

ABSTRACT

One of the important organs in the body are the teeth. Unhealthy teeth can result in pain that interferes with the activity. One of the diseases of the teeth is pulpitis. Pulpitis is an inflammation of the pulp cavity. The disease can be divided into two reversible and irreversible pulpitis. Pulpitis can be detected using x-ray. One application of x-ray is periapical radiographs. Periapical radiographs will be processed and will be diagnosed by a dentist.

In this study tried to perform image processing at the stage of pre periapical radiograph processing, segmentation, and classification. In this study using Adaptive Region Growing Approach on the segmentation. This method performs local growth in the image by using the seed point, threshold, and a growing edge. Seed point is selected automatically by looking at the pixel with the maximum intensity. Then choose the threshold manually with a range of 0 to 1. growing edge by comparison seed seed point and the neighboring point using threshold. For the classification, used methods k Nearest Neighbour by using the value of $k = 1$. To use this classification method takes the unique features of the image. Extraction of features used is Gray Level Coocurance Matrix (GLCM) with feature correlation, entropy, inverse difference Moment and Angular Second Moment.

The results of this final assignment is able to detect the disease pulpitis with accuracy of 70% on android. The data used in this final assignment as many as 36 data with the details 30 of the data as test data and 6 of data as training data.

Key Word : *Pulpitis, Region Growing, kNN, GLCM.*