Web Usability

Topics

- The impact of the Web
- Why use the Web?
- Web user behavior
- Web usability guidelines

Web Usability

Web usability: Users/customers won’t tell you if you don’t have it!
Why usability for the Web?

- The Web is hot
- Huge economic impact
- For many, your Web site is you

How is Web Development Different (from GUI development)?

- Everyone wants a Web presence
- "We’re working in Internet/Web time"
  - Meaning: Have to do it fast; no time to do it right
- Anyone can be both Web author and publisher, with no review process!
- "How hard can this be? We don’t need to bother with a real development process!

Web User Behavior – Web Design Influences

- Most users
  - Don’t want to read lots of text on-line
  - Scan first for key words and links
  - Are “casual”users, browsing a site
  - Don’t browse aimlessly
  - Are interested in small part of a site
  - Are put off by sloppy layout, poor grammar, misspellings
Web User Behavior – Web Design Influences

- Many users
  - Are annoyed by flashing, banners, etc.
  - May not be English-speaking or US citizens/residents
  - May be over 40!
  - Will get lost on the Web!

  Although important, we will not address internationalization, disabilities, etc.

Usability Problems with Web Sites

- Usability problems specific to e-commerce often:
  - Do not clearly communicate if and how users must register to shop
  - Do not effectively communicate how to select and add item to shopping cart
  - Do not provide effective feedback on what is currently in shopping cart
  - Do not provide easy navigation from shopping cart to other areas of site.

  (Factors and Principles Affecting Usability of Four E-commerce Sites, Titson, Doug, Martin & Keith, Proc. Conf. on Our Global Community, 1999)

Some Questions to Drive Website Design

- In early meetings, decide and write down, answers to at least the following questions
  - Why does this project need to use the Web?
  - Who is our audience/market?
  - What are our users trying to accomplish?
  - What is our competition doing?
  - What are our business goals for the site?
  - Example: customer satisfaction for long-term loyalty
  - Example: to increase revenue by 20% in one year
Guidelines for Web Design

- Guidelines for Web design relate to:
  - Organization and structure
  - Navigation
  - Format, content, and appearance
    - Content and navigation have to be done together
  - Housekeeping
    - Of site and of individual pages

Organization and Structure

- 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?

Organization and Structure

- 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, they 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 "site bites": Organize information so each piece fits on a single screen
- Organize site, when possible, for speed of presentation of information
  - Common Web user complaint is slow downloads!

- Make site as browser-, platform-, and resolution-independent as possible
- Take great care with home page design
  - First impression very important
  - Gets seen more often than any other page
- 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

- Two key user questions:
  - Where am I?
  - How do I get to X?
    - This is as far as most users go towards 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 – Search

- Have good "search" feature in your site
  - About one third of users use site search as initial strategy
    - 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

- Problems to watch for:
  - User 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 result of list items, not descriptive of content
Navigation – Search

- Design to help users with searching
  - Help users browse results
    - Previous and Next buttons
      - Allow sideways movement through list without coming back up to list
      - But limit to sequential viewing
    - Help users choose from among results

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
- Same for other kinds of controls
  - Make relation of controls to pages, frames, boxes, etc. clear

Navigation

- Provide short-cuts for most likely task paths
- Never make a use scroll horizontally (from left to right)
- Minimize the need to scroll vertically (from top to bottom)
Navigation

- Use links liberally but appropriately
  - 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 site
    - Use precise, unambiguous wording

Navigation

- Avoid “click here” or “here” or “go to”
- Long (several words) links can be better for precision and differentiation; short wording often too vague
- Link predictiveness: Be clear 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 this one guideline.
- Roll-overs (fly-overs) may help explain link

Navigation

- Corollary is distinguishability: How distinguishable is each link from the others?
- Users may select correct link by eliminating ones they do not 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
Navigation

- 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)

Navigation

- Image (graphical) links
  - Interfere with process of elimination in finding right link
  - Interfere with scanning (one of the most important user information seeking behaviors)
Navigation

- Link destination
  - Be consistent between words in links
  - Default user model of links takes user to another page in same site
    - Confusion can arise when link takes user to another site (especially one with totally different style)
    - User may find no links back into original site
      - Open new window with these links
    - Avoid dead end pages (use the power of hypermedia)

Format, Content, & Appearance

- Sloppy appearance implies questionable content!
  - Spell check, grammar, inconsistencies
- Don’t simply translate existing printed matter into hypermedia

Format, Content, & Appearance

- Keep background images simple, light, and non-distracting
- Generally make selectable items look selectable
  - Another potential problem with graphical links
- 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 something clickable
Format, Content, & Appearance

- 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: Did not 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, & Appearance

- Information seeking is different than surfing
  - Cool stuff attracts surfers and correlates with user preferences and satisfaction
  - But animation, movement, blinking, flashing, zooming distracts users and hurts performance
    - People seen covering up animation with hand while trying to read, think

Format, Content, & Appearance

- Content and descriptive links drive information seeking
  - Content and links correlate positively with use performance
- Minimize reading, especially to get to content users want
Format, Content, & Appearance

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

Format, Content, & Appearance

- Scanability: use bullets, less grammatical baggage, remove extra word
- 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
- A little white space helps organization, but . . .
- White space spreads out information and works against scanning

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 information

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