

## ABSTRACT

Image Segmentation has been developed and used in many field, such as image processing, GIS, medical, etc. Segmentation is a process that defines area or boundary from an object on digital images so that it can be separated from one another and its background. Since complexities and variants occurred on digital images, segmentation using automatic method took a long time to finish.

This Final Project implementing a software developed by using Matlab 7.0.1 for image segmentation using boundary detection. This method used energy minimization approach in which image with high color intensity nor image with high complexity can be segmented.

Input for this application is a standard image file and noised image that will compare in the segmentation process. Later in the examination, the values can be changed based on user input. PSNR (Peak Signal to Noise Ratio) formula use to calculate the performance of the noised image.

The noised image produce performance value about 30 db when using maxiter value above 40 with SNR of the gaussian noise is 50 db. The localvar noise use varian 0.005 as limit.

Key word : *Boundary Detection, Segmentation, noise, PSNR.*