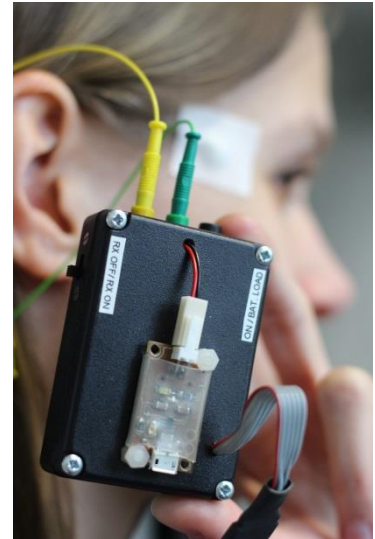


Bachelor thesis „Comparing sensors for measuring eye movement”

Background: In the Gesture Lab work is being done to create realistic audiovisual environments for hearing aid testing. The head, eye and body movements, EEG and pupil dilation can be measured while doing tasks in these environments. Different sensors are available for measuring eye movements: Tobii glasses, a custom made EOG sensor and the cEEGrid (actually for measuring EEG, but also measures EOG). It is unclear how accurate these sensors are over time and what is the best method to calibrate them. Therefore, a direct comparison needs to be made.



Aim: making a direct comparison of the eye movement sensors to test their respective accuracies over time and optimizing calibration methods.

Approach: In the Gesture Lab, visual stimuli can be projected on a cylindrical screen. Also, the head direction of a subject in the lab can be measured. This makes it possible to present visual stimuli relative to the subject's head direction. The current calibration method uses this to present a cross at known angles relative to the subject's head direction. The subject has to follow this cross with his eyes and the data can be used for calibration. A similar test paradigm could be used to test the accuracy of the sensors.

Required background and skills: Matlab skills

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