ABSTRACT

Calculating the value of height and weight is one of the way to determine the nutritional status of the child. In general, children, especially for children aged 0-5 years, are recommended to carry out periodic checks at the posyandu. So that in this final project the author will make an android-based application that aims to simplify the process of detecting the nutritional status of the child. This application uses the Edge Detection method to process the image of a child that has been taken using a smartphone camera.

In this final assignment, the author conducted an analysis of digital image processing using Matlab in detecting estimates of the height and weight of the child. This is done by testing digital images on the Grayscale layer, Red Green Blue (RGB). And analyze the value of the output obtained from each operator on the Edge Detection method, namely Canny , Roberts, Prewitt, and Sobel Operator. The results of feature extraction are classified using the standard anthropometric table evaluating the nutritional status of the child [1] issued by the minister of health. The output of the application is in the form of several categories of nutritional status, namely categories based on Body Weight by Age (BB / U), Body Height by Age (TB / U), and Body Weight by Height (BB / TB).

The results obtained using this method, the application system for detecting nutritional status displays performance with the highest level of accuracy of 87.08% at high and 74.78% on underweight children using 25 male image samples and 25 female image samples. With this application the process of calculating child nutritional status can be done periodically and more practically than manually.

Keywords*: Image Processing, Edge Detection, Canny, Sobel, Prewitt, Robert Anthropometry*