Master Thesis

Are you still there? – Analyzing Attention Allocation in Virtual Meetings Through Ear-EEG and Eye Tracking Technologies

Problem Description

Humans have limited attentional resources and cannot process all available information around them. For example, while attending a presentation, there is a need to distribute attentional resources to what the speaker is talking about as well as the visual content on the presented slides. Having proper attention allocation is essential to follow and understand the presentation content. However, the attention allocation process is especially challenged in virtual meetings. Since presentations in remote meetings are becoming omnipresent due to social distancing triggered by COVID-19, it is of highest importance to better understand how attention allocation processes differ between physical and online meetings. Understanding how people manage their limited attentional can help design innovative meeting attention management solutions. As a foundation for designing such solutions, this research will focus on methods of continuous tracing of attentional foci through ear-EEG and eye-tracking methods.

Goal of Thesis

- A better understanding of users attention allocation in physical and virtual meetings:
  - Investigate the current state of the art in attention tracking applications with EEG and eye trackers
  - Design an experiment to collect relevant eye data
  - Evaluate user's attention from the collected data

Requirements

- Strong time management and communication skills
- Strong analytical skills
- Have some programming skills and high motivation to improve programming skills (e.g., Python and R)
- Interest in working with cutting edge technologies
- Good German and English skills

Contact

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Auditory Tracking: Around-Ear EEG

Visual Tracking: Pupil Labs Invisible