IDC 2013 Workshop Proposal on "Designing for Children with Special Needs in Multiple Settings"

Workshop Theme

Interaction design (ID) methodologies are being increasingly used in the design and development of novel technologies for children with special needs in a multitude of educational, clinical and social settings [1,3, 4, 5]. Combining the ubiquity of digital technologies with the depth of empirical knowledge we have gained in recent years, surrounding the etiology of many psychological, physical, and emotional difficulties affecting children, places ID research in a unique position of impact. However, designing within this area remains complicated for a myriad of reasons. Any child requiring assistance due to a physical, psychological or learning difficulty can be defined as having special needs. Yet, this umbrella term, under which a huge assortment of diagnoses and difficulties can be grouped, is not used consistently across the literature. Consistently defining special needs, whilst remaining mindful of the intricacies and complexities of the term itself, will establish a community wide language that bridges the gap between HCI, clinical and education literature.

Additionally, the methodological and ethical issues that arise when working with these groups, and within different research contexts, are multifaceted [3] when we consider the vast and complex needs of the children that we come into contact with. Previous examples of HCI involving children with special needs has included, children with; autism [8, 11], cerebral palsy [2, 10], severe motor impairment [6], vision and auditory impairments [9, 7], and physical disabilities [1].

The aim of this workshop is to synthesize this work, through the interaction of a diverse community. We aim to explore experiences around designing for- and with-children with special needs in different settings to identify terminological and methodological implications that occur in this domain. Additionally we hope to identify potential avenues for future research in this area.

Main Topics Covered

We aim to explore the issues that occur when working with children with special needs and aim to establish a set of guidelines for interaction design researchers who are working with this large and diverse group in various contexts. Three themes will guide attempts to do so in the workshop; Terming Special Needs, Giving Voice to Children with Special Needs and Designing for and with Children with Special Needs in Different Settings. These workshop themes will build upon the understandings

established in the IDC 2008 workshop 'Designing for Special Needs', wherein design methods for working with special needs were focused upon, to explore some of the further complexities of working in this area.

Terming Special Needs

The concept of 'special needs' as a term is complex and multifaceted. Throughout the literature a multitude of terms are used interchangeably to describe special needs depending on the country and discipline that the research has been conducted in. For example, in UK education settings, there is a move away from the term special needs towards the terms additional needs or special education needs. However, literature stemming from the USA in general and HCI in particular tends to favor the term special needs. Consequently, we aim to explore what the terms are that researchers currently recognise and use? How do these differ across countries? Do we conserve the term of special needs for more severe cases or are we likely to class all children under the 'umbrella' of having special needs even though their needs might require minimal attention (e.g. a child with dyslexia who receives extra help during school hours)? Furthermore, we aim to derive from discussion a set of clear definitions to inform future publications in this area.

Giving Voice to Children with Special Needs

Through discussion of research with children with special needs conducted in HCI, we will be better able to understand how we can communicate with such children and how we can help them communicate through our research. This leads us to ask, how might we encourage such children to communicate with and through the design process? What effect does the context of the research, whether it is educational, at home, in social settings, or in a hospital or clinical setting, have on the methodologies used to elicit communication? Additionally, are methods to elicit communication generalizable across special needs or are they context- and child- specific?

Designing for -and with- Children with Special Needs in Different Settings

By opening up multidisciplinary discussion around the complexities of designing in different special needs contexts, we hope to address a number of questions. What are the practical issues that might arise when working in comparative settings (e.g. hospital vs. school)? How do we go about forming relationships with staff and caregivers in different design contexts? What are the ethical and political issues that we must consider when working within specific locations? How might our methodologies change due to the policy and procedural constraints enforced within different settings? We also invite reflections and case examples around designing for and with children with special needs in specified settings, for example, How do our motivations and methods vary when working in different educational settings (e.g. special needs within mainstream vs. special schools with mixed complex needs vs. specified ability schools, such as schools for the blind)? How do we deal with the dynamics of the home context when working with the family living with a child with special needs? And finally, how do we address the complexities of working within clinical settings when e.g. facilitating rehabilitation and developing therapy interventions whilst remaining mindful of the long and short term care requirements of the child.

Expected Participants

We propose a one-day workshop to be attended by the authors of 15-20 accepted submissions. The workshop will support multi-disciplinary discussion around technology design for- and with- children with special needs, using technology to support working with children with special needs in multiple settings, and specific methodological and ethical considerations that must be made when undertaking HCI research with these individuals, their care givers and relevant staff members. We invite the submission of 2-4 page position papers in ACM Archive format offering perspectives on topics including (but not limited to):

- Reflections on the ethical and practical challenges of working in special needs contexts

- Design concepts or developments of technologies designed for or with children with special needs.

- User case studies of how interaction designs have been appropriated to support design methodologies in the context of working with children with special needs in situ.

- Guidelines, implications, or lessons learned for engaging users in the design process or evaluation of special needs supporting designs.

Carrying out the Workshop

Before: The workshop will be promoted through appropriate mailing lists, social networking forums, and through a homepage (http://di.ncl.ac.uk/designspecialneeds), which will consist of related information for the workshop participants. Accepted papers will be made available to workshop participants on this website before the workshop.

During: Workshop activities will proceed along the following schedule:

09:00 – 09:15 Welcome and introductions
09:15 – 10:30 Position paper madness session
10:30 – 11:00 Coffee Break
11:00 – 12:30 Terming special needs (Group work)
12:30 – 13:00 Feedback and discussion
13:00 – 14:00 Workshop lunch
14:00 – 15:30 Group case studies on methods to give voice
15:30 – 16:00 Coffee break
16:00 – 17:30 Practical group activity, discussion of group work, and wrap-up

The workshop will consist of a mixture of presentations, group work, and design activities. The initial activity will be the position paper madness experience, which will allow participants to contextualize their individual perspectives on designing for- and with- children with special needs. Workshop participants will then proceed to a discussion on terming special needs, based upon the questions highlighted in the main topics section. The afternoon session will consist of participants working in groups to explore the methodological issues which arise when attempting to 'give voice' to children with special needs in specific settings (e.g. mainstream school, mixed ability special needs school, hospital setting). The groups will then further explore the methodological and design considerations that come to light from this discussion before engaging in a practical design activity as a response to this. An open discussion attempting to synthesize the ideas explored

and generate new ideas for future research will conclude the study.

After: We will write an article about the workshop for a SIGCHI member's publication, such as Interactions, and will make a report of the findings freely available online. Additionally, a special issue journal submission, dedicated to Designing for and with Children with Special Needs in Multiple Settings, will be proposed and the homepage will continue to be used as a community-building tool.

References

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