

ABSTRACT

Nicotine is an addictive substance found in the content of cigarettes. This nicotine content can make someone addicted. Cigarettes themselves are of two types, namely conventional cigarettes and electric cigarettes. Electric Cigarette or vape is a new way for someone to do smoker activities, but what is produced from the rest of the combustion is not smoke, but rather the water vapor resulting from liquid evaporation on the vape. Liquid vape generally has various kinds of nicotine content.

The human brain itself has several types of signals including alpha, beta, gamma, theta and delta. Every signal of the human brain has its own frequency value. From these brain signals, we can analyze how the human brain responds to a stimulus from the outside so that humans can feel and can think critically. The condition of one's brain when using vape that has nicotine levels in its liquid can be analyzed through Electroencephalograph (EEG). The purpose of this final project is to determine the form of beta and gamma signals in a person's brain.

In this final project, an analysis of beta and gamma signals in the human brain has been carried out to determine the state of the brain. By using a 4 channel EEG as a brain signal detector and the method used in this study is the Self Organizing Maps (SOM) method. The highest percentage results obtained were 62.5%.

Keywords: vape, Electroencephalography (EEG), Self-Organizing Map (SOM), nicotine, beta, gamma, brain.

