

UBICOMP

Episode 17: Conclusions

Hannes Frey and Peter Sturm
University of Trier

(C) 2004 AG SYSOFT - UNIVERSITY OF TRIER

Episodes

- The Ubiquitous Computing Paradigm
 - Environment-centric instead of computer-centric
 - Context-centric instead of desktop-centric
- Context-Awareness
 - Primarily location but also ...
- Wireless Networking
 - WLAN, Bluetooth, Cellular networks
 - Ad-Hoc-Networks
 - Location-based routing
 - Consequences for TCP/IP
- Small and configurable operating systems

UBICOMP (C) 2004 AG SYSOFT - UNIVERSITY OF TRIER

Episodes (contd.)

- Common Application Domains
 - Sensor networks
 - Cars
 - RFID tags
- Human Computer Interaction
 - Shrinking interface
 - New ways to interact

UBICOMP (C) 2004 AG SYSOFT - UNIVERSITY OF TRIER

Scenarios

- Remedy known deficiencies with new technology
 - Logistics
 - Spatial orientation
 - Switching contexts
 - Information acquisition (mobile)
- New forms of interaction
 - Relief of tasks (transfer, delegation ...)
 - Applying to new domains
 - Tasks not anticipated yet (new culture, ...)

UBICOMP (C) 2004 AG SYSOFT - UNIVERSITY OF TRIER

UbiComp: A Blessing?

- Lots of promising applications
 - Warning in case of cold chain disruption
 - Toll and car insurance based on actual route and behavior
 - Disposal costs based on actual consumption
 - Augmented reality
- Helping handicapped persons
- Helping elder people



UBICOMP (C) 2004 AG SYSOFT - UNIVERSITY OF TRIER

UbiComp: A Curse?

- Privacy issues
- Formation of stereotypes
- How to forget with a perfect brain
- Lost of control



UBICOMP (C) 2004 AG SYSOFT - UNIVERSITY OF TRIER

Science Fiction

- The world becomes the global brain
 - Unfolded brain (Negroponte, Being Digital)
 - Douglas Adams, Hitchhiker

UBICOMP (C) 2004 AG SYSOFT - UNIVERSITY OF TRIER

Predictions

	The End of the WIMP Interface	The death of Apple Computer	Personal Computers Get Small	Brain-Computer Interface
Cringely	2025	2000	2010	2300
Nagel	2020	unlikely	2005	unlikely
Negroponte	2002	unlikely	2005	1999
Raskin	unlikely	1985	1999	2015
Weiser	2013	unlikely	1970	now
Bottom Line	2017	unlikely	1998	2122

Popularized by Apple and copied by Microsoft, the WIMP computer interface (windows, icons, menus, pointers) was embraced the world over and quickly became the standard for PCs. So what's next? According to Cringely, the so-called desktop metaphor isn't going anywhere because it's a natural hit. "The success of computers is due largely to their adoption by businesses, and businesses use desks. It's hard for typical business types to think any other way." On the other hand, Negroponte thinks that in the next five years most computing "will be through delegation, not direct manipulation." Even if this holds true, several of our experts urge us to keep our mouse chops limber anyway. "Old interfaces never die," Raskin says. "They just become legacy systems."

Wired (1996)

UBICOMP (C) 2004 AG SYSOFT - UNIVERSITY OF TRIER

References

- C. Hubig: Selbstständige Nutzer oder verselbstständigte Medien – Die neue Qualität der Vernetzung; in "Total Vernetzt", Hrsg. Friedemann Mattern, Springer Verlag
- N. Negroponte: Being Digital
- W. Shatner and C. Walter: I'm working on that – A trek from science fiction to science fact