

## **Investigation of brainwave activities with different facial expression**

### **ABSTRACT**

Many researches have been conducted to explore the ability of single electrode EEG device called Neurosky Mindwave. It has been applied to the devices that are designed for people with motor disabilities. It is low-cost wireless EEG and easy to be handled. Current research make use of the attention or concentration level to be as an input to control the wheelchair or home appliance. Therefore, the aim of the research to investigate not only the attention level but also the signal quality value with different facial expression by using Neurosky Mindwave. The electrode placed on the forehead (Fp1) and transmits the electrical impulses via Bluetooth to an Arduino. The testing are implemented by frowning and winking the eyes. It is found that when frowning, the signal quality is 25 while the signal quality are 26 whenever the left eye are winked. These values can be considered as an input signal for control mechanism if further testing are implemented to validate the values.