Abstract: A query specific similarity of images is learned various examples and these are used to rank the images. The user can search images online and offline. User can search the images on Google and Bing search engine. User can search the images based on attributes of images and meta data of the image so as to filter the images. System adding information to image search is important. The interaction should be simple. This paper has an internet search approach. User give the query image as input so as to pool images related to input given by the user. The retrieved images are text based and are get reranked by the user based on their visual and textual similarities. This paper help user to find the images as per the ranking and visual appearance of the image it also rerank the image on meta data of the image. Introduction

1. Introduction

Lots of search engine uses only keywords as a input to search the image. User just give the keyword as an input to find the image. As per the input from the user the search engine returns lots of images related to text and its surroundings. But the text based image search is having this is because the keyword provided by the user is may be short. The keywords provided by users tend to be short. For example, the query length of the top 1,0000 queries of Picture search is 1.468 words, and 97.8% of them contain only one or two words. These words cannot describe the content of the image correctly. Some search result are noisy and may contain some similar meaning images. If user search the images for apple then there may be green apple,red apple,apple logo that means they are having different categories. This is all because of ambiguity of word apple. Such kind of issue occurs due to various reason. First is the keyword meaning is richer than the what user expecting. As in the above mentioned example the word “Apple” means fruit apple, apple phone, apple computer. Second, the user don’t have the knowledge of the text keyword he is entering as a query. For example, if users want search about the gloomy bear but if just search bear then the image retrieval may different. Lastly and most importantly, in many cases it is difficult for the user to describe the visual content of the image properly. So to solve the above mentioned issue some extra information should be given as an input from user along with the text keyword. User can do it in one way like text keyword with image description. User can use the meta data to search the image accurately. Google also provide the related search or suggestion link to the user if there is no proper input from user or there may be ambiguity.

2. Literature Survey

Most of the large image search system contain two things one is properly representation of the image features and second is proper search mechanism. The quality of the search result depends mostly on image features. But the image search mechanism is not working properly if image dimensions are more and number images in the database are in large numbers so the comparing the images are become difficult. Images are represented in BoW framework. This extracts the image features and quantized based on the visual features. Then the hash code is generated for proper search. The semi supervised technique is used for hashing the image content. Hashing is preferable as tree-based indexing structures is having the memory problem also hashing provide the accuracy. As is the image hash code is generated then it will be efficient compare the image. If the image byte array is generated then the hamming distance is find by number of bits. As user are become more dependable on the search engine. The result provided by the search engine may be do not satisfy the user requirement so the re ranking is required.
Whenever user give input to search the image then it expected that it should appear in the top result and oftenly the user search the images in first few result. This result into to rerank the image for getting the accurate result. This work properly for high dimensional images. With help of Hash code image can be easily comparable.

3. Proposed System

This paper uses a clustering method which form the cluster of similar features images in one cluster. This clustering is form in training phase. Clustering means partitioning the image features into set of features pattern. K means can used for clustering. It form the cluster for fixed number of the features. If user give the input as “Computer programming language”, the system will look to the slave words in the profile of particular user like “swing”, “AWT”, “Computer”. Today processor become very powerful and memories are becoming very strong and because of that deployment of image database become reliable. Image database are useful for art work, satellite, medical field and it is useful for all the user of various professional field like geography, medicine, architecture, advertising, design, fashion. So it is very important to access the images from such large database. Content-based image retrieval (CBIR), uses the content of the image as an object which is use as visual effect to retrieve the query. “Content-based” it analyses the actual content of the images and based on that it compared the other images and give the result to the user. The ‘content’ may be image colors, shapes, texture or any other which will represent the image. With the help of the context as well as the meta data user can retrieves the actual images. Such kind of meta data is generated by the user to identify the image.

Meta tags can be used as an additional image input with other features of the image. Two existing technique is used to compare the image histogram. In this paper the application accepts the image as a query and it extracts the features and compare the extracted features with existing image features which are stored in the database. As per the similarity measures best matched query images are retrieved from the database. Two existing technique is used to compare the image histogram. In this paper the application accepts the text as a query and it extracts the features and compare the extracted features with existing image features which are stored in the database. As per the similarity measures best matched query images are retrieved from the database.

Algorithm: Attribute – Assisted Hypergraph Learning

Step 1: Initialization
1.1 Set W as a diagonal matrix with initial values.

1.2 Construct the hypergraph Laplacian L and compute the matrices D1, D2 and H accordingly.

Step 2: Label Update.
Compute the optimal f based on the equation 17, which is:
F=(1−a)(1−a′)−1 y

Step 3: Weight Update.
Update the weights w_i with the iterative gradient descent method introduced.

Step 4: After obtaining W, update the matrix a’ accordingly.

Step 5:
Let t = t + 1. If t > T, quit iteration and output the result, otherwise go to step 2.

Input Set
I = I_1, I_2, I_3, I_4

Where,
I_1 = Text
I_2 = Image
I_3 = attributes
I_4 = meta data

Intermediate Output Set
E = E_1, E_2

Where,
E_1 = Ranking
E_2 = Relevant Image

Final Output Set
D = D_1, D_2

Where,
D_1 = Reranking of Image
D_2 = filter images

Fig 1: Venn Diagram
Fig 2: Flow of the project

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Queries</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartoon</td>
<td>92</td>
<td>Micky Mouse, Ben 10</td>
</tr>
<tr>
<td>Animal</td>
<td>100</td>
<td>Lion, Dog, Bat</td>
</tr>
<tr>
<td>Event</td>
<td>78</td>
<td>Sports, Live shows, Campus, Wedding</td>
</tr>
<tr>
<td>Event</td>
<td>78</td>
<td>Sports, Live shows, Campus, Wedding</td>
</tr>
<tr>
<td>People</td>
<td>68</td>
<td>Girls, Snowman, Baby</td>
</tr>
<tr>
<td>Person</td>
<td>40</td>
<td>Tom Hanks, Will Smith</td>
</tr>
<tr>
<td>Time08</td>
<td>88</td>
<td>Barak Obama, Steve Jobs</td>
</tr>
<tr>
<td>Misc</td>
<td>288</td>
<td>Japan, titanic Addidas</td>
</tr>
</tbody>
</table>

Table 1: Statistical Images of Dataset

<table>
<thead>
<tr>
<th></th>
<th>MNDCG 20</th>
<th>MNDCG 40</th>
<th>MNDCG 60</th>
<th>MNDCG 80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text Baseline</td>
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<td>0.42</td>
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<tr>
<td>Hypergraph[35]</td>
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<td>0.51</td>
<td>0.50</td>
</tr>
<tr>
<td>Hypergraph with l1 regularizer</td>
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<td>0.48</td>
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<tr>
<td>Hypergraph with l2 regularizer</td>
<td>0.55</td>
<td>0.54</td>
<td>0.53</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Table 2: Performance Comparison with Hypergraph Reranking

Fig 3: Several Images with Different retrieval

Fig 4: Performance Comparison with Hypergraph size k

Fig 5: Example of top 5 highest weight attributes

Acknowledgment

We would like to take this opportunity to express my sincere gratitude to my Project Guide Prof. Basavraj Chunchure (Assistant Professor, Computer Engineering Department, SPCOE) for his encouragement, guidance, and insight throughout the research and in the preparation of this dissertation. He truly exemplifies the merit of technical excellence and academic wisdom.

4. Conclusion

Image reranking helps the user to find the accurate images. It also provides highest images to cover the maximum output. With the text input with the meta will provide the proper input to the system so that image result accuracy will be more. The rise in the sizes of image databases has done development of image retrieval system and that will be accurately and efficiently. Initially the development is based in colour coherence vector and texture feature but after that development of image retrieval has been started based on CBIR. So image reranking is the important aspect for accurate image retrieval from large image database.
5. References