ABSTRACT

Teeth are an important organ which is in the mouth. One of dental disease is pulpitis. Pulpitis is inflammation of the dental pulp that cause pain which are divided into two types, reversible pulpitis and irreversible pulpitis. This disease can be detected using periapical radiograph. However, periapical radiograph image which is generated have low contrast leve and a lot of noise causes poor quality of the image so that the image of the periapical radiograph make it difficult to detect any disease.

Focused on the above issues, this final assignment perform the adaptive image enhancement process on periapical radiograph. Adaptive image enhancement is done to improve the quality of the image that is adapted to the conditions existing image. Adaptive image enhancement methods used in this final assignment, namely Adaptive Region Growing Approach, wherein the method is more focused on improving the quality of the region that are created because of the seed in the image.

In this final assignment, the system can improve the image quality. The system test result using 47th tooth of radiograph periapical show that 0.001 clip limit value give the maximum convergence value based on mean, variance, energy, and entropy from that image. System accuration using KNN based on that statistical data is 100%.

Keyword : *Foreground,* CLAHE, Pulpitis, Radiograf Periapikal, *Region, Seed*