

ABSTRACT

Dental radiography is radiograph image on a special film that is produced by x-ray exposure radiation in the direction of the teeth and its supporting tissues. There is always no analysis certainty that dentistry can get from the radiographic results. If the diagnosis is not exact the plan of treatment will be not appropriate too. The process that through by a film from an x-ray machine until the radiograph image printed, there's a possibility that the quality of the resulting image contains a lot of noise and have a low contrast. Poor image quality becomes an obstacle for the dentist to interpret the diseases of the teeth. One of the diseases of the dental pulp that commonly detected through periapical radiograph image is pulpitis.

On this final project a software is constructed to enhance the pulpitis periapical radiograph. The method that been used are Adaptive Histogram Equalization pulpitis (AHE) and Median Adaptive Histogram Equalization (MAHE) using the window size parameter, Contrast Limited Adaptive Histogram Equalization (CLAHE), and Sharp Contrast Limited Adaptive Histogram Equalization (SCLAHE) using the clip limit parameter.

The system produces a digital image of periapical radiographs with a good quality that can be interpreted by a dentist. This final project shows that the CLAHE method be the best method to improve the image quality of periapical radiographs pulpitis.

Keyword: Periapical radiographs, Pulpitis, Histogram equalization.