

Workshop proposal: “Rethinking Universal Accessibility: A broader approach considering the digital gap”

J. Abascal¹, S. D. J. Barbosa², A. Joshi³, D. Orwa Ochieng⁴, G. Weber⁵

¹University of the Basque Country/Euskal Herriko Unibertsitatea. Donostia, Spain

²Departamento de Informática, PUC-Rio, Rio de Janeiro, 22451-900, Brasil

³DC, IIT Bombay, Mumbai 400076, India

³School of Computing and Informatics. University of Nairobi, Kenya

⁵Human Department of Computer Science, TU Dresden, Nöthnizer Str. 46, 01062 Dresden

julio.abascal@ehu.es, simone@inf.puc-rio.br,
anirudha@iitb.ac.in, dorwa@uonbi.ac.ke, gerhard.weber@tu-
dresden.de,

Abstract. “Universal Accessibility” aims at including all people with disabilities in the target population for user-centered design. It is usually focused on the needs of people with disabilities, frequently including elderly people. Even if terms such as “design for all” or “universal” are included in the expression, it frequently happens that a large segment of the disabled population can also be excluded from this approach, due to socio-economical or geo-political issues. This workshop aims at rethinking the concept of Universal Accessibility in order to find ways to include all excluded disabled people.

Keywords: Universal Accessibility, Design for All, Digital Gap.

1 Introduction

Universal Accessibility is a design philosophy developed in the last decades trying to avoid the exclusion of people with disabilities from the use of Information and Communication Technologies (ICTs). Its use allowed important advancements in this field: a number of devices, applications and services have been designed in a way that avoids or minimize the barriers that people with disabilities find to access them. In addition to methodological advancements, universal inclusion has been protected by law in a number of countries. An interesting experience can be found in the progress in Web accessibility. Guidelines and tools provided by the Web Accessibility Initiative (WAI/W3C) made possible the design of fully accessible websites, even if a long way has to be done to universalize their application to the whole Web.

Nevertheless, it appears that this philosophy frequently takes for granted some socio-economical circumstances, such as the availability of advanced technological infrastructure, computer training, literacy, use of widely spread languages, etc., that

may not be true for the majority of people with disabilities in the planet, therefore combining the lack of accessibility with the Digital Gap experienced by disfavored segments of the world population.

2 Workshop Structure

Title: Rethinking Universal Accessibility: A broader approach considering the digital gap.

Key Organizers: This Workshop is organized on behalf of the IFIP WG 13.3 HCI and Disability by:

- Dr. Julio Abascal is a Professor of the Computer Architecture and Technology Department of the UPV/EHU since 1981. In 1985 he co-founded the EGOKITUZ Laboratory of HCI for Special Needs. His research activity is focused on the application of HCI methods and techniques to the Assistive Technology, including the design of ubiquitous, adaptive and accessible user interfaces. He is the Spanish representative in the IFIP TC 13 on HCI from 1991, and the former and founder chairman (in 1993) of IFIP WG 13.3 “HCI and Disability”.
- Dr. Simone D. J. Barbosa is associate professor at the Informatics Department of the Pontifical Catholic University of Rio de Janeiro (PUC-Rio), where she does research in the field of HCI, as seen from a Semiotic Engineering perspective. Her current research interests involve: model-based interactive systems design; bridging HCI and software engineering; digital storytelling, increasing the quality of use of interactive systems in diverse domains and for diverse users, by means of adaptation, analogy-making mechanisms, and other artificial intelligence techniques.
- Dr. Anirudha Joshi is professor in the interaction design stream in the Industrial Design Centre, IIT Bombay, India. He is involved in designing interactive products for users in developing economies. He has researched in diverse domains including healthcare, literacy, Indian language text input, banking, education, industrial equipment, etc. His work has been for users in urban and rural India and on a variety of platforms including desktops, the web, mobile phones, ATMs, etc.
- Dr. Daniel Orwa Ochieng is a lecturer in the School of Computing and Informatics in the University of Nairobi. His research interests are in mobile phones in education, health, agriculture, ICT adoption among rural communities, etc. Dr. Orwa is a member of IFIP TC13. He collaborated with the Kenya Society for the Blind and developed a mobile phone application for blind people.
- Professor Gerhard Weber holds the Chair in HCI at Technische Universität Dresden. He is the current chair of IFIP WG 13.3 "HCI and disabilities". His research is focused on personalization of multimodal systems for the benefit of people with a disability.

Theme/topic and Rationale

Advancements in the Universal Accessibility concept may require complex equipment, advanced network environments, or high computer training. Therefore, these products or services may fall out the access of several people with disabilities because of economical, technological or cultural barriers. Many developing countries prioritize other issues considered more urgent than providing people with disabilities with access to ICTs (which can also be unavailable to the majority of the population). In addition to economical problems, they may have to deal with limitations in technology deployment and illiteracy. This situation is becoming increasingly common also in developed countries where poverty and emigration are frequently associated with barriers to access to assistive technologies and services. Consequently, Design for All may become designing for a small sector of the world population having access to expensive technology (or to efficient public procurement schemes), living in highly “technologized” environments and having experience in computer use.

Objectives

The main objective of this workshop is to discuss the possibility of broadening the Universal Accessibility concept to include geopolitical and economical circumstances. Attendees will talk about and try to agree on answers to key questions such as:

- Can the aim and scope and of the Universal Accessibility philosophy be extended in order to include people with disabilities also affected by other barriers such as poverty, illiteracy, lack of access to advanced technology, etc.?
- Is it possible to create accessibility guidelines that consider affordable devices, obsolete or deprecated technology, cultural issues, and illiteracy?
- Is it possible to separate the accessibility for people with disabilities to the accessibility of the rest of the population?

Expected Outcomes

A panel of experts will invite selected papers to be extended and jointly published in a special issue of the journal *Universal Access in the Information Society*. In addition, the results of the discussions will be collected in a document or manifesto.

Intended Target Audience

HCI academics, designers, etc., interested in creating products for a wider market, considering ethic and social requisites; and experts in fighting the Digital Gap.

Workshop Organization and Duration

Attendants to this one-day workshop will be required to submit formal paper (10-12 pages) on theories and experiences in fighting the digital gap considering people with disabilities, or a position paper (3-4 pages) providing opinions, reflections and proposals on this topic. Accepted papers will be shared among the registered people prior to the meeting, and they will be briefly presented at the workshop. The sessions will be arranged as a series of discussion tables to provide answers to the key questions posed by the papers. More information will be available in the workshop website.