Abstract

Image Retrieval is a field to search and retrieve information from an image. There are 2 methodes to search images, they are context based and content based. The context based retrieval uses metadata of the image. The content of image file are the features that represent the image such as color, shape, and texture feature.

In this final project, image retrieval system has built using color and shape feature with histogram based extraction. Histogram matching based methode performance so depend on how the features are extracted and represented in histogram form. As the examples, color feature can be extracted by using RGB or HSV model color. And shape feature performance depend on how the preprocessing is done so the edges can be detected.

RGB color model showed in 1 combination histogram with 64 quantitation levels produces good performance in accuracy and response with nDCG 0.835. For shape extraction, hysteria tresshold with $\sigma = 0,6$ has better results than single tresshold, with nDCG 0.693. And, integration of shape and color feature using WC (Weight Color) = 6 and WS (Weight Shape) can improve sistem performance with nDCG 0.895.

Keywords: Content Based Image Retrieval, Histogram, Gauss filter, Bin, Similarity, RGB, HSV, tresshold