Lecture 15
Web Usability 2

Boriana Koleva
Room: C54
Email: bnk@cs.nott.ac.uk

Overview

- What NOT to do
  - Top 10 Mistakes of Web Design (Jakob Nielsen)
  - Web pages that suck (Vincent Flanders)
- Web Accessibility
  - Legal requirements
  - Assistive technologies
  - Web Accessibility Initiative
    - Web Content Accessibility Guidelines

Web Design Resources

- Jakob Nielsen
  - www.useit.com
- Bruce Tognazzinni
  - www.asktog.com
- Web Pages That Suck
  - www.webpagesthatsuck.com
  - Book by Vincent Flanders & Michael Willis

Jakob Nielsen's "Top 10 Mistakes of Web Design" in 1996

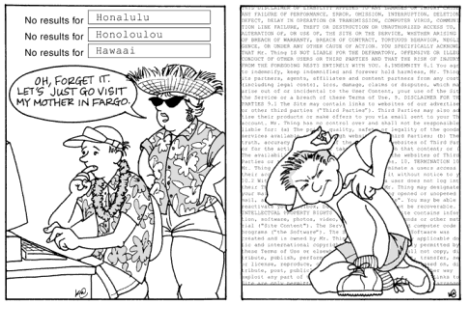
1. **Using frames**
   - frames break the fundamental model of the web page
2. **Gratuitous use of bleeding-edge technology**
   - wait until some experience has been gained about the appropriate use of new techniques
3. **Scrolling text, marquees, and constantly running animations**
   - moving images have an overpowering effect on the human peripheral vision
4. **Complex URL's**
   - a URL should contain human-readable directory and file names
5. **Orphan pages**
   - every page should have a link up to your home page

Jakob Nielsen's "Top 10 Mistakes of Web Design" in 1996

6. **Long scrolling pages**
   - critical content and navigation options should be on the top part of the page
7. **Lack of navigation support**
   - communicate the structure of the information space to the user
8. **Non-standard link colours**
   - use different colours for visited and unvisited links
9. **Outdated information**
10. **Overly long download time**
    - 10-15 seconds as the maximum response time before users lose interest

Top 10 Worst Mistakes of Web Design (of all time)

1. **Bad Search**
   - Overly literal search engines
   - Prioritizing results purely on the basis of how many query terms they contain rather than on each document's importance
2. **PDF Files for Online Reading**
   - Breaks flow of browsing
   - Layouts are not optimised for user's browser window
3. **Not Changing the Colour of Visited Links**
   - past navigation helps you understand your current locations, makes it easier to decide where to go next
4. **Non-Scannable Text**
   - Intimidating. Boring. Painful to read.



Top 10 Worst Mistakes of Web Design (of all time)

5. **Fixed Font Size**
   - CSS allows you to disable a Web browser's "change font size" button and specify a fixed font size
   - Respect the user's preferences!
6. **Page Titles With Low Search Engine Visibility**
   - search is the most important way users discover websites and find their way around individual websites
   - The page title is your main tool to attract new visitors
7. **Anything That Looks Like an Advertisement**
   - Selective attention is very powerful
   - Web users have learned to stop paying attention to anything that looks like an ad

Top 10 Worst Mistakes of Web Design (of all time)

8. **Violating Design Conventions**
   - consistency – one of the most powerful usability principles
   - when things behave the same, users don't have to worry about what will happen
9. **Opening New Browser Windows**
   - Users often don't notice that a new window has opened
   - Disables the Back button
10. **Not Answering Users' Questions**
    - Users are highly goal-driven on the Web

Web Pages That Suck

"Unless you're abnormally gifted, the best way to learn a craft thoroughly is to learn not only its central tenets but also its pitfalls."

http://www.webpagesthatsuck.com/

Worst Websites of 2010

- **Yale School of Art**
  - http://www.youtube.com/watch?v=WkjjxLPcMj0
  - http://art.yale.edu/
- **VacAway**
  - http://www.vacaway.com/
- **Evolution and the Nature of Science Institutes**
  - http://www.indiana.edu/~ensiweb/

Worst Websites of 2010

- **adlucent –** http://www.adlucent.com/
  - represents all the millions of websites that don't use contrast correctly
  - does not meet the Web Content Accessibility Guidelines 1.0 of a standard of 500 or greater for the colour difference and a standard of 125 or greater for colour brightness

Worst Business Sites (2009)

- **Gates and Fences** - http://www.gatesnfences.com/
  - "Gimme Focus, tone down the graphics, eliminate unnecessary design items, make your text readable, don't use music files and cut down the file size of the page."
- **DPGraph** – http://www.dpgraph.com/
  - "Just because you can, doesn't mean you should," eliminate unnecessary design items and get somebody else to look at your web site."
- **Smith & Goldsmith**
  - http://smithandgoldsmith.homestead.com/home.html
  - "large files manipulated by the IMG tag, make sure photos are necessary, eliminate the counter, get a better domain name, get better graphics…"

Web Pages That Suck – decade

- **Accept Jesus, Forever Forgiven!**
  - http://www.dokimos.org/ajff/
- **Association of International Glaucoma Societies**
  - Winner in category "Site Most Like A Monty Python Skit"
  - bobbing heads in upper-left hand corner & no clear explanation of what this organization does on main page
  - http://www.youtube.com/watch?v=L9Q31Q_404Q
  - Changed a lot, now like this:
  - http://www.globalaigs.org/
- **George Hutchins for U.S. Congress**
  - http://www.georgehutchins.com/

Web Accessibility

- Web accessibility refers to the practice of making Web pages accessible to people with disabilities
- Visual impairments
  - including blindness, various common types of low vision and poor eyesight, various types of colour blindness
- Motor/Mobility
  - e.g. difficulty or inability to use the hands, including tremors, muscle slowness, loss of fine muscle control
- Cognitive/Intellectual:
  - Developmental disabilities, learning disabilities and cognitive disabilities
- Auditory
  - Deafness and hearing impairments,
- Seizures
  - Photoepileptic seizures caused by visual strobe or flashing effects

Legal Requirements in UK

- Disability Discrimination Act 1995 (DDA)
  - makes it illegal to discriminate against people with disabilities
  - applies to anyone providing a service; public, private and voluntary sectors
- The Code of Practice: Rights of Access - Goods, Facilities, Services and Premises
  - published by the government's Disability Rights Commission to accompany the Act
  - refers explicitly to websites as one of the "services to the public"

Assistive technologies

- Speech recognition software
  - useful for those who have difficulty using a mouse or a keyboard
- Screen magnification software
  - makes it easier to read for vision impaired users
- Keyboard overlays
  - can make typing easier and more accurate for those who have motor control difficulties

Assistive technologies 2

- Screen reader software
  - used by blind and vision impaired users and can be helpful for users with reading or learning difficulties
- Refreshable Braille displays
  - renders text as Braille characters
  - used by blind and vision impaired users
- Braille keyboard
  - Each key is labelled with Braille symbol

Web Accessibility Initiative (WAI)

- The World Wide Web Consortium (W3C) launched the Web Accessibility Initiative (WAI) in 1997
  - To improve the accessibility of the WWW
  - Published the Web Content Accessibility Guidelines (WCAG) 2.0
    - http://www.w3.org/TR/WCAG20/
    - Defines how to make Web content more accessible to people with disabilities

WCAG 2.0 Layers of Guidance

- **Principles** - four principles that provide the foundation for Web accessibility
  - *perceivable, operable, understandable, and robust*
- **Guidelines** - 12 guidelines provide the basic goals that authors should work toward
- **Success Criteria** - for each guideline, testable success criteria are provided
  - 3 levels of conformance are defined: A (lowest), AA, and AAA (highest)
- **Sufficient and Advisory Techniques -** for each of the *guidelines* and *success criteria*

Principle 1: Perceivable

- Information and user interface components must be presentable to users in ways they can perceive
- **Guideline 1.1 Text Alternatives:**
  - Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language
- **Guideline 1.2 Time-based Media:**
  - Provide alternatives for time-based media
- **Guideline 1.3 Adaptable:**
  - Create content that can be presented in different ways (e.g. simpler layout) without losing information or structure
- **Guideline 1.4 Distinguishable:**
  - Make it easier for users to see and hear content including separating foreground from background

Principle 2: Operable

- User interface components and navigation must be operable
- **Guideline 2.1 Keyboard Accessible:**
  - Make all functionality available from a keyboard
- **Guideline 2.2 Enough Time:**
  - Provide users enough time to read and use content
- **Guideline 2.3 Seizures:**
  - Do not design content in a way that is known to cause seizures
- **Guideline 2.4 Navigable:**
  - Provide ways to help users navigate, find content, and determine where they are

Principle 3: Understandable

- Information and the operation of user interface must be understandable
- **Guideline 3.1 Readable:**
  - Make text content readable and understandable
- **Guideline 3.2 Predictable:**
  - Make Web pages appear and operate in predictable ways
- **Guideline 3.3 Input Assistance:**
  - Help users avoid and correct mistakes

Principle 4: Robust

- Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies
- **Guideline 4.1 Compatible:**
  - Maximize compatibility with current and future user agents, including assistive technologies

Summary

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