

ABSTRACT

Playing video games has a positive and negative effects to the human brain, especially in terms of attention, emotion and cognition. Today a lot of research on brainwave using Electroencephalography (EEG). EEG is a method to record electrical activity of the human brain, the output of EEG is a graph that contains a lot of information about the activities that occur in the brain. Brain signals recorded in an EEG influenced by the millions of neurons in the brain that is constantly changing based on activities performed or emotions experienced.

In this research, has been designed a system to identify brainwave signals on people who are playing games and reading newspaper based on alpha and beta signal through EEG. Where each condition there are 9 data in each channel. Before classify, it required preprocessing, Discrete Wavelet Transform as feature extraction and K-Nearest Neighbour for classification then

In This research's obtained result concentration testing produced the best channel TP9 on condition accuracy played games is 55.56% for alpha signal and 88.89% for beta signal, then based on condition reading the newspaper testing produced the best channel TP9 with accuracy is 88.89% for alpha signal and 88.89% for beta signal.

Keywords: *Video game, Electroencephalography, Discrete Wavelet Transform , K-Nearest Neighbor.*