Analysis of Electroencephalography (EEG) Signals and Its Categorization

1. EEG – Nondestructive, pain less, side effect less and accurate interpretations for some brain diseases.  
Different signal frequencies for states/stimuli.

2. Description human brain

4. Electrodes placement and labels

5. Signal analysis

First phase: Acquisition  
Second phase: Artifact removal and data filtering  
Third phase: Feature extraction  
Fourth phase: Classification

Feature extraction techniques:

* Fourier Transform
* Wavelet
* Principal Component Analysis

6. Signals category: Delta (< 4 Hz), Theta (4-8 Hz), Alpha (8-13Hz), Beta (13-30 Hz).