Talking (to) Things

A comparative exploration of voice assistants as assistive technologies for blind people

This research proposal explores the potentials of voice assistant technologies for the blind, the extent to which this technology can provide and assist access to the world, and how their design could be improved to serve the specific needs of the target demographic and avoid risky situations.

Blind people are increasingly adopting voice assistants (VA) despite being a relatively young technology. This adoption is happening on an informal basis, unmitigated by established processes of learning and funding assistive technologies (AT). Despite not being designed as ATs, this adoption points to potentials for VAs as assistive technologies. Since none of the quality-assuring processes come into effect, this process also brings risks, which need to be assessed by research.

The proposed research project is a comparative study that extends into a prototyping phase. The general approach is human-centered design with a heavy leaning on ontological design. In the first phase, ethnographic methods are applied to study and compare traditional assistive technologies for blind people versus voice assistants for the same set of tasks. These tasks include information retrieval, online shopping, and interaction with computational systems. The given focus is set by the ongoing digitalization of society that centers on the need and considerations of accessibility in all digital processes.

The data collected serves as a baseline for a second phase in which workshops and prototyping occur. The underlying framework for this phase is based on a *universal design* approach, which “is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability”.

The findings will be disseminated in lectures, peer-reviewed journals, workshops, and an open-source published guide for designing and adopting voice assistants for blind people. The guide is produced for interested parties, especially designers, developers, and institutions actively working with blind people.

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