EEG data

Computer

OpenViBE Acquisition (OVAcq)

Acquisition client

Channel selector

(1)

Preprocessing (e.g. Temporal Filter)

CSV File Writer

Matrix Sender

Signal display

OpenViBE Designer (OVDes)

(3a) Raw data

Hard drive

configuration file

(3b)

Saving data, RMS, RMS alarm

ConfigPrompt

MainPrompt

(2)

Application Input Parameters

MainForm

GUI for changing vertical display gain and offset

RMS Calculators
alarm tally

STFT Calculators
alarm tally

(a) EEG plots

(b) RMS plots

(c) RMS alarm "flash" (instantaneous)

(d) RMS alarm RATE plot

(e) Spectral plots

(f) Bandpower plots

(g) Spectral alarm "flash" (instantaneous)

(h) Spectral alarm RATE plot

Computer display

Only channel's data

Data + analysis

EEG Seizure Monitoring System (eeg_seizure_filter_gui)

Optional

Will be on computer display

User input

Evaluation of alarm level

(1) If no preprocessing
(2) If chose "Load configuration and plot" (no modification of configuration in "MainPrompt")
(3) The data saved in (3b) might contain some unwanted corruptions (due to communication problems between Matrix Sender and GUI) and preprocessing effects (like temporal filtering), hence re-analysis should be done on the saved RAW data in (3a) instead. The data in (3b) are generally fine for viewing.

(a) Channels' data and difference
(b) Current RMS values (root mean square)
(c) Current RMS alarm level
(d) RMS alarm rate (tally) every certain period of time
(e) Spectrum of the data (frequency vs magnitude)
(f) Current LBP values (limited band power)
(g) Current LBP alarm level
(h) LBP alarm rate (tally) every certain period of time