

ABSTRACT

Pulpitis is a disease that can be found in human teeth, pulpitis itself is an inflammation of the dental pulp, which is part of the tooth that there are a lot of nerves and blood vessels. Pulpitis disease usually caused by decay or could occur because of injuries to the teeth so that the pulp swelling or trade. Disease pulpitis difficult to identify by naked eye, to diagnose the disease pulpitis needed some physical testing one using peripikal radiograph to ensure their decay around the teeth for periapical radiographs required physician radiologist to determine the diagnosis, while in Indonesia are still few doctors who have such expertise , Therefore, it takes an application that can help provide a diagnosis of radiographs periapical efficient results.

Therefore, in this study using digital image processing techniques to facilitate disease diagnosis pulpitis using image segmentation techniques with methods watershed. Watershed is one of the techniques of image segmentation that divides the image into different regions to describe the image as a topographic relief and then classifying the K-Nearest Neighbour method.

This study is an extension of previous studies with different methods, in this final project the system can detect and classify the condition of irreversible pulpitis, or reversible pulpitis. In this study, the accuracy rate reaches 100% when the value is worth 512x512 pixels and the value of k is 1. It is also hoped the ability of these systems can help in disease detection pulpitis.

Keyword : KNN, Pulpitis Periapical Radiograph, Segmentation , Watershed