# Lecture 14
# Web Usability

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# Overview

- Website design
  - Information structure
  - Navigation
- Webpage design
  - Text
  - Graphics ⎫ Aesthetics
  - Audio ⎬ Usability
  - Video ⎭

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# Importance of Design

- Design Matters!
- Web sites are usually competing for attention with many other similar sites
- Especially true of commercial sites
  - Traffic is their "life-blood"
  - Good design can drastically increase traffic
    - E.g. CarsDirect.com
    - NB See
      http://www.informationweek.com/773/design.htm
  - Good design can increase return visits
  - Good design can help turn "visitors" into "customers"

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# Lost in hyperspace

- Non-linear structure
  - very powerful …
  - but potentially confusing
- Two aspects of lostness
  - cognition and content
    - fragmentary information – no integration … confusion
  - navigation and structure
    - hyperlinks move across structure – where am I?
- No easy solutions
  - but good design helps!

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# Designing Structure

- Ideas for structure
  - Task analysis for activities and processes
  - Existing paper or organisational structures
- Going non-linear
  - Paper and organisation single structure
  - Hypertext – multiple structures
    - problems with common material, inconsistencies etc.
    - clarity of cross structure links very important
- Scent
  - Do hot spots for links make it clear where they are going to??

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# Site Organisation
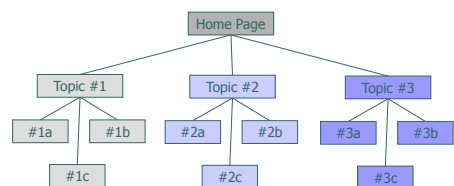


Simple hierarchical tree structure

## Navigation Tools

- How is the structure presented to visitors?
- 3 basic features of navigation design:
  - Where am I?
  - Where have I been?
  - Where can I go?
- Navigational Graphics
  - Buttons
  - Image maps
- Buttons are powerful - don't abuse them!

## Consistency

- Be consistent in the design of navigational tools
- Buttons should be stylistically consistent (i.e. similar colour scheme, feel etc.)
- Location on screen should be consistent (do not change the orders of buttons on different pages
- If a button is inactive, then it should look inactive

## Making navigation easier

- Maps
  - give an overview of the structure
  - Show current location – you are here!
- Recommended routes
  - Guided tour or bus tour metaphor
  - Linear path through non-linear structure
- Levels of access
  - Summary then progressive depth
- Supporting printing!
  - Needs linearised content, links back to source

## History, bookmarks, etc.

- Revisiting
  - 'hub and spoke' access – click-back-click-back
  - lots of revisiting of pages
  - 'back' is 30% of all browser navigation
  - but multi-step back and history used less
  - bookmarks and favourites for longer term revisiting
- Deep links
  - bookmarks and external links – into heart of site
  - are pages self explanatory?  what site? where in it?
    - e.g. breadcrumbs for context

## Appropriate Design

- Know what the objectives of the site are – e.g.:
  - Make money
  - Disseminate information
  - Disseminate opinions
  - Establish a virtual community
  - Ego sites
- Know who the target users are
  - Design for your audience - what may be suitable for one group might be inappropriate, incomprehensible or even offensive for another

## Content

- A web site must have useful content
- Content must be kept up-to-date
- Content must change regularly
- Content may be original, or it may be bought in (e.g. from news services)

### The Home Page

- The gateway to the site - much more than just a title!
- Must contain the following in an easily comprehensible form:
  - The purpose of the site
  - What kind of content is in the site
  - How to find the content and use the site
- Must avoid:
  - Sound / Multimedia that start automatically
  - Anything difficult to read or intimidating

### Text (1)

- Avoid black backgrounds - they are difficult to read (even with white text)
- Make sure there is a good contrast between the background and foreground
- Usually a dark foreground on a light background is most effective
- Do not mix a large number of fonts, sizes and styles
- Do not use multiple text colours (without a clear purpose) on the same page

### Text (2)

- Avoid overuse of exclamation marks, or block capitals
- Avoid long scrolling text
  - break it up into multiple linked files
- Use CSS to limit the width of text, create white space and control positioning of elements

### Text (3)

- Be careful specifying font face
  - platform issues
- Check for spelling, typos etc.
- Never ever use the <BLINK> tag
  "Of course, <BLINK> is simply evil. Enough said."
  Jakob Nielsen
- Similarly, think carefully whether scrolling text is useful

### Graphics (1)

- Size of graphics can be a problem
  - There still some low bandwidth connections
  - Storage is a big problem in PDAs and mobile phone browsers
- Still a valid goal to optimize the overall download size of your pages

### Graphics (2)

- Only use very large images if they are really needed (e.g. scientific/medical use)
  - Even then warn the user before they are downloaded
- Thumbnails are useful
- Crop images - remove extraneous white space
- Optimise compression (various software and web sites will do this for both GIF and JPEG)

### Graphics (3)

- Use JPEG for photographs (24 bit)
- Use GIF for drawings buttons etc., or when transparency is required
- Use the `height` & `width` parameters of the `<img>` tag
- Never use the `height` & `width` parameters to rescale an image.
- Use the `alt` parameter of the `<img>` tag

### Graphics (4)

- Background images
  - Don't use images that distract from the foreground
  - They should be very high contrast to text (i.e. dark text on a light background or vice versa)
  - Avoid incompatible colour combinations (e.g. red/green)
  - Avoid lurid colours

### Graphics (5)

- "Browser safe" colours
  - Many colours are rendered slightly differently by different browsers, or on different platforms
  - 216 colours are standard
- Clip art - a mixed blessing
  - Commercial clip art can be very good but expensive
  - Free clip art is often poor quality
  - Good free clip art is often used so widely it becomes a cliché

### Graphics (6)

- Respect IPR
- Animated GIFs
  - can be very effective
  - but be extremely sparing - avoid cognitive overload

### Audio and Video

- Now easy to author
  - Tools to edit sound & video and burn CDs & DVDs
- Easy to embed in web pages
  - Standard formats (QuickTime, MP3)
- Still big … but getting manageable
  - Memory OK … hand held MP3 players, TiVo etc.
  - but download time needs care – tell users how big!
- Very linear
  - Hard to add 'links' often best as small clips or background

### Audio issues

- Formats
  - Raw sound samples
    - Huge … used for mixing and editing
  - MIDI
    - Just which notes played and when
  - MP3
    - Uses psychoacoustics - how the ear hears
- Issues
  - Annoying if unwanted
  - Even more annoying for others!

## Using animation and video

- Potentially powerful tools
  - Note the success of television and arcade games
- but …
  - How to harness the full possibilities of such media
  - Different from 'standard' interfaces
- so …
  - Need to learn from film makers, dramatic theory, cartoonists, artists, writers

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