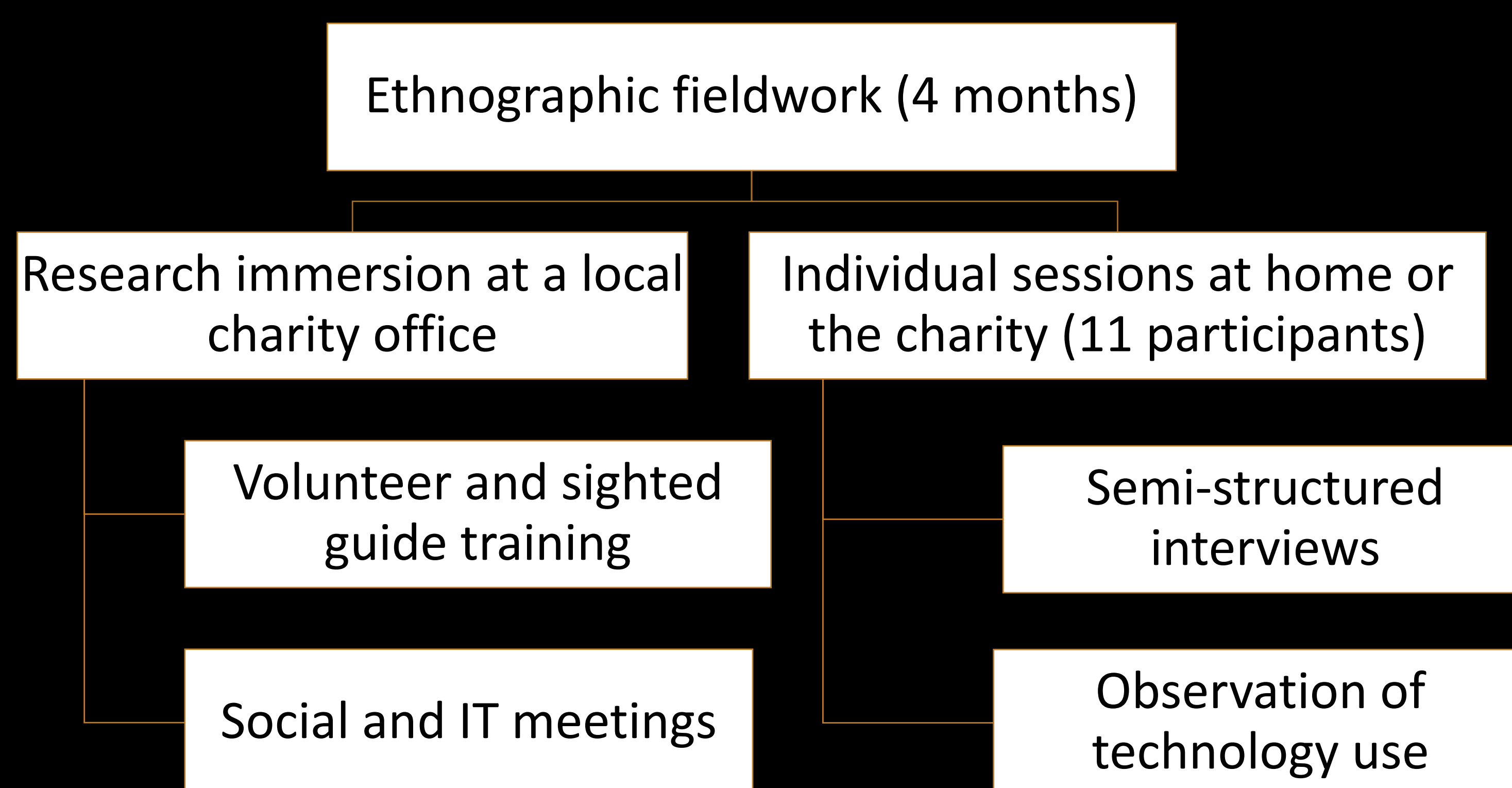


# Designing to Support and Extend the Competencies of People with Visual Impairments

## Motivation

- Many people with visual impairments are regular or expert users of mainstream and assistive technologies (AT).
- Amidst technological improvements in accessibility and assistive technology, access barriers remain for them.
- Accessibility awareness must extend to areas beyond specialised AT. Accessibility must be incorporated into mainstream technologies to the extent possible.
- Some technological solutions are rooted in ableist assumptions, framing impairments as a problem or a burden.

## Research Conducted



## Technology Demonstrations

- Pervasive phenomenon captured during fieldwork. Ubiquitous but unremarked upon in HCI.
- Over 100 video demonstrations were identified in the recorded data, and then analysed (using ethnomethodology and some elements of conversation analysis) to investigate the interactional work of demonstrating.
- Ongoing work articulating the value of demonstrations in HCI and accessibility research.

## Supporting Collaborative Design Activities

- Ongoing online workshops targeting a mixed group of participants: people with visual impairments; technologists or researchers from domains within accessibility and beyond.
- Exploration of competencies and video demonstrations as resources for supporting design activities with and for visually impaired people.
- "Competencies Design Cards" were designed from research findings. They consist of 5 categories: Competency (Fig. 1), Tool, Activity, Relation and Location.

## References

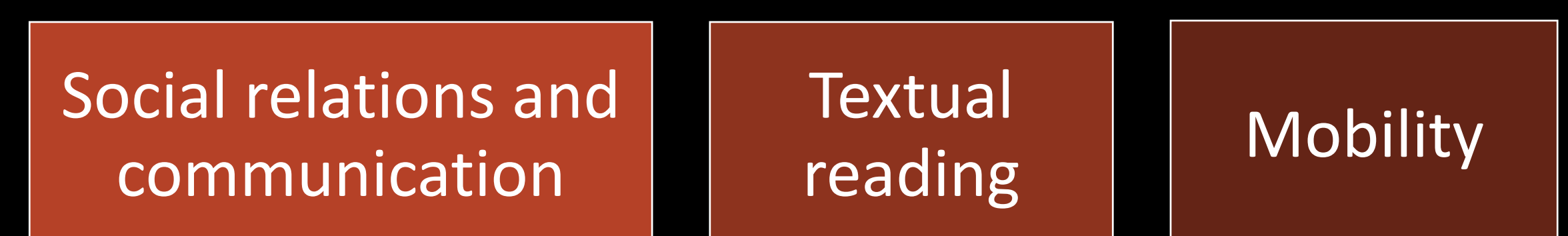
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2. Gisela Reyes-Cruz, Joel E. Fischer, and Stuart Reeves. 2020. Reframing Disability as Competency: Unpacking Everyday Technology Practices of People with Visual Impairments. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (Honolulu, HI, USA) (CHI '20).

## Aims and Approach

- This PhD explores how the knowledge, expertise, abilities and needs of people with visual impairments can be effectively and respectfully communicated to researchers and designers within and beyond the AT field.
- Building on ethnomethodology's [1] interest in competence, this research seeks to uncover the specific methods they use in their everyday activities with and around technology.

## Practices and Competencies

- Data of how participants accomplished three main technology practices were analysed to ascertain the competencies enabling them.



- Sets of competencies outlined comprise functional, social and adaptation levels [2].



Fig 1. Competency Cards: Competencies employed by people with visual impairments.

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