ABSTRACT

The sound of every human being must be different. Where each voice has different frequencies and characteristics. At present in the era of advanced technology, sound can be used as a detection medium through an application or computer program, so that it can be used as a detection aid especially in the health sector. With the application or program, it can help detect the presence of barodontalgia phenomena, especially in the case of reversible pulpitis treatment in divers.

In this final project an application program is designed to help doctors detect sound signals in divers with barodontalgia phenomena, especially cases of reversible pulpitis treatment through the Wavelet Packet classification method and Self Organizing Maps (SOM). The sound that will be processed goes through several stages such as data input, preprocessing, normalization window, feature extraction, classification, and determination stage.

This system is very dependent on sound signals using audio processing. In this final project the results obtained are a Matlab-based application for identifying and classifying. From this study the results of the accuracy were 73.333% with a computation time of 0.2416 seconds.

Keywords: *Reversible Pulpitis, Audio Processing, Wavelet Packet, Self Organizing Maps (SOM).*