Chapter 17

When Users Cannot be Included in Inclusive Design

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17.1 Introduction

Inclusive Design (ID) methods place a strong emphasis on user participation in designing mainstream products. In recent years researchers in the field of assistive technology (AT) have drawn on and contributed to the ID approach. There are good grounds for this association. However, the linkage elides the differences in methods that are available and appropriate to designers in the respective fields. The demands made by strategies such as co-creation, focus groups, cultural probes and even simple interviewing can be above the capacities of the users of AT. Yet the impairments of ill and disabled users make the need for usability and pleasurability (Green and Jordan, 2002) even more important since alternative products are comparatively few. This paper examines the workarounds two teams of designers have used to reduce the demands placed on emphysema patients and elderly users during inclusive design processes. In the case of a student design project it was necessary to focus on a super-user, use prototyping as a creative tool and to use improvised ergonomic simulation. In a second case a consultancy was required to place more emphasis on ethnographic, observational methods and personas where co-creation and co-design proved to be beyond the capacities of the user-group.

17.1.1 Structure

The paper begins with a discussion of ID and its relation to AT design. There is an overview of approaches to AT. This is followed by a description of two cases. The first concerns a breathing apparatus for patients with chronic obstructive pulmonary disorder. The second is a municipally funded research project into innovations to help the elderly and handicapped. Both projects were based in Denmark. To conclude there is a discussion of the findings and their implications.
17.2 Inclusive Design and AT

The literature on inclusive design shows a close linkage between it and AT. The CWUAAT series (2004 onwards), and the Include Conference series (2005 onwards), show a strong association between the methodology of inclusive design and the goals of AT products (e.g. Orpwood et al., 2004, Dhiensa et al., 2005, Mayagoitia et al., 2006, Mountain et al., 2006, Orpwood et al., 2008, Linnott, 2011). There is an overlap of interests driving this association. Inclusive design is a set of methods to optimise product designs so as to accommodate a much broader range of capabilities (BSI, 2005). AT in contrast is not a design method but a set of solutions to the problems caused by chronic ill-health or long-term disability. There are two ways to look at the distinction. One is that AT products have an element of compulsion lacking in mainstream consumer goods. If one wants to walk despite having weakened leg muscles, one must use a walking stick or rolling-frame. In contrast, it is only in a broad sense that one is compelled to own many consumer goods. Such goods are additions to our range of standard capabilities rather than replacements. AT products stand in where patients’ abilities have declined severely or were not there originally: the wheelchair, hearing aid and speech synthesiser are not products the average user will seek to purchase. Furthermore, potential AT users may even prefer to avoid using such products even if they could help; this is sometimes the case because the stigmatising appearance of the product is considered worse than the problems caused by not using it (e.g. Bichard et al., 2007). Another way to consider the cleavage between mainstream ID and AT is that the latter represents the point at which there is a step-change in the needs and capabilities of the user groups. A person who can read a newspaper with glasses in average light is qualitatively different from the person who effectively cannot read standard text. A person who walks comfortably though slowly is qualitatively different from one for whom walking demands 100% of their respiratory capability. It is worth pointing out that the binary distinction between impaired and mainstream users is a somewhat artificial construct since ability loss can vary in many cases. However, in the cases discussed in this paper there were many indicators which could objectively point towards the users being clearly on that side of the continuum where AT devices were the appropriate design solution.

Inclusive design is thus a generally applicable range of tools and strategies originally devised to improve mainstream product design. These tools are aimed at making users a bigger part of the design process resulting in more valid design solutions (e.g. Coleman et al., 2007). While assistive technology can take inspiration from the ideas of better design and higher quality aesthetics embodied by inclusive design, it must be recognised that the user groups have qualitatively different characters. The design processes for each therefore can not be the same. I am not here suggesting that AT designers think that their users’ profiles are identical with the profile of the broader average. I wish instead to draw attention to the need for a different emphasis in using the tools devised from one area, mainstream design, in another area, assistive technology. The paper proceeds from this starting point to examine how designers manage the different capabilities of users who are unable to be as large a part of the design process as designers might wish.