

ABSTRACT

Content based image retrieval (CBIR) from large resources has become an area of wide interest nowadays in many applications. CBIR is very useful in several applications such as medical imaging, modern diagnosis, remote sensing and satellite imaging. The different types of images are subjected to set of operations used as constituent stages of CBIR. The method was initially used in 1990s and it is an image retrieval method using image vision contents such as color, texture, shape, spatial relationship, not using image notation to search images. Satellite imagery has become an important part of our information source. The amount of high resolution satellite imagery is growing rapidly, and much of it is now available to the public through various map services, such as Google Maps, etc.

KEYWORDS: CBIR, digital image, feature, content, retrieval etc.

INTRODUCTION

Content- Based Image Retrieval (CBIR) is a relatively new re- search area which is dedicated to the image retrieval problem and a number of image database system have been developed. Color remains the most important low-level feature which is used to index database images. This content based image retrieval becoming more popular in web data mining methods. The key technologies image retrieval include: Image feature extraction, feature-based similarity calculation, semantically relevance feedback and image acquisition. It relates to machine vision, pattern recognition, database technology and information retrieval studies. The millions of images are available in web databases, so retrieving some particular images from the large database become more complex process for the users. For that we need to provide the better retrieval p Feature Extraction techniques are the backbone of any CBIR system. Such strategy is called Content-Based Image Retrieval (CBIR). Feature Extraction techniques are the backbone of any CBIR system. Features are divided into two categories respectively text based and visual based. Textual features are keywords, tags, annotations etc. Visual features are color, shape and texture etc. Visual features are the important features of an image for pattern recognition.

Color feature extraction can be implemented by the following image processing techniques.

- Color Moments
- Color Histogram
- Color Correlogram
- Color Coherence Vector

Texture measures look for visual patterns in images and how they are spatially defined. Other methods of classifying textures include:

- Gabar Filter
- Wavelet Transform
- Tamura Feature

Shape descriptors may also need to be invariant to translation, rotation, and scale. Some shape descriptors include:

- Moment Invariant
- Fourier Transform

Following is general flow diagram (shown in Fig. 1) of CBIR used as robust flow of implementation of steps.

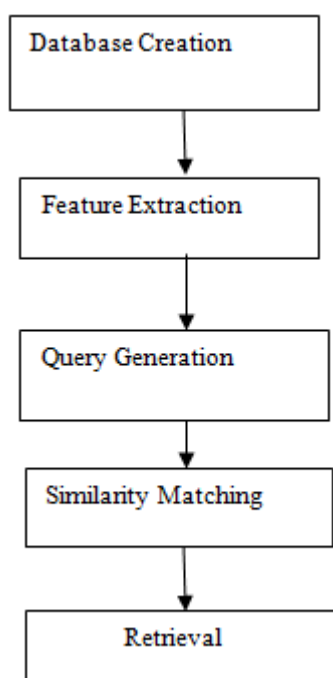


Figure 1 Block Diagram of CBIR

The above figure shows the following:

- The first step shows the creation of the database having images.
- Then we extract the extracted the feature of the images given in the database.
- Query is generated
- Matches the similarity of the images.
- Last retrieval image found.

Organization of the paper is that the 2 point describe the related work in the field. The challenges existing in the field are discussed in section 3. Point 4 concludes the paper.

RELATED WORK

This section presents related research survey of few important existing CBIR implementation. Below table gives the work of the related areas.

Table No.-1

S. No	YEAR	PUBLIC-- ATION	AUTHO R'S NAME	TECHNIQU E	RESULT
1.	2016	IEEE	Zhi-chan Haung	Gabor Feature Texture Extraction	Experimental result showed that the proposed method has higher retrieval accuracy than those based on color and texture feature.
2.	2015	IEEE (Inter- National Conference on Industrial and	Chathura ni N. Geva S. Chandran V.	Multilevel Sequential Searching Technique	Improvement in retrieval quality of the image data sets.



		Information)			
3.	2015	IEEE	SamiaBoutelja AssiaKou rgli	RGB and CIE Lab color system	Image Retrieval accuracy by about 6.5% for RGB system and 4.5% for CIE Lab system.
4.	2014	IEEE (International Conference on Computer and communication system)	Ms.BhagyaLakshmi Dr.V.VijayaChamundesswari	Image retrieval using various operators	The various operators generate the local code for every pixel image in an image,Then it gives the histogram of the image.
5.	2012	IEEE(Department of Image processing and Information retrieval system.)	MahendraGurve JyotiSarp	Satellite Cloud Image Processing and Information retrieval system.	The result are quite good for most of the query good for most of the query images and it is possible to the futher improve by fine tuning the threshold and adding relevance feedback.
6.	2005	IEEE	P.K.Biswas B.N.Chat terji	2-D rotated complex wavelet filters are used	The proposed technique improves retrieval rate from 69.61% to 77.75% and 64.63% to 82.81% respectively in the images present in the database, over the traditional approach.
7.	2003 (Electronics and Electrical Engineering)	IEEE	Maneshk okare B.N.Chat terji P.K.Biswas	Similarity matrix for texture images.	In this nine similarity metrics are used they all are good but not gives the accurate accuracy and retrieval time in the images given in the data base.
8.	2002 (Centre for Information Science)	IEEE	HuiYu Mingjing Li	Color Texture Moments (CTM)	The results shows that CTM not only achieves better retrieval precision but also has much lower feature dimension,which is valuable for the CBIR system.
9.	1998	IEEE	D.Andro utsos K.N.Plan iotis A.N.Ven etasanop oles	Color Indexing Distance Measure	In this nine similarity metrics are used,they all are good but not gives the accurate accuracy and retrieval time in the images given in database
10.	1995	IEEE	Anil.K.Ja in Aditya Vailya	Textual Attributes	The result get is the effective and efficient image retrieval in the orientation,positioned size

The above related research survey highlights the findings and limitations of existing methods using different techniques for feature extraction and matching. The research challenge remains unaddressed is that the robust kind of method is really needed to implement CBIR for large dataset of images.

CHALLENGES IN THE FIELD

CBIR using image vision contents such as color, texture, shape spatial relationship not using image notation to search images. CBIR have many application in the different fields like crime prevention Medical diagnosis, military, geographical, information vice versa. All these applications have a scope to improve the efficiency and accuracy of CBIR system, resulting in the research needed in the field.

CONCLUSION

The work in the area of CBIR is studied and some not worthy contribution in this field are reported in this paper various challenges in designing and development of CBIR system has been created a scope for research in this field. Number of application of CBIR are existing which needs further work to enhance their results. The proposed work will be focusing on the challenges existing in the field.

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