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IoT Based Approach to Healthcare System for a Quadriplegic Patient Using EEG

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Abstract : The proposed healthcare system enables quadriplegic patients, people with severe motor disabilities to send commands to electronic devices and monitor their vitals. The growth of Brain-Computer-Interface (BCI) has led to rapid development in 'assistive systems' for the disabled called 'assistive domotics'. Brain-Computer-Interface is capable of reading the brainwaves of an individual and analyse it to obtain some meaningful data. This processed data can be used to assist people having speech disorders and sometimes people with limited locomotion to communicate. In this Project, Emotiv EPOC Headset is used to obtain the electroencephalogram (EEG). The obtained data is processed to communicate pre-defined commands over the internet to the desired mobile phone user. Other Vital Information like the heartbeat, blood pressure, ECG and body temperature are monitored and uploaded to the server. Data analytics enables physicians to scan databases for a specific illness. The Data is processed in Intel Edison, system on chip (SoC). Patient metrics are displayed via Intel IoT Analytics cloud service.

Keywords : brain computer interface, Intel Edison, Emotiv EPOC, IoT analytics, electroencephalogram
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