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Interactive Multimodal Image Retrieval System

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***Abstract*— In the Era of proposed system the queries in the form of text, voice and image but that are not always user friendly because typing is tedious job and voice cannot express visual intent well. The Proposed system describes a real time search by giving input as text, voice and image on desktop or handheld device. Multimodal search uses the different method to get relevant result .They can use any kind of search i.e. text voice and image. The system will be beneficial to such user who doesn't have any idea about particular thing. The user gives input of idea through image and gets result easily. The system having real time input facility means the user can capture the photo and relevant images will be retrieved and metadata about those relevant images can be display. The proposed system increases the mobile search experience and enhances pertinence of search results. It involves a natural interactive process through which user has to expression their search content very well.**

***Keywords*— visual search, real time search Exemplary image, Query Handling.**

I. INTRODUCTION

Image search is a popular topic in both computer vision and information retrieval with many applications. The traditional desktop image search systems [4] with text queries have controlling the user demeanor for a quite long period. However, while on the go more consumers use phones or other mobile devices as their personal work on the Internet. It is more difficult to search and find desired images on handheld devices rather than desktop computer because of some reasons. There is a more distance in user interface between desktop and handheld devices specially for input method. In desktop system keyboard and mice are the main input devices but recent mobile devices provide multiple input method including camera, GPS, microphones and multitouch screen facility [1]. Most of the time mobile users search an image to find general information such as local spots and local map , Hence for that it either type an entity name or location on online local map to search desired images .The mobile devices have small screen so that affects the presentation of searching results.

By considering above reasons of image searching on mobile devices. We have introduced a new multimodal search system for image retrieval that helpful situation.

Consider an example a user move to an unfamiliar place and takes dress from one unknown mall. To visit the same mall next time first he simply takes the picture of that one second another situation is that the forgets to take picture of the mall. After retuning only he remembered he also has no idea of the name of the mall but can describe its particular appearance such as "a fashion designer mall with white color door ,black color counter and many red color pillars in front ".the proposed system handles these two situations. In first case system uses an image an image query such as a captured photo of the mall and start searching process and retrieve similar images from the web .In the second case users does not have an image but the user can generate an query by giving speech input to the system that represent picture described in the users mind .In latest developed sketch based search engine to express users visual required information in the form of a sketch but it's difficult for users without drawing experience[3][4]. Our proposed system will be beneficial to all users they can simply express their information needs via speech and image input. In speech input it uses speech reorganization engine service to convert user speech to text input. The keyword extracted from the text based on the keywords, users can start searching process but text based image search does not give more satisfactory results which generates more garbage in the search results. so the proposed system give the input as image and retrieve exemplary images but user are required metadata about that image so to selecting particular image its metadata also retrieve by the users.

II. LITERATURE SURVAY

Earlier, many systems developed that used multimodal query for image retrieval. **Houqiang Li Proposed "Interactive multimodal visual search system"**[1].it implement the joint multiple search type with image, speech and word Plus (JIGSAW+),takes full advantage of the multimodal input and behavior user interactions of mobile devices .In this paper, a different image presentation and indexing technique is introduced. To differentiate from the previous version of JIGSAW, we note the system with the new techniques as JIGSAW .The generic methods of similar image search include mainly block-wise feature matching and local feature reverse indexing.

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"Interaction Design for Mobile Visual Search" proposed by Jitao sang ,Tao Mei.[2].They present a prototype of interactive mobile visual search named Tab-Tell, to help users formulate their visual content more. They first conducted a focus study to retrieve insight into usage patterns and concerned factors on mobile visual search. Typical tasks of data Informational, Transactional, and Social as well as evaluation metrics of Efficiency, Interface, and Effectiveness were summarized.The basic premise behind interaction-enabled interface is that, by allowing users to select their ROI in the picture, the handheld devices visual search system can understand user intent more clearly and significantly improve search performance.

Mayure Kanawade proposed "Interactive Multimodal Visual Search Using Voice Command on Mobile Device" that completely utilized multimodal and multitouch functionalities of smart phones [3]. In The Google and Bing's image search engines provide advanced functionalities enable user to indicate search content via various filters, e.g., same images, color, style, face, and so on. Tineye supports the uploading of an relevant image as a input example for search, while Xcavator even enables users to importance certain regions on the query image as the key search components after that many multimodal systems develop client- server architecture.

Kumar Pravin proposed system "Multimodal Image Retrieval on Mobile Devices" that totally focuses on the mobile search experience and enhances relevance of search results[4].it involve a natural interactive process their search intent very well. Our work deals with image retrieval using mobiles. Server accepts the client connection, reads the size of the image and image will download then the server checks the idem image, if the image is present it sends the information about the image to the client.

Priyanka Pakhare proposed "Interactive Multimodal Visual Search on Mobile Device"[5] .it totally focus on the color features, color presents an interesting problem namely the cross talk of features.

"MCBIR Interactive Multimodal Visual Search on Mobile Device with Image Composition + LAB-ANN "is another example [6], where uses technique -MCBIR interactive multimodal visual search on mobile device with image structure +LAN-ANN. This system provides faster recognition mechanism with the help of ANN technique. Hence it helps to improve the performance of the system. Hence it increases the performance of image search and is ten time faster than other ones.

III. PROPOSED SYSTEM

The main of proposed system is to an efficient image search application on desktop and handheld device. The system accepts input as text, speech and image. In existing system if it accepts input as speech then converts it into text and search the relevant images[3][4]. After that multiple images are provided to the user where user chooses one relevant image from it but in this system typing a long query is not always user friendly. The search procedure of our proposed system The Proposed system describes a real time search by giving input as text, voice and image on desktop or handheld device. Multimodal search uses the different method to get relevant result .They can use any kind of search i.e. text voice and image. The system will be beneficial to such user who doesn't have any idea about particular thing. The user gives input of idea through image and gets result easily. The system having real time input facility means the user can capture the photo and relevant images will be retrieved and metadata about those relevant images can be display. The proposed system increases the mobile search experience and enhances pertinence of search results. It involves a natural interactive process through which user has to expression their search content very well. It is deals with two elements server and client. a client send some query and a server is process that is continually work.

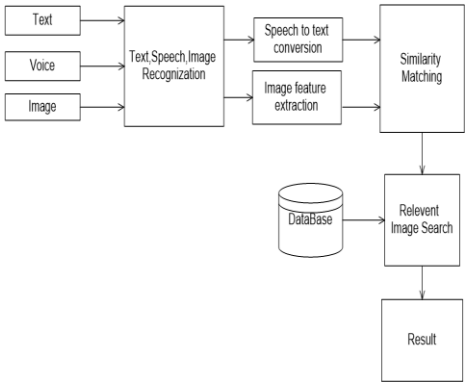

Fig 3.1 Architecture of Proposed System

The above fig. shows actual working of proposes system. In that Multimodal means multiple input given to the system such as Text, voice and image. then it recognize what type of Query given to the system such as text, voice and image. after Query classification if query is in speech form then convert it into text format and if Query is an image format then extract features of it. check the similarity of Query images matches with database images. Database search relevant images and send to the user.

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IV. ALGORITHM

a) K-means Algorithm

K-means algorithm is one of the easiest unsupervised learning algorithms. That solve well known clustering problem. Clustering algorithm used for Image segmentation and database organization. The purpose of clustering is to group of images whose feature vectors are similar by similarly judgment standard. Meanwhile to separate the dissimilar images.

b) Colour histogram algorithm

The colour histogram for an image is constructed by counting the number of pixel of each colour retrieval from image databases using colour histogram has been investigated .the histogram algorithm work on five steps:

1) Selection of colour space.

2) Quantization of the colour space.

3) Computation of histogram.

4) Derivation of the histogram distance function.

5) Identifying of indexing shortcuts.

V. CONCLUSION

In this paper interactive multimodal image retrieval system is introduced which allows the users to express their query through natural multimodal interaction with mobile devices and desktop. This technique is useful in case where user does not have any idea about particular thing and also metadata of the image can be presented to the users;

The particular selected image's metadata also retrieve by user which will be the advantage of proposed system.The system provides a cool game-like user interface for query formulation and increase user experience on handheld devices.

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