Wonder document

[Group 3]

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About us
Our group consists of five master students and one PhD candidate, four of whom have backgrounds from the bachelor program Design, use and interaction at IFI and one with a bachelor in both Media Studies and Media- and Interaction Design from UiB.

What area of "interaction with AI" we are interested in working with.
People living with cognitive, developmental, intellectual, mental, physical, or sensory impairments have repeatedly ended up as an afterthought, excluded by technology. About 15 percent of the world's population lives with cognitive, social or physical impairments (WHO, 2020). As these groups make up a smaller part of the total population, they are frequently less represented, or less prioritized during technology development and design. This lack of inclusion in design and development can lead to social exclusion (Foley & Ferri, 2012, p.192). Inclusive design requires additional arrangements or a different type of recruitment, which many technology developers and designers tend to evade.

Fortunately, some technology has also been developed with these groups in mind, benefiting them. Audiobooks, video captioning, remote controls, video conferencing, eye tracking/detection and many more technologies have increased the quality of life for people living with impairments .Recently, AI has contributed with improved speech recognition, speech synthesis, sign language translation, simplifying content for people living with cognitive impairments, and visual aids describing whatever the user shows their camera. These developments have opened up a lot of possibilities and arguably contributed to the autonomy of previously excluded groups.

Our group has been intrigued by the extensive inclusion that has been made possible with technology, and recently AI. Though AI can crystalize bias in systems, e.g. some face recognition implementations (Lohr, 2018) , AI still has opened up possibilities to include and empower people cognitive, developmental, intellectual, mental, physical, or sensory impairments. We want to look closer at some of these possibilities within AI and Universal design.

Through our groups' previous experience, we have found a possible beneficial application of AI in assistive technology/UD. In Maartmann-Moe's (2019) work with older adults many participants suggested that sending messages would improve their communication with family and friends whom they value immensely, and often talk about as one of their greatest sources of joy. Message sending has also become an increasingly large part of using services and systems in phones designed for older adults: Some phone manufacturers still use buttons and touch screens that require fine motor skills, accurate timing of actions, and either great vision or extraordinary memory. This makes message sending inaccessible.

We have been thinking about speech recognition and its possible benefit to message sending / communication with friends and family. Speech recognition has been suggested as an opportunity to enable and include older adults in the communication praxis/customs of contemporary society.

1. Could AI-powered speech recognition contribute to older adults' communication with family and friends? And possibly contribute to their autonomy by giving them a way to use modern services?

2. Additionally, speech recognition is not perfect. There will be errors on the part of the AI's recognition of speech. How are these incomprehensive handled by systems and users today? How should/could errors be handled?

As a group, our impression is that there is an appeal for more work surrounding these difficulties and opportunities for older adults and AI. We aim to contribute to this area within AI and universal design with our project work. Additionally, we hope to look closer at our assumptions and impressions during the next iteration.

Methods

Rather than making a chatbot, we hope to make a prototype that can let users explore and experience interaction with speech recognition. We aim to create a prototype that ideally can be tried out by real users, and iterate on it. We want to use this prototype to conduct different qualitative data collection methods, combined with a literature study, and a quantitative data collection where we also look at errors in speech recognition.

Due to the pandemic it might be irresponsible to meet in person with older adults. Proxy users might be a safer way to explore this area of Interaction with AI with older adults.

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