ABSTRACT

Pulpitis is an inflammation which occurs in the tooth tissue. Inflammation can be detected on radiographs taken from the patient's teeth. In diagnosing a disease, doctors take a radiograph or x-ray images of the patient. One type of radiograph is periapical radiograph. Periapical radiograph is an x-ray image which displays the entire tooth, including dental crowns, root, and bone. A radiograph is a tool to help diagnosing diseases, because usually anomalies happen hidden under the surface of the tooth, so it won't be seen by a visual inspection only.

The purpose of this research is to segment the area of pulp and detects the type of pulpitis based on the features of the input image. The feature of segmented image will be obtained then the image will be classified into reversible or irreversible pulpitis. Method used in this research titled Adaptive Thresholding. This method segments the image based on local threshold value obtained by using the formula (mean-C) based on the window size (ws) and the constant C. According to the testing of ten test images, resulted 100% accuracy in the parameter ws = 50 C = 0.06, ws = 75 C = 0.06, and ws = 100 C = 0.06. Average computing time of the system is 0.3823 seconds.

Keywords: pulpitis, periapical radiographs, threshold, segmentation

Universitas Telkom