Asian Journal of Engineering and Technology Innovation 03 (06) 2015 (33-35)

Asian Journal of Engineering and Technology Innovation

ISSN : 2347-7385

REVIEW ARTICLE

Received on: 18-03-2014
Accepted on: 28-03-2015
Published on: 02-04-2015

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Conflict of Interest: None Declared

Content Based Image Retrieval System using a freehand Sketch and Match Images

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ABSTRACT
The content based image retrieval (CBIR) is popularly used for searching digital images. In image search tools like Google and Yahoo they provide key words for each images so searching images are difficult and not satisfactory. In CBIR the extraction of an image are done automatically, like color, texture,or shape. Existing method specifies possible solution of how a task specific descriptor handles an information gap between sketch and colored images which results in efficient search for an user. The Sketch Based Image Retrival technology can be used in several applications such as digital libraries, crime prevention and many kind of local businesses.
Keywords: SBIR, CBIR, K-MEAN, CANNY EDGE,EHD

Cite this article as:
Ashwini Tapkeer, Nikhil Deshmukh, Reshma Patil, Vaibhav Mondhe, Sarika Deokate, Content Based Image Retrieval System using a freehand Sketch and Match Images. Asian Journal of Engineering and Technology Innovation 03 (06); 2015: 33-35.

INTRODUCTION

Definition:

Retrieving images on the basis of automatically-derived features such as color, texture and shape are easy. By providing a simple smoothing and edge detection based method for comparing drawn images without modification with color image or its edge representation.

Background:

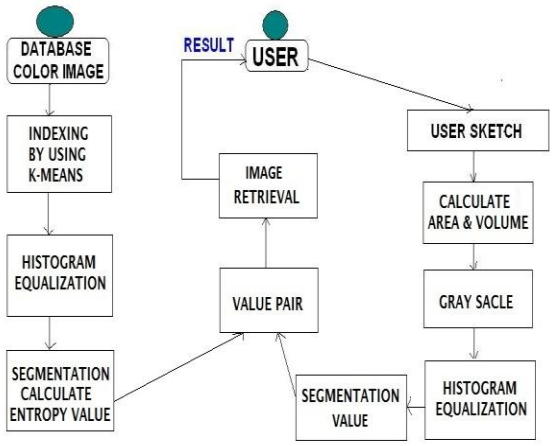
In paper [1], the author proposed the research on multimedia systems and content-based image retrieval. There were two approaches to content-based image retrieval initially. There are two major categories of features. One is basic which is concerned with extracting boundaries of the image and the other one is logical which defines the image at various levels of details. The second one is the vast gap existing for an image between low-level features mentioned earlier and high-level or semantic expressions contained in the image.

In paper [2], the author proposed a content-based image retrieval method based on an efficient combination of multi-resolution color and texture features. It demonstrates more excellent retrieval accuracy for queries and target images of various resolutions. In this system it is difficult to achieve such image segmentation for natural images; the use of shape features in image retrieval has been limited to special applications.

In paper [3], the author proposed an image retrieval suite called img (Rummager) which brings into effect a number of new as well as state of the art descriptors. This paper basically explains the execution of image search based on query image which could be XML-based index file or directly from folder containing image file. In addition the img(Rummager) application can execute a hybrid search of images which combines keyword info as well as visual similarity. In this system, the principle helps to organize digital image archives by their visual content. The user inputs an image (query image) and based on certain global features, the system brings up similar images. In this system it is difficult to achieve such image segmentation for natural images; the use of shape features in image retrieval has been limited to special applications.

In paper [4], the author proposed in a typical CBIR, features related to visual content such as appearance, pigmentation, and character are first extracted from a query image, the similarity between the set of features of the query image and that of each target image in a DB is then computed, and target images are next retrieved which are most similar to the query image. A possible application is matching a forensic sketch to a gallery of mug shot images. Disadvantage of proposed system is that this system lacks of perfectness in some exceptional conditions but that can be easily overcome by using some extra algorithms.

System Architecture:



SYSTEM ARCHITECTURE

Theoretical Model of Project :-

Research Directives :- Canny Edge Detection Algorithm

Image edges form boundaries of objects. Hence edge detection is a fundamental tool in image processing .after applying edge detector you an image , it gives the boundaries of objects which help of object identification .edge detection significantly reduce the amount of data and filters out less useless information ,while it preserve significant data in the image.

The algorithm runs in 5 separate steps:

1. Smoothing: Blurring of the image to remove noise.
2. Finding gradients: The edges should be marked where the curve of the image has large magnitudes.

3. Non-maximum suppression: Only local actual path should be marked as edges.
4. Double thresholding: Potential edges are determined by thresholding.
5. Edge tracking by hysteresis: Only Seen the actual boundary.

The k-mean alogrithm:

Algorithm: The k-mean alogrithm for partitioning based on the mean value of the object in the cluster.
Input: The number of clusters k and the database containing n objects.
Output: A set of a k clusters that minimizes the squared error criterion.
Method:

1. Arbitrarily choose k objects as the intial cluster centres.
2. Repeat
3. (re)assign each object to the cluster to which the object is the most similar,based on the mean value of the objects in the cluster.
4. Update the cluster means, that is calculate the mean value of the objects for each cluster.

Until no change

REFERENCES

1. An Overview of Content-based Image Retrieval Techniques, Sagarmay Deb Yanchun Zhang, OCTOBER 2004.
2. Content-Based Image Retrieval Using Multiresolution Color and Texture Features Young Deok Chun, Nam Chul Kim, Member, IEEE, and Ick Hoon Jang, Member, OCTOBER 2008
3. Img(Rummager): An Interactive Content Based Image Retrieval System, Savvas A. Chatzichristofis , Yiannis S. Boutalis and Mathias Lux,2009
4. Sketch4Match – Content-based Image Retrieval System Using Sketches, B.Szanto, P.Pozsegovics, Z.Vamossy, Sz.Sergyan, january 2011
5. a content based image retrieval system for marine life images Ahsan Raza Sheikh, Lye. M.H., Sarina Mansor, M. F. Ahmad Fauzi, Fatahiyah Mohd Anuar,AUGUST 2011
6. Human Motion Retrieval from Hand-Drawn Sketch,Min-Wen Chao, Chao-Hung Lin, Member, IEEE, Jackie Assa, and Tong-Yee Lee, Senior Member, IEEE,MAY 2012
7. A Sketch-based 3D Model Retrieval System, Ke Ding and Yunhui Liu, Fellow, IEEE, NOVEMBER 2012