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HCI and Usability for Medicine and Health Care

Third Symposium of the Workgroup
Human-Computer Interaction and Usability Engineering
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Preface

The work group Human–Computer Interaction & Usability Engineering (HCI&UE) of the Austrian Computer Society (OCG) serves as a platform for interdisciplinary exchange, research and development. While human–computer interaction brings together psychologists and computer scientists, usability engineering is a discipline within software engineering.

It is essential that psychology research must be incorporated into software engineering at a systemic level. The aspect of integration of human factors into informatics is especially important, since it is here that innovations take place, systems are built and applications are implemented.

Our 2007 topic was "Human–Computer Interaction for Medicine and Health Care" (HCI4MED), culminating in the third annual Usability Symposium USAB 2007 on November 22, 2007 in Graz, Austria (http://www.meduni-graz.at/imi/usab-symposium).

Medical information systems are already extremely sophisticated and technological performance increases exponentially. However, *human cognitive evolution does not advance at the same speed.* Consequently, the focus on interaction and communication between humans and computers is of increasing importance in medicine and health care. The daily actions of medical professionals must be the central concern, surrounding and supporting them with new and emerging technologies.

Information systems are a central component of modern knowledge-based medicine and health services, therefore knowledge management needs to continually be adapted to the needs and demands of medical professionals within this environment of steadily increasing high-tech medicine. information processing, in particular its potential effectiveness in modern health services and the optimization of processes and operational sequences, is of increasing interest.

It is particularly important for medical information systems (e.g., hospital information systems and decision support systems) to be designed with the end users in mind. Within the context of this symposium our end users are medical professionals and justifiably expect the software technology to provide a clear benefit; they expect to be supported efficiently and effectively in their daily activities.

This is a highly interdisciplinary field, producing specific problems; especially for younger researchers, who, being new to their field and not yet firmly anchored in one single discipline, are in danger of "falling between two seats." It is much easier to gain depth and acknowledgement within a scientific community in one single field. While innovation and new developments often take place at the junction of two or more disciplines, this requires a broader basis of knowledge and much more effort.

Working in an interdisciplinary area, one needs the ability to communicate with professionals in other disciplines and a willingness to accept and incorporate their points of view. USAB 2007 was organized in order to promote this closer collaboration between software engineers, psychology researchers and medical professionals.

USAB 2007 received a total of 97 submissions. We followed a careful and rigorous two-level, double-blind review, assigning each paper to a minimum of three and

maximum of six reviewers. On the basis of the reviewer's results, 21 full papers (≥ 14 pages), 18 short papers, 1 poster and 1 tutorial were accepted.

USAB 2007 can be seen as a bridge, within the scientific community, between computer science and psychology. The people who gathered together to work for this symposium have displayed great enthusiasm and dedication.

I cordially thank each and every person who contributed toward making USAB 2007 a success, for their participation and commitment: the authors, reviewers, sponsors, organizations, supporters, the team of the Research Unit HCI4MED of the Institute of Medical Informatics, Statistics and Documentation (IMI), and all the volunteers. Without their help, this bridge would never have been built.

Finally, we are grateful to the Springer LNCS Team for their profound work on this volume.

November 2007 Andreas Holzinger

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