ABSTRACT

Pulpitis is one of the dental pulp disease. Pulpitis is an inflammation of part of the dental pulp. pulpitis is a continuation of the process of dental caries that penetrate through the enamel and dentin to reach the pulp. Other tests can be done by inspection using 2D and periapical radiographs with the most advanced technology with the results 3D radiographs.

Step will be carried out in this research include: pre-processing, feature extraction, and classification. Texture feature extraction methods and the colors used are DCT Transformation (Discrete Cosine Transform) and in terms of texture, which is one of the physical characteristics of detection. As for the quality classification using K-Nearest Neighbor (K-NN).

Accuracy obtained was 86,67% for 30 training images, where the image of Irreversible pulpitis to train as many as 10 images, reversible pulpitis as much as 10 and the normal image as much as 10 images. For the test images consisting of 20 images irreversible pulpitis, 20 images reversible pulpitis, and 20 normal images.

The result of this thesis is a system capable of identifying pilpitis with maximum accuracy rate reaches 86,67% android system and the average computation time 3,015 seconds using samples of periapical radiograph as test images and training images.

Keyword*: periapical radiographs, pulpitis, *DCT, k-Nearest Neighbor