

9 Summary and Outlook

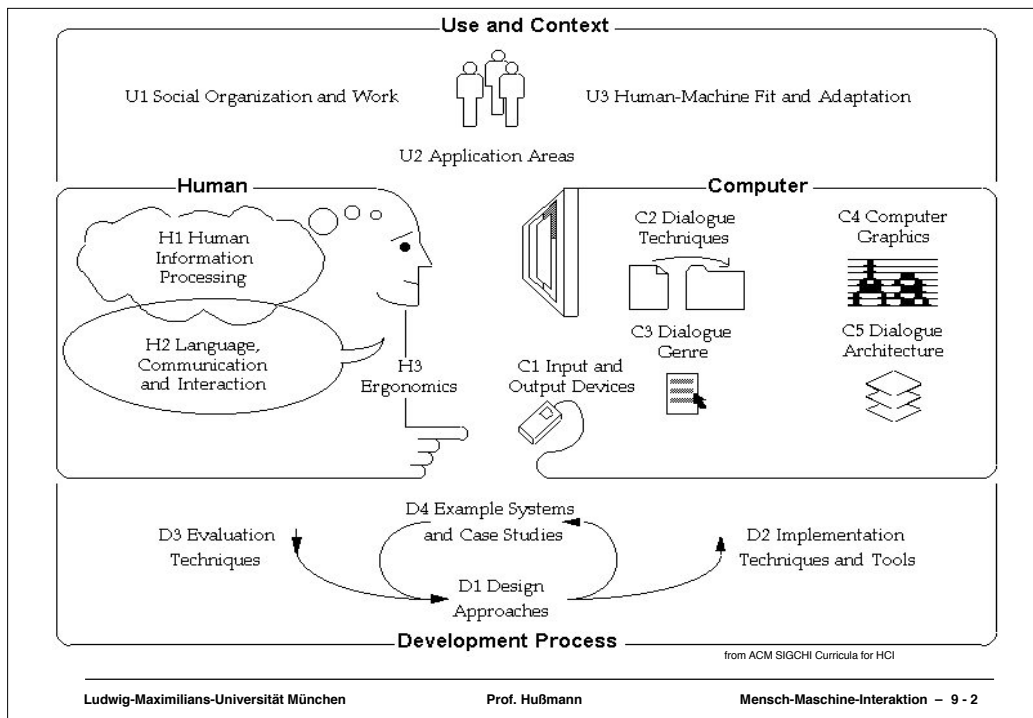
9.1 Summary

9.2 Usability in Practice

9.3 Outlook: Web Usability

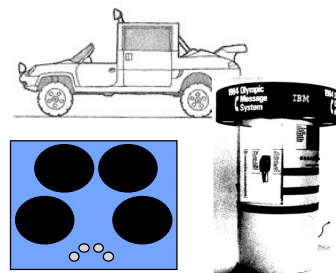
9.4 Outlook: Mobile Usability

Note: Lecture shortened to 30 minutes!



Summary (1): Views and Models

- Facade & machinery and their integration
 - What the user sees and what happens in the background
 - What humans **can perceive**
 - » Physiological and psychological limitations
 - What users **want**
 - What humans **make of** what they see
 - » Mental models
- Create adequate conceptual models
 - Make the application domain visible/tangible
 - Know Thy User
 - Map internal functions to externally visible affordances
 - Create an experience



Summary (2): Process

- Investigate requirements seriously
 - Observations, studies, focus groups
- Usability is a central element of all development activities
 - Part of quality assurance
- Iterative development
 - Early prototypes: Paper prototypes, mock-ups
 - High-fidelity prototypes & user studies
- Guidelines and principles
 - E.g. learnability, efficiency, memorability, errors, satisfaction (Nielsen)
- Evaluation
 - Usability engineering as an empirical discipline



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Usability Techniques in Industrial Practice

- “... the terms and concepts of user-centred design are known but their application remains superficial or sporadic.”
 - Dillon/Sweeney/Maguire: A survey of usability ..., HCI 93
- “Do developers use proven usability techniques like user involvement, usability testing, and iterative design in industrial practice? Based on inside knowledge of many different types of projects, the author must conclude that these techniques are seldom used.”
 - S. Lauesen: Usability Engineering in Industrial Practice, Interact '97

The screenshot shows a web page with the following content:

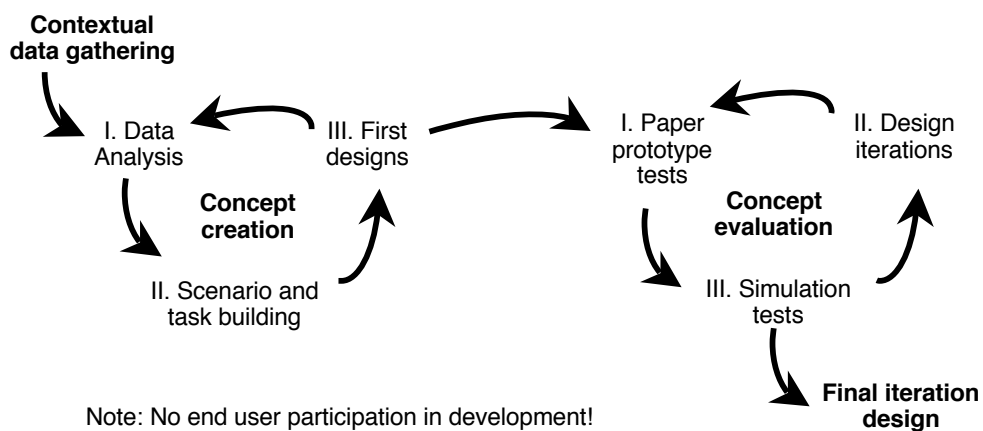
- Header: **CM BRIEFING** (with 'CM' in large orange letters and 'BRIEFING' in smaller orange letters below it), **Usability and IA are core skills for intranet teams**, and the URL <http://www.steptwo.com.au>.
- Text: "It goes without saying that an intranet is only successful if staff can easily find the information they need, when they need it."
- Logo: **T Deutsche Telekom Laboratories**.
- Text: **Gesche Joost is one of the „100 masterminds of tomorrow“**.
- Text: "In the department of Intuitive Usability at Deutsche Telekom Laboratories, Gesche Joost is doing research in the field of audio-visual presentation techniques in design and film as well as new forms of visualisation. She has been elected one of the „100 masterminds of tomorrow“ by the jury. In addition to her scientific..."

Paradigm Change Regarding Usability

- Traditional, “old-fashioned” view of usability issues:
 - “Usability tests are in the last phase of the project.”
 - “We have to fix the functionality first, then we can care about usability.”
 - “Our products are well usable, and we plan to continue this tradition.”
- Adequate view of usability issues:
 - “Usability is an issue relevant for all phases of the project.”
 - “Functionality to be developed depends on the requirements and abilities of the target user group.”
 - “Our products are good but far from being perfect; we strive to make them more accessible and helpful for all of our users.”

Example of Practical Usability Engineering

- Preece/Rogers/Sharp p. 466:
- User-centered concept and product development cycle from Nokia



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Why is Web Usability Important?

- High commercial value
 - Electronic commerce and electronic public relations
 - Brand formation
 - » Every \$1 invested in improving your website's usability **returns \$10 to \$100** (source: [IBM¹](#))
 - » A web usability redesign can **increase the sales/conversion rate by 100%** (source: [Jakob Nielsen²](#))
- Extremely volatile:
 - Users are not bound to specific product
 - “The competitor is just one click away.”
- Usability matters
 - First impression
 - Navigation
 - Efficiency
 - Targeted further links and advertisement

Why is Web Usability Different?

- Broad spectrum of possible usage situations
 - Broad variety of platforms
 - Unknown and potentially huge target user group
- Accessibility is always important
- Unpredictable usage patterns
 - Manyfold access paths
 - » E.g. jumping into the middle of the site through search engine
- Technological limitations
 - Request-response paradigm
 - Potential for network failure/slowdown
- Specific interaction styles
 - E.g. stack-based browsing (back button) vs. many-window browsing



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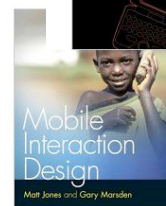
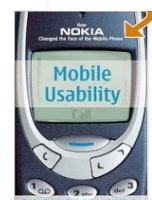
- 9.1 Summary
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- 9.4 Outlook: Mobile Usability

Why is Mobile Usability Important?

- Market for mobile devices (phones, handheld computers etc) is much larger than for computers
- Information services on mobile devices is a rapidly growing market
- Convergence:
 - Mobile Internet access
 - Internet telephony
- Context-awareness: The device moves into varying situations
 - Location (e.g. cells, satellite navigation)
 - Camera
 - Sensors

Why is Mobile Usability Different?

- Open design space
 - How to combine devices? (telephone, organizer, music player)
 - Which interaction techniques to use? (type of keyboard, display)
- Strong resource limitations for interaction
 - Small keyboard
 - Small screen
- High robustness against interruptions
 - Detraction of the user
 - Phone calls
 - Network interruptions
- Additional interaction options
 - E.g. speech-based interaction
 - E.g. physical interaction (touching, pointing)



Mensch-Maschine-Interaktion II

- Sommersemester 2007
- Themen:
 - Web Usability
 - Mobile Usability
 - Spezialthemen, z.B. Informationsvisualisierung