Reactive Music
# When User Behavior affects Sounds in Real-Time

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Motivation and Problem Definition

Shall people adapt to the machine?
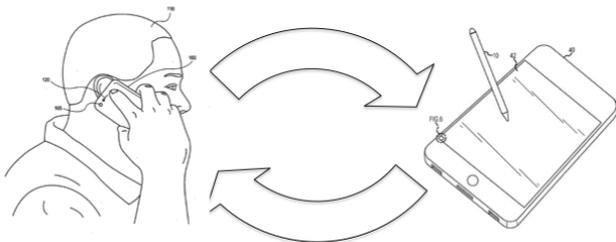
Are we better off if machines adapt to the people?

- Do adaptation effects depend on individuals' context and/or their personal characters?
- We want to investigate these higher level questions in context of music.
- It is a natural predisposition of humans to respond to the rhythmical qualities of music. → Now we turn the setting around...

Reactive Music

- A non-linear format of music that is able to react to the listener and her or his environment in real-time
- Software that generates the music while listening to it
- Adapts to a listener and her/his environment by using built-in sensors (e.g., microphone, accelerometer)

http

Giant Steps - The Application

- iPhone application that runs a reactive music format for mobile devices as developed by Reality Jockey Ltd.
- Music reacts to the listener's movements

- iPhone/iPod Touch with earphones wirelessly connected to a server
- Armband to have comparable accelerometer data across persons

Music Implementation - Pure data (Pd)

- Music reacts on movements using accelerometer data
- Compositions consist of 5 levels according to intensity of movements
- Music composed specifically for a jogging experience
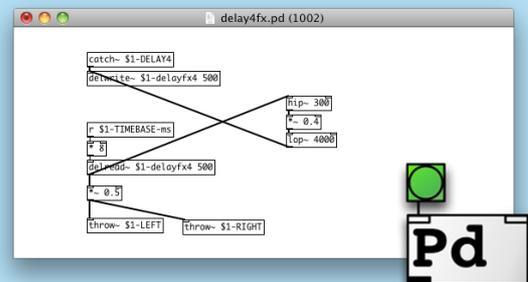
Experiment Setup

- Measure the effects of adaptation in contrast to non-adaptation
- 2 groups will use the Giant Step application while jogging – either adaptation or non-adaptation version
- Extensive questionnaire before and after the experimental period; short questionnaire (3-5 items) before and after each completed jogging session