

Project Title: EOG, EMG and EEG based Wireless System to Control Devices

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Project Idea: The idea of moving robots, wheelchair or prosthetic devices and Home Automation not by manual control, but by EEG, EOG and EMG signals of human. It has fascinated over the last couple of years. The overall objective of this project is to implement the optimal system (wireless real time-controlled wheelchair and Home automation system) for physically challenged. This system would be beneficial to all physical challenged who cannot communicate with environment due to neuromuscular disease. It has an amplifier with the bandwidth of 0.5 to 100 Hz to amplify the raw EEG/EOG/EMG data. Finally, the amplified signal was transmitted using microcontroller/Raspberry pi and at receiver end to interface with wheelchair and Home automation. We need to developed smart system which is automatically control wheelchair and Fan, Light and Tv for Home Automation using EEG, EOG and EMG signals.

Deliverable: i) EOG/EEG Signal Extracting Wireless Headset

ii) EEG Signals Classification and assistive Device Control