Developing Technology for Deaf and Hard of Hearing Individuals at UChicago.

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User Group

➔ Users who are deaf or hard of hearing (full spectrum)
  - we are interested in tech which is widely usable, accessible to people who are temporarily hard of hearing

➔ Why this community?
  - underserved by inaccessible spaces and social stigma

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Supporting Tasks with Tech

➜ Focusing on the UChicago environment

➜ Navigation of every day tasks on campus
  - in the home
  - in academic settings
  - in transit

➜ Technology can increase safety, comfort, and inclusivity on campus

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Data Collection

➔ Semi-Structured Interviews:
- ◆ Initial interview to understand conflicts that the user group faces
- ◆ Follow-up interview with demo test and evaluation

➔ Alternatively:
- ◆ Surveys with generalized audience (proxies)

Evaluation Criteria

➔ Usefulness
- ◆ Is it beneficial?
- ◆ Is it a solution?

➔ Usability and Intuitiveness
- ◆ Is it easy to use?
- ◆ Does it match its affordances?

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Existing Systems

Prior to the modern age, people with hearing loss sometimes had to rely on others for their safety and connectivity to the rest of the world. Thankfully, as technology has rapidly evolved, so too have devices that help people with hearing loss live more independent lives

➔ -Google Glass (Word Lens)
➔ -ALD's, Cochlear implants, Hearing aids
➔ -Communication Access Real-time Translation (CART) that translates speech to text, word for word
➔ -Devices that use lights or vibrations as an alert to replace audio (visual alarms)

Note: Nothing is widely used by the distracted walker population

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Current Research

→ H.A.U.N.T. (Hyperboloid Acoustic Uncovering of Noisy Targets) (Moresco, Prechelt, Sevart)

→ Clinical Results with a New Wireless Binaural Directional Hearing System (Powers, Froehlich)

→ Directional hearing aids: Then and now (Ricketts)

Thank You for Listening...

Questions?

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