ABSTRACT

Currently the problem of obesity and malnutrition become one of the important health problem. According to WHO (2000) estimated that over 700 million adults will be overwight in 2015 and there's an increase in the prevalence of obesity up reach 50% by 2025 for developed countries. To reduce this risk there's a standard formula lauched by World Health Organization called Body Mass Index (BMI). This formula refers to the calculation of height and weight between someone who produces a category of standard values based on posture.

A purpose of this final task is designed an Android application that can calculate BMI from capture an image with digital image processing algorithms. The method used is the method of spatial techniques. At the first section, an image that captured will do a cropping process to get ROI, which is the width and height of the image of a whole body person. Next, the pixels will be processed with normalization to get height and width RoI pixels calculate BMI using an elliptical cylinder formula for get the body surface area (BSA) and height pixel after narmalization..

From the results of the application system design, the output value BMI using digital image processing has an optimal accuracy of 91,67% from resize 480x640 and the camera position is one level with a neck object.

Keywords: Body Mass Index, Body Surface Area, Mosteller, Digital Image Processing, Pixel, Surface Area of Elliptical Cylinder, Android, RoI.