

ABSTRACT

One of the high-potential commodities is a red fruit (Pandanus conoideus Lam) growing spread in Papua. Papuans red fruit consumed as food additives and are made of oil, but still very traditional processing process. With the manual system, the classification of red fruit will vary according to the public (farmers) in charge of classifying Papua red fruit. To obtain accurate results and fast in the selection of red fruit in bulk, the process will be done by computer systems to process the image data of red fruit selected.

At this final project created a software that can determine the quality of the fruit through the detection and classification based on the size of red fruit and red fruit on fruit color digital image. Fruit color in red fruit sampling is done first fruit of the reference pixel data from the RGB sample, then look at the RGB pixels of red fruit in accordance with the value of tolerance. RGB pixels then calculated and compared with the extent of red fruit pixels that match the target value of tolerance. Similarly, the minimum or threshold are classified as red fruit red fruits with different colors and sizes. In this case the edge detection method and Genetic Algorithm for the classification.

Penelitianan results will be tested by comparing it with the assessment by an expert, in which to determine the level of accuracy or whether the test results with a median filter with a filter such as median filter window 3x3, 4x4, and 5x5 and testing the edge detection using threshold value of 0.3; 0.35 and 0.4. At this Final results obtained from testing the accuracy of the good value that is 90% on 4x4 filter window and the threshold value of 0.3. Hence the assessment (the invention) an expert is that red fruits are classified by color and size.

Key words: RGB sample, the size (shape) and the red fruit color, edge detection, genetic algorithm, the threshold