidth  =  arr.getJSONobject  (i).
getString("tbWdith") ;

_ListImg.add(objImg) ; }
```

RANKING IMAGES

In searching stage user entered keyword and pool of images displayed, here we rank these images. User selects any image from the pool of the image. Here we get the near property of the image that we use titleNoFormatting of image, this title contain the key. Now we make the search key into sub-keys, these sub-keys repeatedly find the key search in titleNoFormatting.



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Position = 11. Sub key (1) = "Apple"

So we get the first sub-key(i), now expand the sub-key ,so mathematically we can write as

Sub key (i) = Sub key (i-1) + Next word.
So we get,
Sub key (2) …

Repeat the search step for each key using sub key instead of search key.

E.g.: Results search when search by sub-keys

Sub-key (1)	Sub-key (2)	Sub-key (3)	Sub-key (4)	Sub-key (5)	..
Image11	Image21	Image31	Image41	Image51	
Image12	Image22	Image32	Image42	Image52	
Image13	Image23	Image33	Image43	Image53	
Image14	Image24	Image34	Image44	Image54	
	Image25	Image35	Image45	Image55	
			Image46	Image56	
			Image47		

The results of Sub-key (1) have four elements
The results of Sub-key (2) have five elements
The results of Sub-key (3) have five elements
The results of Sub-key (4) have seven elements
The results of Sub-key (5) have six elements
…
Now add the results of each sub-keys to Image List

DISTRIBUTION OF THE RESULTS

After searching, we distribute the results of each of the sub keywords in the list of results
Distribution of Results = D
Results of search by sub-keys = R_i (with i form 1 to N, N = number of sub-keys)
Max size of sub-key = m (maximum number of elements in results when search by sub-keys). The results of Sub-key (4) have seven elements => m = 7.
Number of sub-keys = n

Loop I from 1 to m
Loop j from 1 to n
D(i) = R(ji).

End loop

Mathematically we can write the result of image distributed as

D(I) = R(IJ); I = 1..M and J = 1..N

DUPLICATE IMAGE REMOVAL

This method is filtering the results from duplicate images from ranked list, done by from a list of images after they have been ranked, we check the images that have the same source, and we remove them from the list. We used originalContextUrl in each of image from search results. This property provides the path of the page containing the image. Then compare the originalContextUrl of all other images and Remove these images if they are the same originalContextUrl.

V. CONCLUSION AND FUTURE SCOPE:

In this paper content based image search is done .we used google search optimization to get the search result. we used json interface to get the results and then user can select any image from the search accompanying keywords expanded from this images expansion is used where images are ranked and then distributed of the elements in the resulting list. After re-ranking we removed duplicate images from it. Methodology is flexible and simple. We take advantage of the ability of google search optimization, it has some limitations like continuous queries from google for a large number of images, this will affect the processing speed of the program and unable to thoroughly remove the same image that the content and the information from the different sources. In future scope to this is, image ranking by the visual quality of the image and not only by the content of the image.

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