

Electroencephalography (EEG) using Smartphones

Electroencephalography (EEG) is the method of monitoring the electrical activity of the brain, thus enabling mitigation of many psychological disorders and illnesses, mainly by therapies that help patients to better self-regulate their brain activity. Mobile EEGs are dedicated hardware equipment capable of coupling with many state-of-the-art smartphones. Bluetooth 2.1 with Enhanced Data Rate (EDR) capability is one of the most effective mean of coupling EEGs with smartphones.

For successful completion of the project, the student is required to work on Bluetooth 2.1 stack to couple electrical signal simulator with Smartphones. More specifically, in the project, the student will have the options to work on acquiring and collecting data from the simulator, managing the bandwidth of incoming data, real-time data compression, visualizing data on smartphone, or optimally storing data in a database.



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This project is ideal for you, if you are familiar with any of the following:

1. Smartphone development frameworks (iOS or Android) and GUIs
2. Mobile databases, e.g. SQLite
3. Electrical Signal Processing or Electroencephalography (EEG)
4. Bluetooth 2.1 standard with Enhanced Data Rate (EDR) capability.

Muntazir Mehdi | muntazir.mehdi@uni-ulm.de | 027-346

If you interested in further details about the thesis topic, please drop me an email, I'll be glad to further discuss the possibilities with you.

