
Participatory Design with People Living with Cognitive or Sensory Impairments

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Abstract

This workshop aims to exchange experiences with participatory design techniques that were designed for, or adapted to, people with impairments. More specifically, the first aim is to identify commonalities and differences in current practices. Second, based on the results of two previous workshops and on the experiences of the participants of this workshop, general guidelines and recommendations will be formulated for involving users with impairments affecting cognitive and sensory abilities in the design process.

Author Keywords

Cognitive impairments; Sensory impairments; Tools & techniques; User involvement; Participatory design; Guidelines;

ACM Classification Keywords

H.5.m. Information interfaces and presentation: Miscellaneous.

General Terms

Design

Workshop topic

Involving users with impairments in research and design activities is challenging, especially when the

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impairments involve cognitive or sensory abilities and consequently affect communication, such as Autism Spectrum Disorder, Alzheimer's Disease or hearing impairments. Users with such impairments often have problems with making sense of and sharing their experiences verbally [1], which are essential processes in participatory design. These problems are related to thought processes and communication skills, including memory, sequencing actions, understanding abstractions, and interpreting social cues.

Many research and design techniques for involving users draw upon the functions or communication skills that users with cognitive or sensory impairments have problems with. For instance, they are based on a shared verbal or visual language, or a shared semantic system, they make use of symbols or require the participants to conceptualize and think creatively. These techniques might therefore not be usable or have to be adjusted for people with impairments [2].

Some examples of such adjustments have been described in the literature. For instance, Salgado and Botero [3] involved persons with visual impairments in the process of designing museum experiences. They used cultural probes packages including (a.o.) clay for making a map of one's social life. This exercise is usually done on paper, which is a difficult medium for someone with a visual impairment. Another example is a study by Wu, Richards and Baecker [4], who adjusted the process of participatory design by using techniques to support memory during and in between design sessions to involve persons with amnesia. In addition, specific techniques have been described that seem especially suitable for persons with cognitive impairments, such as technology probes, providing a

simple way to help users to imagine how certain technology could fit their lives [5].

A critical issue in choosing participatory design techniques is that for each user group, specific adjustments have to be thought of, while the main principles behind those adjustments are not always clear. The main goal of this workshop is to identify commonalities and differences in current practices in order to extract exactly those main principles for participatory design for persons with impairments.

This workshop is a follow-up workshop of two similar workshops that were held at Participatory Design Conference 2012 in Roskilde, Denmark [6] and at INTERACT 2013 in Cape Town, South Africa [7]. These workshops dealt with exchanging best practices concerning methods for participatory design with persons living with cognitive or sensory impairments. Both workshops resulted in a set of take home messages. As a result of these two workshops, the organizers are currently guest-editing a special issue of the journal CoDesign on the same topic.

With this CHI workshop, the organizers wish to not only gather additional insights, but they especially aim to go a step further in the process and identify general guidelines for doing participatory design with people living with these impairments. As such, much of time schedule will be reserved for aggregating the 'take home messages' and translating them into actual guidelines. We see the difference as follows: while 'take home messages' can be understood as 'tips' or things to take into consideration, guidelines should actually help researchers to take a course of action. They should streamline the activities of design teams and somewhat 'standardize' their methodological practices.

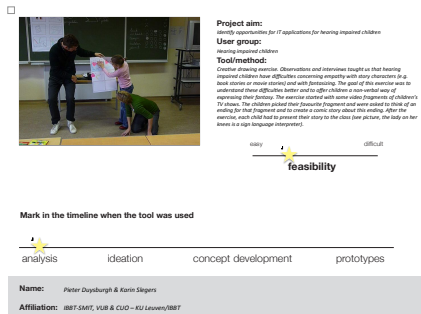


Figure 1 Example of a workshop card (a full-size version can be downloaded from bit.ly/workshopcard)

Workshop

Workshop goals

This workshop aims to 1) bring together people who are active in the topic of the workshop to exchange ideas and experiences regarding participatory design for persons with cognitive or sensory impairments; and 2) identify general principles for participatory design with users with cognitive or sensory impairments. This workshop will use the experiences of the participants as well as the results of the previous two workshops as a starting point for formulating recommendations for researchers and designers who want to involve persons with impairments in their work.

Issues to be addressed

The focus of the workshop is on users with cognitive or sensory impairments affecting communication. The main issue is how to involve such persons in the process of designing new products or applications. More specifically, participatory design techniques and the workshop participants' experiences with adjusting such techniques are discussed. Yet, other aspects that are relevant to involving persons with cognitive or sensory impairments in the design process are discussed as well. Examples of such aspects are practical and ethical issues (e.g., recruitment, incentives, informed consent), and ways to involve all relevant stakeholders (e.g., formal and informal caregivers, experts) while always keeping the authentic experiences of the persons with impairments in mind.

Workshop format

TARGET PARTICIPANTS

Researchers and designers working on design-oriented project(s) with users with cognitive or sensory impairments are invited to participate. Especially

researchers and designers who have adjusted existing techniques to understand and involve these users are encouraged to apply. A maximum of 20 people can participate.

WORKSHOP PREPARATION

People can apply by filling in one or more workshop cards (available from the workshop's website: <http://pdwithimpairmentschi2014.wordpress.com>), describing their target group and a technique they used (see Figure 1 for an example). One card per user group and/or tool or technique is requested. Applicants are also required to write a one-pager about their expectations of the workshop and the specific topics they would like to discuss.

SETUP OF THE WORKSHOP

This full-day workshop has a creative, generative character. It refrains from using a standard workshop setup of presentations and discussions. Instead, sharing best practices, brainstorming and adjusting participatory design techniques are at the core of all activities. The workshop consists of four parts:

Introduction – 90 minutes

Participants introduce themselves based on the workshop cards they prepared, and talk about their role in the project(s) the workshop cards refer to. The goal of this part is mainly to get to know each other and to create an informal atmosphere to share best practices and common problems.

Technique mapping – 90 minutes

In small groups, participants discuss their experiences. Based on a template poster (see Figure 2) each person in the group discusses one of their workshop cards in detail, after which the group thinks about how the technique on the card could be adapted and applied to

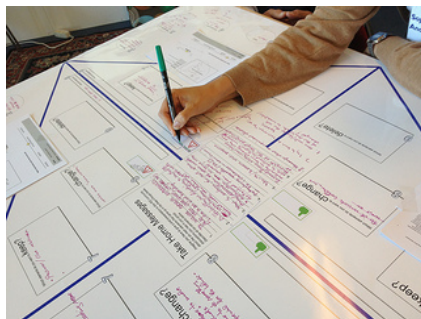


Figure 2 Template poster for method mapping (see full-size picture at bit.ly/templateposter)

another target group (preferably a target group one of the other participants in the group has worked with). More specifically, they will discuss which elements of the technique they would keep, change, add or delete for the other target group. When all group members have discussed one of their workshop cards, the group extracts six 'take home messages' from the discussion.

Clustering – 90 minutes

The organizers present the take home messages that resulted from the two previous workshops, which they have clustered into themes beforehand. The participants present the take home messages resulting from their group's mappings and discuss if and how these fit into the predetermined themes, and if more themes need to be added.

Guidelines – 90 minutes

In a final session, the participants work in small groups again. Each group chooses one (or, if time allows, more) theme(s). Based on the metaphor of a handbook ("Imagine that we would write a handbook on participatory design for people living with cognitive or sensory impairments, what topics should that book cover?"), each group discusses the theme into more detail and, based on the related take home messages, tries to formulate general guidelines for other researchers and designers.

Post-workshop follow-up

The organizers wish to share the results of the three workshops to the community of researchers and designers working with people living with cognitive or sensory impairments. This may be achieved via collaborative publications with all participants, a lively community of researchers and designers (e.g. via LinkedIn), conference tutorials, etc.

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