

*Holzinger's Motto: "The old computing is about what computers can do;  
The new computing is about what people can do  
(Ben Shneiderman (2003))"*

## **Future Media Technologies: From New Technology to the New Computing**

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### **Abstract:**

New information technologies make revolutionary development possible: Away from classical Desktop computers (PCs) – to open, distributed ubiquitous (UC) and pervasive technologies. However, pure technology development inevitably fails to take the human into consideration. Exactly this is the jumping-off point of New Computing: In connection with new technologies we put the human into the foreground of future developments, in order to support daily routines, briefly: in order to ensure direct, clear, and a definite increase in value for the end users. This lecture shows selected working examples of challenges of future media technologies and how current research can support the end users of tomorrow. For example, in hospitals, clinicians move around constantly between different work places and need to have fast access to information. Consequently, classical solutions, bound to a particular location, are often inadequate for optimal support of medical workflows. Here, UC applications in real life settings within Graz University Hospital – which is one of the largest in Europe – showed tremendous possibilities. Another highly mobile end user group is Civil Engineering personnel: construction managers on the building site must communicate with architects and stress analysts. Often little problems occur during the construction process, which every engineer would be able to solve with a calculator. Here, simple, practical and robust applications for solving problems in working situations can help; however, whereas the usual software need a PC, these applications run on various mobile devices ranging from Tablet PCs to Handhelds and Mobile Phones. It is the widespread use of mobile phones (in Europe often called “Handies”) that enable a long awaited dream: Having information at any place, at any time. This “not being tied to particular locations” is of interest for a wide range of application areas. However, such applications can not be 1:1 transformations of standard applications – Human-centered design issues must be considered, which makes its inclusion in Software Engineering education indispensable!

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## Biographical Information about Andreas Holzinger

Mission Statement: Research, Development and Consulting in order to realize easier, simpler and faster usable Information Systems. Strong commitment to Human-Centered Design.



Andreas Holzinger, born April 18, 1963 in Graz, married, two children, started his career as an apprentice in IT in 1978. After extensive industrial experience, during which he attended evening classes, he was awarded his CEng in 1990; completed his BEng in 1994; MSc in 1995; MPh in 1996; PhD in 1997 and received his Venia in 2003. He was Visiting Professor at Innsbruck University during the winter semester 04/05. Currently he is Associate Professor of Information Processing at the Institute of Medical Informatics and is elected to the scientific chair of the WG HCI&UE of the Austrian Computer Society (OCG).

Holzinger is Consultant for the Austrian and German Ministry of Science and National Expert in the European Commission (EC). He is Industrial Consultant, member of the International Federation of Information Processing (IFIP) WG 13 (HCI) and member of the European Research Consortium in Informatics and Mathematics (ERCIM) WG User Interfaces for All (UI4ALL). He is professional member of the ACM, IEEE, AACE, GI, GMW, DGP, board member of the Austrian Computer Society (OCG) and Director of the OCG-Graz office. He directed several successful R&D projects (e.g. VMC-Graz, MUCOPHY, PACOSY) and organized national and international conferences (e.g. KIS-99, EUROPACS-00, HCI-21, CiM-02). He is reviewer of numerous reputed Journals (e.g. Interacting with Computers, IEEE Software, Springer LNCS, Springer UAIS) and of international conferences (including ACM CHI, IEEE Pervasive) and is evaluator for both national and international organizations. He has published more than 100 papers and 16 books, see:

<http://www.uni-graz.at/~holzinge/holzinger/holzinger-publications.html>

Holzinger first had contact with media technology during his radio and television technician apprenticeship in 1978. After completing the associating examination (journeyman) and his subsequent military service as aircraft mechanics, he worked as a field service communications engineer for BOSCH. He began his university education at the age of 25.

Some selected career milestones of Andreas Holzinger:

Radio- and Television Technician (1981); Foreman in Industrial Electronics (1983); College of Further Education Bournemouth (UK) with honors in Computer Science (1985/86); Chartered Engineer for Communications (CEng, 1990); Diploma as Lecturer for Adult Education (DipEd, 1992); Studies of Communication Engineering (BEng, 1993), Physics and Psychology (MSc, 1995) as well as Media Sciences and Sociology (MPh, 1996) at Graz University of Technology and Graz University. Doctoral promotion with summa cum laude in Cognitive Science (PhD, 1997). Venia Docendi (Univ.-Doz., Associate Professor, 2003) in Applied Information Processing. Visiting Professor at Innsbruck University in 2004/05.