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# Non-verbal Communication in Meetings using Eye Tracking

Keywords: Eye Tracking, Accessibility

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## Overview

In modern companies, visually impaired people (VIP) taking part in group meetings is not uncommon. However, a significant part of communication is done via nonverbal communication (NVC) such as deictic gestures (e.g. "this over there") or general body language (e.g. eye rolling, shrugging) which is commonly inaccessible to VIPs. In order to translate this NVC and thus grant VIPs a broader access to group meetings, multiple systems will be tested in various studies.

In this thesis, the focus will be to use eye-tracking to identify common NVC which is based on eye movement. You set up a system, which keeps track of who is looking at whom and what simple NVC gestures are done using the eyes only (e.g. winking, eye rolling).



## Tasks

Your task is to research on eye tracking and already existing applications. You develop a software solution, which identifies and classifies simple eye gestures and evaluates who is looking at whom while speaking. You test this system in a real meeting and evaluate its functionality and accuracy. Optionally, you extend the system to be able to learn new eye gestures, which may be unique to a certain person.

You present your work in an intermediate and a final presentation to the ICVR lab. Finally, you summarise your results in a written report.

## Workpackages

- Literature research on the state-of-the-art of eye tracking
- Software development for eye gesture identification and classification
- System test in real meetings
- Optional: eye gesture learning
- Intermediate and final presentation
- Written report

## Skills

- Programming skills, preferably in C#/C++
- Strong communication and interpersonal skills

## Results

The results of this thesis need to be summarised in a written report and will be presented to the ICVR in a 20min talk.

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