

## **Special Interest Group SIG**

### **„HCI for Medicine and Health Care“ (HCI4MED)**

**Outline by Andreas Holzinger**

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Target group: Anyone with a special interest in questions and problem definitions at the intersection of Computer Science and Psychology in Medical Informatics, Medical Information and Knowledge Management and Medical Information Systems as well as their potential effectiveness in modern Health Care.

Mission Statement: From data, information and knowledge to the support of medical activities!

Background: Sound Computer Science, Research & Development is the basis for effective, efficient and successful IT Applications in medicine. IT must make effective knowledge management possible and support medical doctors and all other medical staff in their daily work.

Information systems are a fundamental and central component in the areas of modern, knowledge-based medicine and health services. The optimization of processes and operational sequences in the complex environment of Health Care is a primary goal. End users must be supported, efficiently and effectively, in their daily workflows. In future, there will be a stronger challenge towards Human Information Presentation Interaction (HIPI) because the traditional *computers* are becoming increasingly pervasive and ubiquitous and *disappearing* into the background. However, a further typical problem is the handling of increasingly large quantities of medical information (documents, findings etc.).

This has been the cause of a virulent problem, which is not restricted to the medical sector, that of Information Overload. Ever more information is available, in fractions of seconds, at the push of a button. However, the time required to make a decision has remained the same.

*The availability of new information has become a landslide, whereas the human cognitive ability has failed to increase to the same extent.* None the less, it is on the basis of this increasingly accessible information that decisions must be made.

This in turn increases the possibility of cognitive overloading (comp. with "cognitive load" (Sweller, 1988), (Sweller, Chandler, Tierney, & Cooper, 1990)) ... and that may lead to making wrong decisions (Nielsen, 2005).

Here is where the future challenge to HCI research lies!

SIG-Themes (not complete):

Medical Usability

Human-Computer Interaction in Health Care

Usability of Medical Information Systems

Semantic Usability in Medicine and Health Care

Human Language Analysis

Usability and Ontology in the Medical Domain

Medical Terminology and Usability

Medical Informatics and Usability

Usability in Ambient Assisted Living

Usability and Ambient Intelligence in Medicine

Performance Support and Life-Long Learning

Usability of Mobile Computing in Medicine

Simulations in Medicine

Adaptive Interfaces for Medical Information Systems

Ergonomic software design in medical workplaces

Optimization of medical Workflows

Log File Analysis in Health Care

...

## Goals

Through common activities (Workshops, lectures etc.), we aim to promote the exchange of knowledge and interdisciplinary discourse, as well as encouraging co-operation between economics and science among the members.

The initial group as already gathered together, anyone interested in joining us is invited to contact me directly at [andreas.holzinger@meduni.graz.at](mailto:andreas.holzinger@meduni.graz.at).

Planned activities: Lectures, Workshops, annual symposium USAB 2007 (3rd Usability symposium) under the general topic "Medical Usability and HCI for Health Care"

More information is available on: <http://www.meduni-graz.at/imi/usab-symposium>