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The Use and Usability of Accessibility Standardization

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Abstract. This paper discusses recent research carried out with British Standardizers working in the area of systems and products with user interfaces to identify when and where they considered the needs of older people and people with disabilities. The research was carried out in support of the ISO JTAG TAG activity on the revision of ISO/IEC Guide 71 and was designed to assist the writers of the re-written guide to enable them to target the Guide effectively. The document ISO/IEC Guide 71:2001, Guidelines for standards developers is designed to address the needs of older persons and persons with disabilities and to ensure that standards which affect the design of user interfaces do not discriminate in their design. It is currently being updated. The work was carried out by a series of online and face to face interviews during Winter 2012/2013. The results indicated that a majority of the standardizers did not routinely consider the needs of older and disabled people. In conclusion it is important for those in the accessibility field to identify effective promotion methods as well as work to create useful, useable, quality standards..

Keywords. Accessibility, Standard, ISO/IEC Guide 71

Introduction

Over the last few years there has been a large amount of research and standardization activity in Europe aimed at removing barriers to participation in the Information Society by disabled or older people. In theory the results from high quality research can be used in the standardization process to ensure that technology is as accessible as currently possible. The successful implementation of this process would depend on information being transferred from relevant research to standardizers and onto designers and creators. The transfer of information is a time consuming and complex business and is most successful in the area of standards which are directly related to accessibility. The amount of work in this area can be seen by the large range of activities of the JTC 1 Special Working Group on Accessibility. The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) created the Joint Committee JTC 1 for cooperation in the area of information technology.JTC 1 believes that the work in the area of information communication and technology standardization for accessibility is a major undertaking, encompassing many international, regional and local interests [1].

Standards can be used by designers and manufactures to demonstrate their commitment to relevant accessibility regulation and legislation. Unfortunately this is

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not a straightforward process especially as older and disabled people wish and need to use mainstream products and services in addition or instead of specialist products and services. It is impractical to assume that standardizers or designers of mainstream products are aware of the needs of older and disabled people or of ways of meeting their needs. In addition standards for mainstream products do not always make use of the latest research in the area of accessibility and of course standards are not always followed. The aim of this paper is discuss the current situation and how the use of ISO/IEC Guide 71 can be maximized to increase the accessibility of mainstream products and services.

1. Background

Digital inclusion is not a binary state, nor is it static state as people's access will vary throughout their lives, this is particularly true of the older population whose access may be affected by changes in financial or disability status as well as by the contact or lack of contact they have with people who are digitally connected. There are many standards that apply to 'accessible ICT' and many others which ensure the quality or usability of technical products, services and delivery methods. The ability to mix and match from relevant standards and to stay abreast of current standards development is not a trivial matter. It becomes more difficult (and probably impossible) if the developer can not see the usefulness of a particular standard or understand a particular need. Standards may also be in conflict with one another. Even where a standard is widely respected or viewed as a significant improvement on what went before, it may be extremely long, with implementation guidance that adds to its length. Standards are not the only source of information on accessibility solutions, to design an accessible product or service requires three levels of knowledge and practice (see Figure 1). The use of appropriate standards can ease the acquisition of knowledge but can not provide the commitment to accessibility.

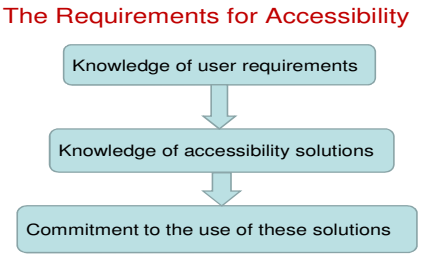

Figure 1. The Requirements for Accessibility

Thus, many standards fail to have the influence they were intended to have when developed. Some of those who should use them don't know they should be taking account of standards at all or fail to see where they are applicable, some see no driver

to apply them, some find them too difficult or complicated to implement. The role of the accessibility standardizer can be seen as involving both promotion and creation.

2. ISO/IEC Guide 71

ISO/IEC Guide 71:2001: Guidelines for standardization to address the needs of older persons and people with disabilities [2] was originally written in 2001 to provide information to standardizers. It was designed to provide information to writers of standards including those working on standards for mainstream products as well as for special accessibility products. An ISO/IEC Guide is designed to provide "a rich resource of helpful advice for standards dealing with specialist issues, such as consumer needs, when writing standards. They are also expected to be useful for people not involved in standards work as the advice they contain can be generally applied to their subject areas" [3]. This Guide was adopted by the CEN (European Committee for Standardization) Technical Board and the CENELEC (European Committee for Electrotechnical Standardization) Technical Board in January 2002 and published as CEN/CENELEC Guide 6. Further activities have taken place to try and ensure that the Guide is used. These have included the adoption by CEN of the "Mechanism on the use of the CEN/CENELEC Guide 6" and the creation in 2011 of CEN/CENELEC Guide 11: "Product information relevant to consumers - Guidelines for standard developers" which refers to CEN/CENELEC Guide 6 for guidance on informational needs of people with disabilities and older people. In addition in 2008 a working group was set up by CEN to create a method for implementing Guide 6 (this work was promoted by amongst others NEN - the Dutch standardization organization and ANEC (the European Association for the Co-ordination of Consumer Representation in Standardization). Other activities have been used to support the use of Guide 6 and to include people with disabilities and elderly people, not only in the content of standards, but also in the standardization process. These included the USEM and STAND4ALL European projects which both worked with end users to train them in the use of Guide 6.

In 2008 ISO/IEC Guide 71 created a supporting document: ISO/TR 22411:2008: Ergonomics data and guidelines for the application of ISO/IEC Guide 71 to products and services to address the needs of older persons and persons with disabilities. This document provides additional guidance on the accessible design of products, services and environments. Unlike ISO/IEC Guide 71 and CEN/CENELEC Guide 6 it is not available free.

In 2011 work started on the revision of ISO/IEC Guide 71 to update the content and increase it's relevance with respect to developments that have taken place since 2001 in the field of knowledge of the needs of older and disabled people. As part of the revision there has been discussion on how to increase the uptake of the Guide, this requires standardizers and others to know about the Guide and to choose to use it.

3. Research

Recent research was carried out using an online survey and face to face interviews with 649 committee members of the British Standards Institute. This work was carried out as part of the work of the ISO JTAG TAG for the revision of ISO/IEC Guide 71. The

research was carried out to identify whether standardizers have an unmet need for information on accessibility for older and disabled people. Prior to the research it was assumed that a proportion of the standardizers would be making use of Guide 71 to meet their needs for accessibility information. The information was collected from standardizers who are designing accessibility standards and those who are working in other areas to enable a realistic picture of the likely users of any future advice to be collected. The response included responses from standardizers who were working on standards which did not have a direct or indirect impact on human end users and who would therefore have no requirement for accessibility information. The most interesting result of this work was the fact that the majority of standardizers who were working on standards which did impact people did not appear to consider older and disabled people an obvious subset of the group people. The results of the relevant question were as follows;

- 33.3% of the people said yes to the question "Do any of your standardization activities involve the standardization of products or services where the accessibility for older and disabled people needs to be considered?"
- 76.7% had said yes to "Do any of your standardization activities involve the standardization of products or services which are designed to be used by people?"

This result suggests that standardizers do not consider that products and services designed for the general population do not need to be accessible by older and disabled people and is potentially worrying.

A total of 17 of those who replied had made use of ISO/IEC Guide 71 or CEN/CENELEC Guide 6 and 1 planned to do so in the near future. This is 4% of the total number whose standards impact on people. A further small number made reference to a wide range of other sources of relevant information. More promisingly 86 of the respondents said that they planned to increase their knowledge of end users including older and disabled people and 196 said they would possibly attempt to increase their knowledge. The sources that they planned to use to gain this additional knowledge included both standardization documents and direct contact with end users.

4. Conclusion

This research indicates a potential lack of knowledge of the needs of older and disabled people by standardizers and could result in problems where those standards are used both in the design and procurement process. It could lead to the development of ICT systems that continue to exclude groups of users, and to be less usable than is desirable. It can be seen that people whose needs are perceived as non-standard may not have the same access to ICT products and systems unless a range of professionals acquire the accessibility information they require and adopt best practice methodologies at all stages of the commissioning, design and production process. The use of standards is a useful tool to ensure accessibility. Standards are required as a way of maximizing the few resources available. The identification of effective promotion methods is also required as well as further work to create useful, useable, quality standards.

The lack of knowledge of the needs of older and disabled users and of information resources about their needs can be seen at different levels in organizations. Further informal research amongst standardizers and standard users identified that sometimes there is top-level buy-in to accessibility standards compliance or to the ideal of best

practice, but no knowledge of what this entails in practice: this can lead to demands to comply with unrealistically high standards (perhaps a blanket expectation of WCAG AAA) or conversely to no corporate standards-setting – either can lead to a lack of buy-in at lower level. Sometimes there is no understanding at the top level, so those at practitioner levels who may want to follow good practice or standards find they are stymied unless they have the tools to be able to convince their boss. Sometimes a lack of understanding among those who would have to implement them, about the basis for the standards and the business rationale for following them, blights any hope of seeing them adopted and followed more widely.

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