

Abstract

The recovery period in post-stroke patients is very important especially to prevent the occurrence of defects or deficiencies that may arise after a stroke. Brain wave patterns in post-stroke patients need to be identified and measured. In this final project, a system was developed to analyze brain wave pattern activity and analyze the muscle strength of post-stroke patients in the Upper Limb (upper body) part of the right and left hand. For recording data produced by EEG in the form of beta signals, the recording process uses Neurosky Mindwave and recording muscle activity by EMG with Muscle Sensor v3. In this study used the Normalized Cross Correlation method to determine the level of similarity between the two signals by comparing the reference data and testing data. Therefore, this system for EEG can be categorized as normal if the maximum normalization value is more than 0.5 and for EMG more than 0.75, whereas EEG can be categorized as abnormal if the maximum normalization value is less than 0.5 and for EMG less than 0.75.

Keywords: Upper Limb, EEG, EMG, Normalized Cross Correlation