MindControl
team 12

Matt Dickoff

Bruce Clarke

James Owens

John Levidy

Our Vision

- The goal of MindControl is to get rid of the need for physical interaction with a TV/TV remote.
- The user will focus their brain-power to interact with their television.
- Change power, channel, and volume, without picking up a remote.

Competitive Analysis

- Competition-
  - Remote Controls
  - Voice Control
  - Motion Sensing
- All of the above require physical action. MindControl is as adaptable as a universal remote.
- Cool Factor: May the Force be with you

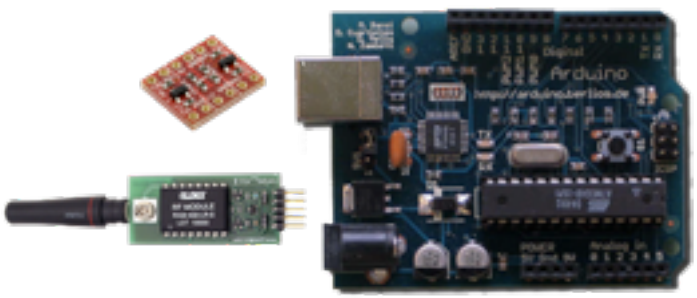
Requirements

- Get/Interpret EEG readings from a user
- Have a reasonable mapping of EEG readings to commands
- Have programmable commands
- Transmit the corresponding commands over IR to a TV

Technical Specs

- MindWave
  - 8-hour AAA battery life, Weighs 90g, 2.420 - 2.471GHz RF frequency, 10m RF range, 250kbit/s RF data rate
  - Comes with USB dongle that can be wired up to an Arduino for receiving EEG output
- Arduino
  - Arduino Uno, standard model
- Logic Level Converter
  - Allows us to connect the MindWave USB dongle to the Arduino
- IR Receiver
  - Generic IR sensor
- IR Transmitter
  - Generic IR LED

Architecture



Anticipated Risks

Anticipated Risks	Mitigation
Low Resolution MindWave readings	Simplify controls (e.g. no volume control)
Inconsistent readings across multiple people	Fine tune extended features to one group member, have at least some functionality that

Questions?