USER INTERACTION DESIGN GUIDELINES

Chapters 2 & 3

TOPICS:

• Organizing usability issues: The User Action Framework
• Selected design guidelines, with examples
• Guidelines specifically for Web design (continued)
• Usability inspection
• In-class exercises on guidelines

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GUIDELINES FOR WEB DESIGN

• General guidelines for Web design relate to:
  
* Organization and structure

* Navigation

  Decide on these two aspects only very generally first, then start to look at:

* Format, content, and appearance

  But content and navigation have to be done together

* Housekeeping

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ORGANIZATION AND STRUCTURE
both of site and of individual pages

• Make important information easy to find
  * What are most likely and/or important tasks a user will do at the site?
  * What information are they most likely to want to find most frequently?

• Users tend not to form mental model of sites
  * Sites usually designed toward moving forward, not backing out
  * E.g., people use Back button far less than one would expect!
  * E.g., when users get lost, don't back out to familiar territory; just keep going
    Don't think much about where they have been
  * Users tend to come back to Home page to go somewhere else, even though needed link might be on page where they were
ORGANIZATION AND STRUCTURE

- Use "sight bites": Organize information so each "piece" generally fits on a single screen

- Organize site, when possible, for speed of presentation of information

  * Common Web user complaint is slow downloads!

    Cartoon: Dilbert; time waited for web pages to load

- Make site as browser-, platform-, and resolution-independent as possible

- Take great care with home page design

  * First impressions are very important!

  * Gets seen more often than any other page
ORGANIZATION AND STRUCTURE

• Use frames with caution

* Disorienting, restrict amount of presented information, necessitate more scrolling

* Allow user to adjust frame boundaries

* Generally use to hold navigation options if main area of site changes frequently

- Frames as tables of contents (TOC) with links can help user performance

  User clicks on link in TOC frame and regular frame changes content

* Separate frame can also be used effectively for glossary, index, help
NAVIGATION

Influenced by structure, especially of site

"Sight bites" imply lots of pages and therefore lots of links

• Two key navigation questions:

* Where am I?

"You are here" indicators help some

* How do I get to X?

This is about as far as most users go toward a mental model of a site

• Keep navigation as simple as possible

e.g., by following hierarchical organization

• Show site map for larger sites

* Make sure user can always determine current location within site
NAVIGATION

- Have good "search" feature in your site

* About one third of users use site search as initial strategy to find information

- Similar use of FAQs

* Problems to watch for:

- User does not understand scope of search

- Whole site or just part

- How to limit search to part

- User is not able to interpret search results

- Organization and display of results (e.g., by relevance measure)

- Often result in large lists to scan

- Not enough information in results list items, not descriptive of content

Lots of links followed uselessly iQVC Search Page -->--> Tavolo search page sequence (4 pp.) -->-->
NAVIGATION

• Use navigation options consistently throughout site
  * Navigation bars
  * Links at top and bottom
  * Redundant navigation options

• Put navigation options where they can't disappear
  e.g., at top of page or on side

• Same for other kinds of controls
  * Make relation of controls to pages, frames, boxes, etc. clear
    What controls what?   E.g., CnnFn: Stocks, Quotes, Search   -+-+-+-

• Provide short-cuts for most likely task paths
• Never make a user scroll horizontally (left to right)!
• Minimize need to scroll vertically (top to bottom)
NAVIGATION

• Use links liberally but appropriately
  
  Page that is nothing but links is probably unnecessary, poor design

* Text links are vital
  
  - Downloading delays can mean text links are visible first
  
  - Users may look at text links before trying image links

* Use meaningful link content – perhaps single most important factor in Web sites
  
  - Use precise, unambiguous wording
  
  - Avoid "click here" or "here" or "go to"
  
  - Long (several words) links can be better for precision and differentiation; short wording often too vague
  
  - Roll-overs (fly-overs) may help explain link
  
  - Link predictiveness: Be clear in where link will take user

May be single most important guideline of entire course! You might improve the average site's usability by 50% by following just this one guideline.
NAVIGATION

- Corollary is *distinguishability*: How distinguishable is each link from others?

- Users may select correct link by eliminating ones they don't want

  • Text link layout

    * Affects user performance

    * Links embedded in text don't always work well, especially for scanning

      Studies found strong negative effect

      Goes against intuition – text should add explanation

    * Wrapped links cause confusion about what is a link

- Happens especially in multi-column format or narrow frames

- Clarify by adding bullets or button outline to set off items

  * Be consistent in style of links
NAVIGATION

- Image (graphical) links
  * Often do not help performance much (over text links)
  * Often do not look selectable
  * Users *will* look for them with cursor
  * Do not change color to indicate already used
    - Use border or outline box to show selectable and to show visited (e.g., border color change)
  * Interfere with process of elimination in finding right link
  * Interfere with scanning

  One of most important user information seeking behaviors

Zojirushi example (2pp.) ->->->

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NAVIGATION

• Link destinations

* Be consistent between words in link and in destination label/title

* Default user model of link takes user to another page in same site

- Confusion can arise when link takes user to another site (especially one with a totally different style)

- User may find no links back into original site
  
  Keep Back button operable, if possible.

- Can launch new browser to clarify that user is in new site

• Avoid dead end pages

  Pages with no links on them or page with nothing but link to another page; frustrating.
FORMAT, CONTENT, AND APPEARANCE

• Don't simply translate existing printed matter into hypermedia or multimedia

• Don't overly use graphics, animation, and other distractions "just because you can"

  "Gratuitous graphics" -- Costly in terms of downloading time, but distracting

  E.g., blinking on something clickable

  * Graphic design doesn't automatically make a site "better"

    - Depends on how well graphics convey information

    - Graphics don't necessarily make sites more interesting ("sticky") to users

      Study: Didn’t spend more time

    - Often not as important as some think in helping find information on Web

    - Some sites with best user performance have almost no graphics
FORMAT, CONTENT, AND APPEARANCE

• Information seeking is different than surfing

Which one is design goal?

* Cool stuff attracts surfers and correlates with user preferences and satisfaction

Also a possible goal, but . . .

* But animation, movement, blinking, flashing, zooming distract users and hurt performance

People seen covering up animation with hand while trying to read, think

* Content and descriptive links drive information seeking

* Content and links correlate positively with user performance
FORMAT, CONTENT, AND APPEARANCE

• Minimize reading, especially to get to content users want
  Conflicts with above, about use of graphics! Give links to other info, so not so much to read on single screen.

• Maximize readability – Fonts, color, contrast, layout, etc.

* Old standards for books (typography) and GUI screens do not necessarily work on Web

* Primary design requirement: *scanning*
  Good typography rules.

- People skim and scan; people don't read all information

- *Scanability:* Use bullets, less grammatical baggage, remove extra words

- Less reading to access content (which is then read)

- Too much white space is not necessarily good (despite what is true for GUIs and books)

- Web pages have much lower visual bandwidth than books, newspapers

- White space spreads out information and works against scanning
FORMAT, CONTENT, AND APPEARANCE

• Fonts
  * Use small number of fonts (generally up to 3) with good legibility and distinctiveness
  * Put no more than 40 - 60 characters per line
  * Space words appropriately
  * Use upper- and lower-case characters
  * Avoid ALL CAPS for blocks of text (e.g., except titles, captions, etc.)
  * Generally use sans serif fonts
  * Minimize use of italics
  * Don't underline text
  
  Why? Confusing with links!
  
  * Make text large enough to read by someone over 40!

  Regular text size can be controlled by user in browser
FORMAT, CONTENT, AND APPEARANCE

• Color

* Probably the single most misunderstood and misused characteristic of good design

* Design first for monochromatic display

* Use to emphasize important information: attention-grabber

* Use to show objects realistically

* Use semantically to group, categorize, etc.

* Use no more than 5 or 6 colors semantically

* Use consistently throughout pages and site

* Remember a lot of people are color blind!

* Black on light grey (not pure white), yellow on blue are good combinations

* Don't use blue for large blocks of text
FORMAT, CONTENT, AND APPEARANCE

- Layout
  * Have a "theme" for layout organization
    - Grid works well
    - Use template to guide design and ensure consistency
    - Can place emphasis on key parts of page
  * Generally put important information at upper left
    We read left to right, top to bottom in English
  * For background images, keep simple and non-distracting
  * Generally make selectable items look selectable
    Another potential problem with graphical links
  * Sloppy appearance implies questionable content!
    Spell-check, grammar, inconsistencies
HOUSEKEEPING

- Perform thorough usability evaluation of site before each release
  - Technical quality
  - Structure
  - Navigation
  - Readability
HOUSEKEEPING

• Before each new release, view site with
  * Numerous browsers
  * Different platforms
  * Images turned off
  * Different connection speeds
  * Different monitor sizes and resolutions
  * And at time of expected peak usage

• At least monthly, perform cobweb search: Avoid link-rot
  Broken, stale links

• At least monthly, update site
  Outdated, incorrect info

• Have contact information (e.g., to Webmaster) at least on home page

Extended example: VT directory search ->->->
Packet full of examples on colored Web overheads here ->->->