Abstract

The paper discusses novel image retrieval methods based on edge texture of images extracted using morphological operators. The existing CBIR techniques are based on the feature vectors extracted from morphological edge extraction techniques such as simple morphological edge extraction technique, Top-Hat transform and Bottom-Hat transform. The proposed CBIR techniques are using the morphological edge extraction techniques with block truncation coding (BTC). The proposed techniques are tested on generic image database with 1000 images spread across 11 categories. In all 55 queries (5 from each category) are fired on the image database. The average precision and recall of all queries are computed and considered for performance analysis. The experimental results show that use of BTC over
morphological shape images for feature extraction improves the performance of image retrieval with reduced computational complexity for query execution. In all BTC with simple morphological edge extraction based CBIR method (SMBTC) gives best performance.

Reference

- John Eakins, Margaret Graham, “Content Based Image Retrieval”, Chaptet 5.6, pg 36-40, University of Northumbria at New Castle, October 1999

**Index Terms**

Computer Science  
Information Retrieval

**Key words**

CBIR  
Top-Hat  
Bottom-Hat  
BTC  
Morphology
Edge extraction