Introduction to EEG Decoding for Music Information Retrieval Research
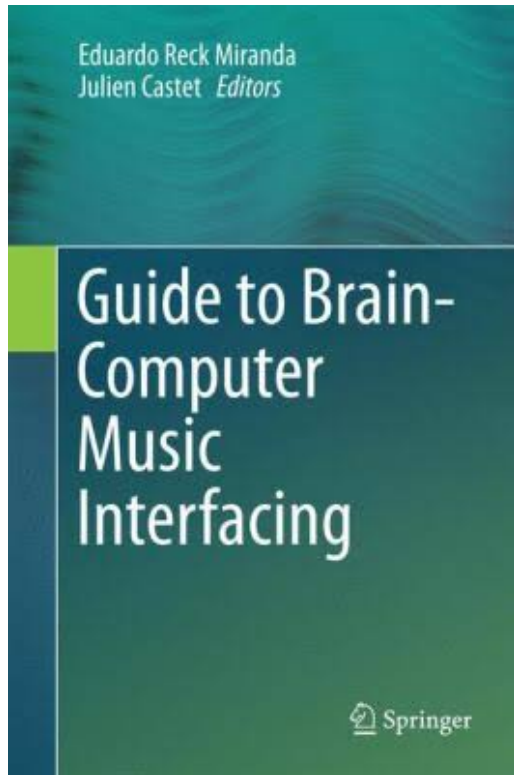
MIR APPLICATIONS

Overview

- Brain-Computer Interfaces (BCIs)
- Brain-Computer Music Interfacing (BCMI)
- modeling audience preferences
- implicit tagging and annotation
- music services (e.g., recommendation based on brain activity, mood workload etc.)
- Neurofeedback / music therapy

Brain-Computer Interfaces (BCIs)

- method of communication for those who cannot communicate through speech or movement
- detect cues from brain responses and translate to actions or messages
- music setting:
  - attend to one instrument in a polyphonic stream
  - imagine specific metrical accents over beat sequence
  - imagine a particular melody/music piece
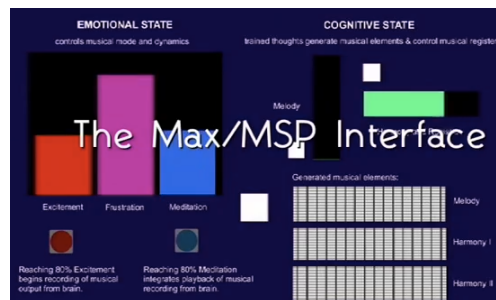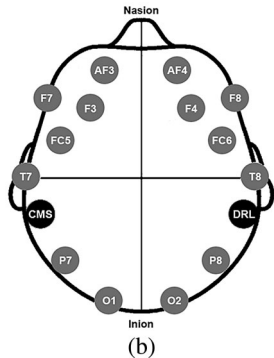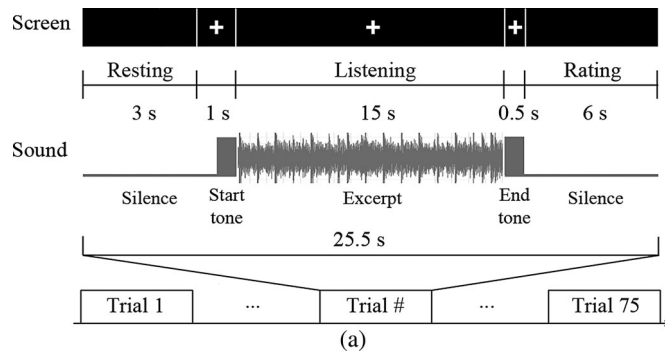
Brain-Computer Music Interfacing

Eduardo Reck Miranda
Julien Castet *Editors*

Guide to Brain-Computer Music Interfacing

Springer

http://link.springer.com/10.1007/978-1-4471-6584-2

1st International Workshop on Brain-Computer Music Interfacing
ICCMR, Plymouth University, UK
15th June 2015

http://cmr.soc.plymouth.ac.uk/bcmi2015/

Duet for Disklavier and Brain
"Spukhafte Fernwirkung"

The Max/MSP Interface

https://youtu.be/eogIUtFwxtY?t=2m

Music Recommendation by Mood / Preference from EEG

"Toward an EEG-Based Recognition of Music Liking Using Time-Frequency Analysis"

(a)

(b)

(c)

DOI: 10.1109/TBME.2012.2217495

http://neurowear.com/projects_detail/mico.html

More to come …