Link to Leeds Beckett Repository record:
https://eprints.leedsbeckett.ac.uk/id/eprint/9156/

Document Version:
Article (Accepted Version)

Special Issue on Designing Enabling Technologies for Marginalised Groups

Editorial

This special issue of the Journal of Enabling Technologies focuses on the design of technologies to remove barriers and to improve outcomes for marginalised groups. By marginalised groups, we refer to people with disabilities, neurodivergent people, people with mental health difficulties, minorities, socially or economically disadvantaged people, and refugees, to name a few.

Marginalised groups often have little influence, little advocacy, and minimal representation amongst the creators of technology (Davis and Farmer, 2016). At the same time, such users may be particularly dependent on technology that enables them to access services, education, provide support or live independent lives. It is therefore crucial that those creating such enabling technology are aware of what can make the design process successful, and likewise what pitfalls there may be. Designers need to be conscious of the position of power and privilege they hold in the process (Jagtap, 2021).

In recognition of the issues outlined above this Special Issue examines the role of the designer and that of end users from marginalised groups. We received 15 submissions and after several rounds of rigorous reviews by an international panel of reviewers, five peer-reviewed papers were eventually accepted for publication, alongside a technology case study and a roundtable discussion of experts. We are indebted to the panel of peer reviewers for giving us their time and for the thoughtful and critical comments they provided, along with the contributions of the authors and their exciting, relevant, and timely work in this field.

The first two papers (Nilsson et al, 2022; Waardenburg et al, 2022) looked closely at the early stages of design, when developing empathy with end users and located the need for a deep understanding of the problem space to ensure positive outcomes. Nilsson et al (2022)*,* adopt the UK Design Council's Double Diamond approach (Design Council, 2022) to better understand how disabled people can be supported during a crisis situation, while *Design your life* proposes to revise and adapt the Hasso Plattner Institute of Design 5-Stage Design Thinking approach (Doorley et al, 2018) by shifting the ownership for the *Empathise* and *Ideation* stages much more towards end users, in this case autistic individuals. The aim is to put design tools in the hands of the people who will use the technology- something rarely achieved in this field.

Hamidi and Karachiwalla (2022) touch upon the current issue of supporting refugees as they start to access resources and services in their new environment. The focus is on refugees with disabilities and mental health difficulties, and how technology can play a role in the support provision.

The next three papers (Sahinol, 2022 ; Hellwig et al, 2022; Bieling et al, 2022) deal with the opportunities and challenges of making aids for and with people with disabilities, and how these may be received by end users. Sahinol (2022) critically examines the borderline between 'enabling' and 'limiting' aspects of protheses for children, arguing for more nuanced ways of co-creation. Hellwig et al (2022) pick this up by exploring how end users, designers and makers can collaborate most effectively in the co-creation of assistive technology.

Finally, in an expert roundtable discussion (Bieling et al, 2022), experts from crip technoscience, participatory design and technology studies explore the potential of "bottom-up" approaches to designing new assistive technologies. Old paradigms and terminologies are challenged, and the relationship between technology and disability is re-defined.

The Special Issue concludes with the case study of a communication device for people with extensive neuromotor and speech impairments, who interact via small hand movements (D'Amico et al, 2022). The low-cost solution uses mainstream consumer devices and is highly customisable to various domains of use.

We are encouraged with the number of researchers working in this area, and conducting quality research with, by and for marginalised groups. There is an urgent need for research that addresses gaps related to designing enabling technologies; in ways that are inclusive, sensitive, and meaningful for the intended users. We once again thank the authors and reviewers for their efforts pulling this Special Issue together and hope the community of researchers, practitioners and enabling technology users enjoy the work therein.

References:

Davis, H., & Farmer, J. (2016, November). Digital participation: engaging diverse and marginalised communities. In Proceedings of the 28th Australian Conference on Computer-Human Interaction (pp. 672-675).

Design Council (2022) Framework for Innovation: Design Council's evolved Double Diamond. [Retrieved 22 September 2022] Available at https://www.designcouncil.org.uk/our-work/skills-learning/tools-frameworks/framework-for-innovation-design-councils-evolved-double-diamond/

Doorley, S., Holcomb, S., Klebahn, P., Segovia, K. and Utley, J. (2018) Design Thinking Bootleg. [Retrieved 22 September 2022] Available at: https://dschool.stanford.edu/resources/design-thinking-bootleg

Jagtap, S. (2021). Co-design with marginalised people: designers' perceptions of barriers and enablers. CoDesign, 1-24.