Designing for Accessible Collaborative Content Creation for People with Vision Impairments

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① Motivation

As of 2017, only 37% of 20.5 million American adults with disabilities were employed, compared to 77% of those without disabilities. (www.disabilitystatistics.org)

Lack of accessibility in mainstream collaboration tools and practices contributes towards equity gaps.

(Das et al. 2019, 2021)

② Nova's Story

- Attorney
- Totally blind
- Proficient screen reader user

> *What might take you 10 seconds to identify [visually], may very well* ***take me three minutes to disambiguate.*** *Because I'm going to read a complex paragraph with changes in complex sentences, from three different authors, maybe even close to one another... [These] are* ***technically 'doable' but definitely not easy to do****... I've forgotten the first half of the sentence by the time I get to the middle of the sentence.*

③ Research Questions

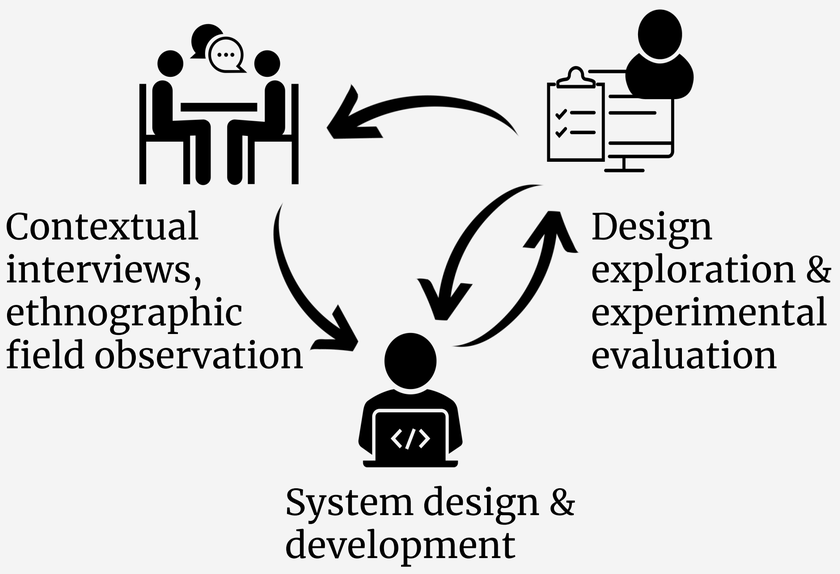
- *How is accessibility created, negotiated, and sustained in ability-diverse teams?*
- *How might we design technologies to support accessible collaborative content creation in teams of blind and sighted people?*
- *How might new technologies impact collaborative work practices and dynamics within ability-diverse teams?*

④ Contexts of Study

Collaborative Writing

Collaborative Weaving

⑤ Research Approach



⑥ Findings

Accessibility is shaped by

- Technical Complexities
- Social & Relational Costs
- Professional & Organizational Ableism

(Das, Gergle, & Piper, 2019;
Das, Borgos-Rodriguez, & Piper, 2020)

⑦ Designing for Ability-Diverse Collaboration

Collaborative Writing

Design and evaluation of non-speech audio representations of collaboration features

- Earcons, tone overlay, voice coding

(Das, Piper, & Gergle, *under review*)

Collaborative Weaving

Design exploration of an audio-enhanced loom to support accessible weaving at a community weaving studio

(Borgos-Rodriguez, Das, & Piper, 2021)