ABSTRACT

Cervical cancer is one of the cancer disease caused by human papiloma virus type 16 and 18, attacking woman cervix. The cervical cancer detection method which frequently used is Pap-Smear. But, error often occursing this method in diagnosing the level of cervical cancer. Therefore, a system is needed that is able to help identifying the result of Pap-Smear.

In this final project has designed a system to detect the symptoms of cervical cancer using Matlab 2009a software to solve these problems. The image processing starts from converting the type of image, thresholding, noise removal using filter, until the image is ready to be detected. For thresholding process, used Adaptive Thresholding method, thresholding used lokal threshold value. This system is able to classify the image into two types, normal and abnormal (precancerous). For abnormal type divided into three types, that are mild, moderate, and severe.

Based on testing conducted on 218 test images, obtained an accuracy rate of 100% and the average time to proccess this system is 25.4 seconds. For system testing to handle noise, conducted all testing data. This system can handle Salt & Pepper noise 0.01 with an average accuracy rate of 59.33% and Gaussian noise with an average accuracy rate of 47.78%. Existence median filter in system, can handle noise Salt & Pepper with and noise Gaussian with an average accuracy rate of 68.89%.

Key words : cervical cancer, pap smear, image processing, thresholding