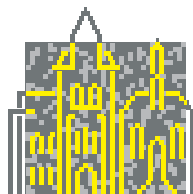M. Jarke (RWTH Aachen, DE), A. Kobsa (UC Irvine, US), K. Miesenberger (Univ. of Linz, AT), C. A. Velasco (Fraunhofer FIT, St. Augustin, DE)
(Editors)

e-Accessibility – new Devices, new Technologies and new Challenges in the Information Society

SCHLOSS DAGSTUHL

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Motivation

As business and society become more and more dependent on information and communication technologies as well as embedded software systems, the impact of the Digital Divide caused by differences in accessibility to the new technologies is growing in terms of widening differences in educational chances, job market situation, interaction with public administration and government, and – last not least – life quality as a consumer tourist, patient, etc. To counter this adverse trends, accessibility initiatives worldwide aim at making ICT address the special needs of a much broader group of the population than the traditional technologies which were addressed to an 'average' user. Several important regulations and guidelines in the accessibility area underline this trend. Especially for research, it is, however, also important to look into new challenges that will face accessibility in the future, such as the following:

- We are witnessing a rapid deployment of new devices and technologies that implement the paradigm of ambient Intelligence and ubiquitous computing to allow access to information in different environments. These devices are increasing the risk of Digital Divide for people with special needs (disabled and elderly), as neither Design-for-All methodologies, nor interfaces with assistive devices and software are implemented.

- The new devices challenge accessibility because of their smaller displays, their lack of keyboard –or a small embedded keyboard– and their size reduction. People with motor, visual or hearing impairments are defied by these characteristics and realize that traditional assistive devices are not tackling their needs as in the standard desktop environment. New interaction paradigms and new interfaces must be devised to facilitate access to the new gadgets in "ambient intelligence" scenarios, including biofeedback sensors as input systems.

- The Internet is no longer a set of static HTML pages. Multimedia elements, new XML-based languages and complex Content Management Systems that allow publishing to different environments require a different approach to accessibility for authors and end-users alike.

However, accessibility should not just be seen as enabling use despite ICT innovation. Equally important is the potential for increased participation in society through ICT. The Semantic Web, Web Services, JXTA, RDF, CC/PP and location-sensitive awareness services will help design smart proxy-tools able to react to the needs of the user, the device she is using, and her environment, providing the information requested in an appropriate way, including accessibility considerations.

The year 2003, highlighted as the International Year of People with Special Needs, appears thus as a good opportunity to take stock of the accessibility solutions achieved so far, and to identify the interdisciplinary challenges for accessibility research in the next years. The Dagstuhl seminar will bring together leading researchers from universities, research institutes, and industry to address in particular issues such as: analysis

of needs and opportunities for accessible innovations; challenges and solutions for mass customization which allows addressing special needs much more deeply than today at radically reduced costs; research methods, validation, and cooperation between research, government, and industry. In addition to plenary presentations by selected participants, the seminar will comprise a number of working groups with the aim of summarizing major challenges with the aim of informing both the research, user and industry communities, and the public.

Participants

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– Darzentas, Jenny (Univ. of the Aegean)

– de la Torre, Francisco José (Instituto de Biomecanica de Valencia (UPV))

– Findlater, Leah (University of British Columbia – Vancouver)

– Gladstone, Keith (Royal National Institute of the Blind)

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– Jarke, Matthias (RWTH Aachen)

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– Klamma, Ralf (RWTH Aachen)

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– Petrie, Helen (City University – London)

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– Treviranus, Jutta (University of Toronto)

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– Vollmar, Roland (Universität Karlsruhe)

– Weber, Gerhard (Multimedia Campus Kiel)

– Zimmermann, Gottfried (University of Wisconsin – Madison)