

## ABSTRACT

*Cervical cancer is a type of cancer that initially occurred in the cervical region. At first cervical cancer cells derived from normal cells which then grow into invasive cancer. Invasive cancer continues to grow uncontrollably and invade other tissues. At the stage of pre-cancer, cervical cancer patients do not experience symptoms - specific symptoms. Cancerous growth of pre-cancer stage becomes invasive cancer takes ten to twenty years.*

*There is a test called the Visual Inspection Acetic Acid (VIA) to find pre-cancer and invasive cervical cancer. VIA test can presenting Acetowhite Epithelium Zone (AEZ). AEZ can be categorized as positive VIA or benign lesions. This positive VIA indicate cervical cancer. Actually AEZ can be seen with the naked eye, but it needs special training to distinguish between VIA positive or negative.*

*In this thesis the author tries to design an Android-based application to make the detection of cancerous lesions (lesions positive VIA) from the image automatically. Segmentation will be conducted by comparing the image of the train with the test images which will then detect the lesion of cervical cancer. VIA classifying positive and negative based on the form and extent of the segmentation results. This application is expected to simplify the process tests in detecting positive VIA lessions.*

*From final result of this study, system can classified VIA test image and VIA positive lession up to 81% accurately with 78% sensitivity and 84% specificity. Based on the accuracy, sensitivity and specificity, system performance is optimum when the image is processed according to regulations.*

***Keyword: Cervical Cancer, Visual Inspection of Acetic Acid, Edge Detection, Android Aplication***