

Abstract

Content-Based Image Retrieval (CBIR) is mechanism for searching image by comparing visual content from query image with all images in database. Comparison between query image and all images in database is done according to the primitives that extracted from query image.

This final project's goal is to implement PCA (Principal Component Analysis) on this CBIR system. PCA is one of statistical extraction method that usually for image processing, pattern recognition, and data mining. Extraction is done on every class of images and the results are become the feature characteristics of that class.

To break the computation process PCA on CBIR system, Wavelet Transform has done for preprocessing of PCA. Wavelet Transform decompose the image become some subband with low resolution than the original image.

This simulation is developed using Matlab 7.0.1 to make easy in image and mathematical processing. The simulation is tested on some query images to get its retrieval so we can get the value of precision and recall that indicates the successfulness of this CBIR system.

From the analysis result, the increment number of PC had an in with increasing the accuracy retrieval, the more using number of PC tended to increase the accuracy.

Keywords: *Image Retrieval, PCA, Wavelet Transform, principal component.*