

Designing prototype devices to engage participation in the creation of wearable health technologies

BACKGROUND

In this presentation we discuss two examples of how designers use high-fidelity prototypes throughout the design and development of wearable technologies for hearing loss (hearing aid and cochlear implant technologies). These carefully designed and considered prototypes enabled co-design with participants and interdisciplinary teams in a generative way throughout the design and development processes.

AIMS

Through the work we aimed to create high quality, aesthetically refined hearing technologies in a collaborative way, with technology users and interdisciplinary teams. The projects drew from a wide range of approaches to involve technology users throughout development, one particularly effective approach was by leveraging the 'power of prototypes'.

METHODS

The projects draw on a mixture of product-focused design, participatory processes (co-design and user centred design), action research and ethnography.

RESULTS

Through our research we found that the use of high fidelity prototypes as generative artefacts in the design of wearable health technologies had an outsized impact on improving final outcomes. These artefacts are part of the design process, yet bringing them into participatory engagements has a defined impact on collaborators and future users.

CONCLUSIONS

Use of high fidelity additive manufactured prototypes at all stages of design and development has a positive impact on the ability for technology consumers to participate in technology development processes. The prototypes: provoke feedback and engagement; enable participants to speculate on future uses and forms; and scaffold collaboration across interdisciplinary teams.

ALIGNMENT WITH CONFERENCE THEMES

The research directly addresses the conference theme as it provides a tangible way to 'make technology work in real life' by aligning it with the values and preferences of technology users. A tangible way to do this, presented here, is through leveraging design artefacts in the development process, bringing them into participatory engagements to elicit lived experience input from consumers.



Image references: below left: Facett hearing aid, Leah Heiss for Blamey Saunders hears, photographer Matt Harvey 2017. All other images copyright Leah Heiss and Rowan Page, 2021.

