ABSTRACT

RYAN SAPTA NOPA. Vector quantization based on blob image for image retrieval with hierarchy clustering. Supervised by YENI HERDIYENI.

This research proposed vector quantization using hierarchy clustering to overcome semantic problem on image retrieval. This approach considers to find templates or codebooks which arrange image in database. Images were segmented into blobs using grid segmentation. Each blob was represented by color feature using HSV-162 and texture feature using co-occurrence matrix. Output of feature extraction then clustered using hierarchy clustering to generated optimally codebook. Data experiment in this research was taken from http://www.stat.psu.edu/~jiali. The data consist of 1.000 photography image with various theme, object, and dimension of images were 384×256 pixel. R-precision, recall, and precision were used to evaluate the result of image retrieval. The experiment showed that segmentation using grid 12×8 have achieved best result than other grid. Based on experience, the result of R-precision showed that grid 12×8 is about 0.32. The advantage of this research that vector quantization with hierarchy clustering can be used to overcome semantic problem on image retrieval based on blob.

Keyword : content base image retrieval, vector quantization, hierarchy clustering.