

## **ABSTRACT**

*As the multimedia technologies advance, the amount of digital images is growing rapidly be there in the offline storages or the online ones. Visual search engine, using Content-Based Image Retrieval method, can ease user when trying to search digital images in large amounts. With this method, digital images which has similarity with query image can be found, as this method is finding matched contents between digital images. Colors, textures, and shapes are some of the example of digital images's contents or some called it descriptor. One of the descriptor in the field of computer vision is SURF Descriptor that can be extracted using SURF (Speeded-UP Robust Feature) algorithm. The program used in this experiment need digital images with. JPG format as input. Next, a folder which contains large amount of images is choosen. Descriptors extraction are done in both query images and large amount of images in the folder. After descriptors on both query image and folder images were matched, the output of this program will be relevant digital images that has similarity with the query image. This experiment use four datasets, they are Object dataset, Face 1 dataset, Face 2 dataset, and Comic dataset, each datasets contain large amount of digital images. Parameters used in this experiments are descriptor extraction times, matching times, Precision and Recall. Besides using normal query images, this experiments use modified (cropped) query images. The results of experiments show that this system can display relevant result that has similarity with query images. The results from experiments show average Precision and Recall are 18,186% and 25,528%, when the perfect results should be 100% percentage for both Precision and Recall.*

*Keywords: Visual search engine, CBIR, SURF, interest point*