Directional Hearing Aid

Purpose of the project is to create a prototype of hearing aid which filters sound based on where person has his eyes set on. Using 2 microphones on the device will be able to distinguish the sounds based on the direction of them and later, filter the different sounds depending on the eye direction of the user using an eye tracker. By doing this, speech and other sounds relevant to the user can be accentuated and the noise and not relevant sounds can be filtered out. Using machine learning speech can be enhanced too. The prototype can include bone conduction device instead on in-ear speakers for comfort and transparency.

Objectives:

Must

* Direction based filtering
* Speech enhancing

May

* Eye tracking
* Bone conduction headphones

Setup:

2 omnidirectional microphones

Headphones

Microprocessor