Vorlesung
Advanced Topics in HCI
(Mensch-Maschine-Interaktion 2)

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http://www.medien.ifi.lmu.de/

Excurse: Web Technology Essentials

- Be aware that
  - That the web is heterogeneous distributed systems
  - Hypertext and Hypermedia allows complex information architecture
  - That any media type can be used, however there is little control how they are handled at the client
  - There is a mixture of code and content

- Try to minimize technical complexity
- Specify technical requirements
  - Minimal setup
  - Anticipated setup
  - Test under these conditions

Chapter 1: HCI and the WWW

Table of Content

- Human Computer Interaction (HCI)
  - a quick reminder

- Web Usability
  - Web Technology
  - Web Design
  - Management of Web projects
  - Usability evaluation of Web sites and applications

- Web Accessibility, Universal Access to Information

- Usability Report

What is web usability?

- Web usability is not a single issue
- Main characteristics of web usability:
  - Effort for learning
  - Effectiveness and efficiency of use
  - Memorability
  - Error frequency and severity
  - Satisfaction
- Web usability is concerned with
  - Functionality
  - Operation and control
  - Navigation
  - Language
  - Feedback
  - Consistency
  - Error prevention
  - Visual clarity

What are potential problems? (1)

- **Downright errors:**
  - Broken links or missing images.
  - Firewall errors, server cannot be contacted, directory browsing not allowed (or even worse, allowed?).
  - Scripting errors that pop up an error message, make the page unusable, or write strings of gibberish amongst the text.
  - HTML coding errors that mean the page doesn't display properly, or at all.

What are potential problems? (2)

- **Annoying or inaccessible page design:**
  - An "entrance tunnel" or splash screen - lots of flashy imagery but no real content that requires a click to get to the real home page.
  - Pages with such poor contrast between background and text they are hard to read.
  - Text in tiny or illegible fonts.
  - Pages that take minutes to download (even worse if when they have finished, you weren't interested in the content anyway).
  - Content that requires a specialised plug-in to read it.
  - Pages that require a specific browser to display nicely.
  - Links that lead to "under construction" pages.
  - Link colour schemes where you can't tell which ones you have already visited.
  - Links with badly-chosen targets that display numerous hidden windows on the desktop, break the Back button, or display pages without the necessary menus to use them properly.
  - Forms where you don't know what the site owners want to do with the information you are asked to supply.
  - Forms that don't explain properly what you need to enter, or don't let you go back and amend any errors.
  - Pages with typographical or grammatical errors, confusing and poorly-written text, or inconsistent terminology.

What are potential problems? (3)

From http://www.siteusability.com/mistakes.html

- **Search engine problems:**
  - Pages with no links to other pages in the site.
  - Pages called "No title", "Untitled", "Insert document title here", and/or with a meaningless abstract, so the user has no idea if the link is relevant or not.
  - Pages that no longer exist on your site because you moved or renamed them.
  - Pages so poorly designed they will never even appear in a search engine listing.

What are potential problems? (4)

From http://www.siteusability.com/mistakes.html

- **Information architecture problems:**
  - Pages with different layouts and appearance for the same kind of information.
  - Very long pages with no quick way to skip about them.
  - Forms that don't work in a comprehensible way, and shopping cart systems that confuse in their complexity.
  - Links that lead to mystery destinations (e.g. "click here"), or to other sites without warning.
  - Overwhelming numbers of links on the home (or other) page.
  - Menu options or navigation bar icons that mean little to the average visitor.
  - No consistent way to move around the site on every page.
  - No clear distinction between different kinds of information.
  - Confusing site structure so the visitor cannot guess where to go for information.

What are potential problems? (5)

From http://www.siteusability.com/mistakes.html

- **E-commerce problems:**
  - Potential buyers can't find the product they want because they don't understand the categories you have chosen.
  - Visitors leave without purchasing because they don't want to register.
  - Visitors can't find your returns policy or how their privacy is protected if they buy from you.
  - Buyers have to work out the shipping and handling charges for themselves when viewing an item in your online catalogue.
  - Visitors from overseas don't understand the measurement system you use for sizes or weights.
  - ... the list of potential problems is endless - this just skims the surface for sites selling to the consumer.

How to avoid potential errors?

- Understanding the web (technology and phenomenon)
- Understanding the purpose of a specific web site
- Following a structured design and development process
- Use of web style guides

- Create web sites that are:
  - useful
  - compelling
  - attractive
  - easy to use
  - satisfying

Understanding the Web

- Why are people using the Web
  - Information
  - Entertainment
  - Shopping
  - Communication
  - …
- Why do people chose one site over another
  - Where do you buy books?
  - Which auctions platform are you using?
  - What search engine is your favorite?
  - …
- How do people access web pages
  - Technology
  - Context (e.g. social situation, environment)
  - …

Nielsen Usability Engineering Life Cycle

- Pre-design Phase:
  - Conduct a field study on how users work in their environment.
  - Run a small user test analysis on the old design
  - Make a comparative user test on competing web sites.
- Design Phase:
  - Use parallel design to make simple prototypes of different design approaches.
  - Select the best design from the previous step and develop it further, then do more user testing.
  - Iterate this design as many times as your time and budget allows.
  - Almost finish site and do one market test.
- Post-Design Phase:
  - Get statistics and feedbacks about real use of the web site.
  - Refresh your web site (minor changes).
  - Start planning for the next redesign of the web site

Planning a Web site

- Identifying goals, objectives, users,…

- Target **audience**
  - Usually multiple groups
- Describe briefly the main **purpose** of the site
  - About one paragraph
- Outline the main **objectives** of the site
  - If possible 5 or less
- Specify the **information** that will be provided on the site
- Define **success criteria** for the web site

Structure the Web site

- Structure the information that will be available
  - Categorize information
  - Identify dependencies in the information

- Relate navigation to the structure of the information