ABSTRACT

In the development of image processing technology (image processing), until now continues to be expanded with the aim to help humans in doing their work. Image processing itself is one type of technology to solve problems regarding image processing so that images are easier to process. The information contained in an image can be done by simplifying the structure of the image. One method to simplify the structure of images is to do the process of image segmentation (image segmentation). Segmentation is one of the methods used to separate one object from another object or between an object with a background contained in an image. The purpose of image segmentation is to simplify or change the representation of an image so that it is easier to analyze. Various image segmentation applications are very helpful for human interests. One of them is the application is the image processing based on image processing error edge shapes. The image referred to here is a still image (photo) and a moving image (coming from a webcam).

In this final project, there are 3 main processes including: color changes, edge detection of objects and object labeling, and analysis. The color change stage from RGB (Read Green Blue to Gryscale color change (White gray) and BW (Black and White) color change when changing color to BW using the canny method, the object edge detection and labeling stage is the object edge detection stage that is monitored by doing labeling ture if the circle is perfect, false if it is not perfect circle, while the analysis phase there are 2 namely the analysis of light testing and analysis of distance parameters, the results of analysis of light testing determine the light lux which is good to use when object detection, the phase of the results of parameter testing distance is the best distance to detect the edge of an object

The system of detecting errors in the shape of the object based on image processing, selection get, the best distance, the effect of the light that gets the best, and the shape of the level of perfect accuracy, the best distance is used to detect different objects namely the distance of 25cm, the level of accuracy of edge detection of objects is 100% successful, the effect of light that is not but influential if the light lux 11 camera is dark and when detecting objects in matlab will not be processed or only black images are detected.

Kata kunci : ***Matlab, ImageProcessing, Segmentation,Citra Digital***