

ABSTRACT

Concentration is a condition in which the mind of an individual is centered on a certain thing. Based on the EEG waves that each have a different characteristic then the level of an individual's concentration can be identified. In general, the concentration process can be identified when there is a imcrease in Alfa and Beta wave activity in AF7 brain chanel. On the other hand there has been much research done to examine teh influence of the Quran on the psychological condition of a person, among others, condition of relaxation, concentration, or mental health.

In this final project has developed a system of concentration detection with a stimulation of Al-Quran recitation based on the conditions of focus and distraction by uses alpha and beta EEG signals. The signal processing procedure was breakdown by preprocessing, feature extraction with Digital Wavelet Transform (DWT), and a classify phase uses Artificial Neural network – Backpropagation.

The test results show that the best performance focus conditions are Alpha wave with entropy with an accuracy about 75% and in the distraction conditions the best performance is obtained in the Alpha and Beta wave with an accuracy about 49%. It can be concluded that the concentration detection system obtains optimal results in the AF7 channel under focus conditions while in the distraction condition the system gets less than optimal results.

Kata kunci : *EEG, concentration, DWT, ANN-Backpropagation*