

Artificial Intelligence, New Technology and People with Deafblindness: policy issues and implications

Sarah Woodin

University of Leeds

NNDR Conference, 8-10 May 2019, Copenhagen

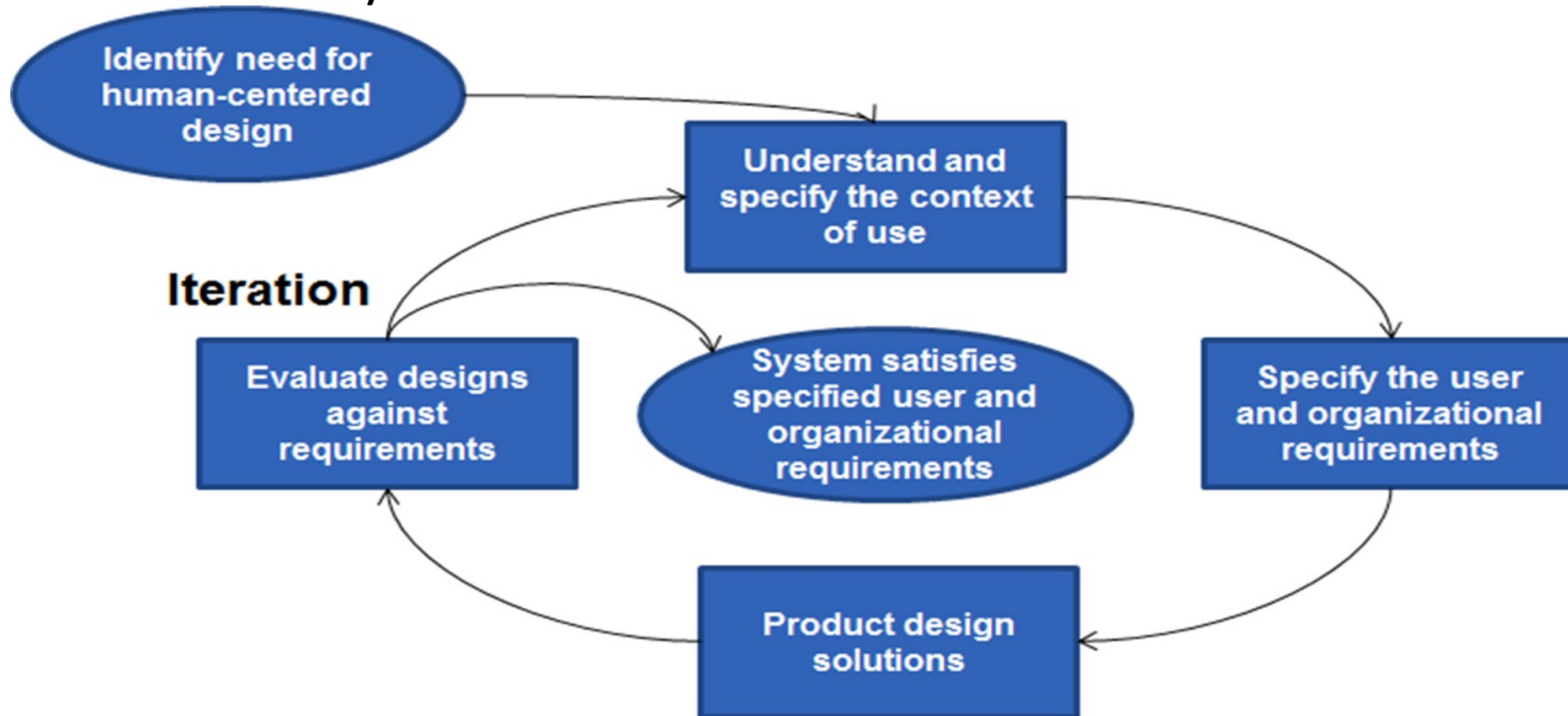
Inclusion and Exclusion in the Welfare Society

Overview

- Introducing the project
- Methods
- Views of people with deafblindness on new technology
- Policy Issues
- Conclusion

SUITCEYES project

- Horizon 2020 ICT project – science led but underpinned with analysis of user needs



People with Deafblindness

- Deafblindness refers to impairments of a degree where one sense cannot compensate for the other
- Very diverse population: impairment at birth or acquired through life
- Communication: interpreter guides, tactile sign language, Tadoma, visual frame, clear speech, Braille, Moon, red and white canes
- Technology: hearing aids, cochlear implants, magnifiers and many apps and devices
- Very few examples of user centred research, we found no instances of people with deafblindness involved in research as co-researchers. Deafblindness



not always recognised as a specific impairment. Often also not recognised in disabled people's organisations (with some notable exceptions (WFDB, 2018))

Examples of AI and Haptic Technology

- Seeing AI https://www.youtube.com/watch?v=bqeQByqf_f8
- Good Vibes https://www.youtube.com/watch?v=GZ2b6H_W_t4



Elements of SUITCEYES Project - HIPI

Horizon 2020: ICT 2018 – 2020

Germany, Greece, Netherlands, Sweden, United Kingdom

8 Work Packages, 2 companies (France, Poland)

User Needs: interviews with people with deafblindness.
Law and policy analysis

Development of technology – face recognition,
navigation and communication

Psychophysics, textile development, gamification

Project Timeline

Establish needs via interviews:
navigation and communication

Preliminary experiments with
haptics and other technology

Textile development

Research on gamification

Policy analysis – reporting by 5
countries

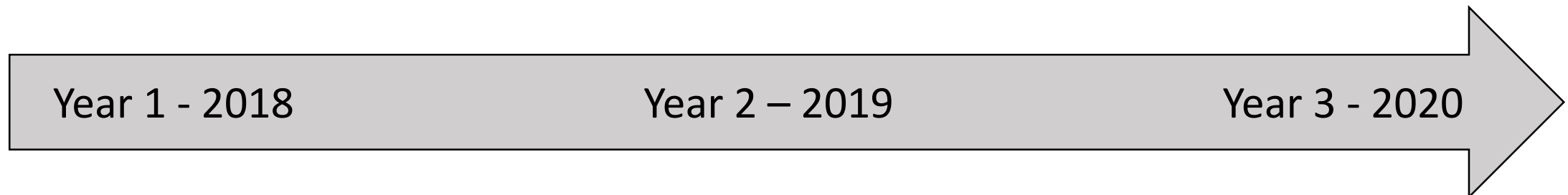
Testing of prototypes

Development of platform;
products

Year 1 - 2018

Year 2 – 2019

Year 3 - 2020



Methods

- 75 interviews with people with deafblindness (DE, EL, NL, SE, UK)
- Carried out by project partners, mostly with STEM rather than social science background
- Guidance and data analysis carried out by UK
- Concurrent development of technology to identify possibilities for haptic communication
- Reporting on law and policy in 5 countries

People with Deafblindness

Diversity - age, background, interests, impairment effects, use of technology

Tasks

Outside - complex situations, whole environment
Inside – unfamiliar spaces; More communication, group discussions

Technology

Enthusiasm; Loss of interpreter guides?
Existing tech may not work well; Integration of new tech; Under user control; Access to information; Robust, easy to update and repair

Policy issues and implications – from interviews

- Accessibility - Rapid developments in IoT 5G to enable potentially very useful developments.
- Downsides include increased general use of touch screens, making accessibility worse
- Inclusion in testing
- Access to information about what is available, affordable

Policy context and questions

- Rapid development of technology – we are seeing gains (e.g. free apps) and losses of accessibility (e.g. flat screens)
- Considerable dispute about ownership of data and its use – implications for development of face recognition and location notifications.
- Unequal access to technology and internet connection
- Ethics, e.g. bias in algorithms (see current concerns re: gender ‘race’).
- Law and regulation an open question and site of dispute.

Thank you!
Questions and Comments?

s.l.woodin@leeds.ac.uk