

Sketch Based Image Indexing and Retrieval

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Abstract : *Content based image retrieval (CBIR) is the technology widely used in present era. The main purpose of the CBIR based systems is to excerpt visual features of an image like color, texture, shape or any combination of them. In the previously existing systems, images are manually annotated with keywords and then retrieved using text-based search methods. The proposed system provides a unique scheme for Content based Image Retrieval using sketches. In this system the search was done using the free hand sketches as an input and the desired colored images was retrieved from the database as the output. The existing method specifies the possible solution of how a task specific descriptor, which can handles an information gap between the sketch and the colored images which result an efficient search for the user.*

The Sketch based Image Retrieval system can be used in many areas, some applications of SBIR are social sites, image based digital libraries, and any illiterate person can use this system very efficiently for different purposes.

Keywords: *CEDD, Clustering, K-Mean Clustering, Descriptors, Texture, Quantization, Fuzzy Linking etc.*

I. Introduction

When we talk about digital images over the World Wide Web, it is popular to everyone that there could be hundreds or thousands of users working with digitally used information. This digital information can be in the form of digitalized images as we know that the images are one of the best ways of sharing information, better understanding and memorizing the information more easily.

Text-based image retrieval methods were widely used for conventional database applications in world wide. They were used with business applications purpose and tasks but increasing usage and volume of digital images created accuracy and performance issues generated for text-based image retrieval methods. Thus, a new direction towards better image retrieval with accuracy and performance was followed by researchers from different application domains to take image retrieval technology to the next stage. The new latest generated methods proposed for image retrieval also considered the fundamental basic properties such as color, texture, and shapes of objects in an image. [8]

In mostly cases when we are looking for an efficient searching than we have to be recalled some previous data related to that and as we know that human are a good observer, they are able to recall the visual information more easily and frequently than remembering the whole text as it is but we are able to recall the small things in an image, for example the outlines of an object, or combination of colors and objects formation in an image can easily be remembered by anyone. Since the human is of visual type, they look for images using other images, and follow this approach also at the categorizing. Our purpose is to develop an interactive content based image retrieval system which can retrieve the digital images using the free hand sketches from the database. In this sketch based Image retrieval system the user draws the free hand sketches and blobs on the drawing areas then these sketches are divided into the blocks and the color, texture and shape etc features were determined. The blocks and sub-blocks were also used in the other algorithms like Edge Histogram descriptor, Histogram of orientation etc which was used for matching the images. After matching the system will retrieve the related images stored in database and the clusters of similar images was formed using the appropriate algorithm, from the set of the clustered images the most appropriate digital image was retrieved as an output to user. Using this Sketch based System can play a vital role in many areas of life. The interaction between the user and Sketch based image retrieval system can help in achieving better retrieval results. [1]

II. Literature Review

I go through various research papers for literature review in which the different technique are used for the content based image retrieval that are:

2.1 Sketch4match– Content-Based Image Retrieval System Using Sketches

In this paper the researcher had introduced the problems and challenges which is based and concerned with the design and formation of developed CBIR systems, which is based on a roughly drawn free hand sketch