Objectives

- Review: HTML Forms
- Usability
- Project Discussion

Review: HTML Forms

- What attribute is required in a form tag?
- What attribute is optional?
- What attribute do we use to create different types of input?
- How do we distinguish between input data?
- How do we “group” radio buttons and checkbox buttons?

Approaches to Software Design

- Inside-out
  - Develop a system
  - Add an interface
- Outside-in
  - Develop the interface
  - Then build the system to support it
- When design decisions are made, either the developer must conform to the user, or the user must conform to the developer.

Usability So Far

- Layout
  - Clear visual hierarchy
    - Headings - break up pages
    - Nesting content
  - Most important something is, the more prominent it is
- Links
  - Visited in different color
  - Make them ancillary to text

Usability So Far

- Images
  - alt attribute
- Checking options by default
  - Easier on user, but only when user wants them
- Input
  - Use appropriate types
  - Use mouse rather than type
    - Less error-prone
  - Use label for inputs

Don’t Make Me Think

- By Steve Krug
- General idea: don’t make the user think
  - Apply to all aspects of Web design
How Do Users Use the Web?

• Eye-tracking experiments

How We Design:

Structured, Follows logically

How Used:

Structured, Follows logically

Fast, furious

Darting all over page

How Do Users Use the Web?

• Scan web pages
  - Not read
  - Looking for something specific, don’t need the whole page

• Satisfice
  - Choose first reasonable option
  - Cross between satisfying and sufficing
  - Not optimal choice

General Rules

• Don’t make user think
  - Keep everything simple
  - Use conventions
  - Clear hierarchy for content, navigation

• Omit needless words
  - Reduce “happy talk”
  - Short, simple instructions

• Be self-evident
• Give users sense of space
  - Navigation

Purposes of Navigation

• Where user is
• Help user find what they want
• Reveals content of site
  - What it contains
  - What you can do there
• Tells how to use the site
  - Where to start
  - Where to go

Navigation Conventions

• Similar to street signs, page numbers
• What are some for the Web?
Navigation Conventions

- Similar to street signs, page numbers
- On the Web
  - Similar to printed text
  - Site id
  - Sections, sub-sections
  - Page name - larger
  - Local navigation - things at current level
  - "You are here" indicators ➔ or ➔

Persistent Navigation

- Navigation elements that appear on (almost) every page of a site
  - Makes site easier to use (learn once)
  - Confirmation that you’re on the same site
  - Exceptions: Home page, Forms

Persistent Navigation

- Site id
  - at top of page
- Sections
  - Top-level hierarchy
  - May want sub-sections of current section
- Utilities
  - Not part of content; slightly smaller
  - Examples: Site Map, Help, About Us, Contact Us
- Home
  - New convention: sometimes also the Site ID
  - Prevent users from getting lost
- Search

Navigation Rules

- Always let user know where they are
  - Show site’s map/hierarchy
  - “You are here” indicators
    - Blatently highlight current location in navigation bars/menus, e.g., text color and weight
    - Web users miss subtle cues
- Let user know where they’ve been
- Never let the user get stuck

Good Navigation Techniques

- Breadcrumbs
  - Location: Show site hierarchy
  - Path: Show path for how you got to current page
- Tabs
  - Obvious navigation (more so than buttons)
  - Stronger emphasis on division into sections

Warning About Color

- Some people are color-blind
  - 1 in 12 men, especially over 40
  - 1 in 200 women
- Use color as a cue, not the cue
“Trunk Test”
- The test for good navigation is, if you’re on a random page on the site, can you quickly answer
  - What site is this? (Site ID)
  - What page am I on? (Page name)
  - What are the major sections of this site?
  - What are my options at this level? (Local navigation)
  - Where am I in the scheme of things?
  - How can I search?

Practice with Trunk Test
- What site is this? (Site ID)
- What page am I on? (Page name)
- What are the major sections of this site?
- What are my options at this level? (Local navigation)
- Where am I in the scheme of things?
- How can I search?

Links
- Obviously clickable
  - Look different than unclickable text, images
- Concise, understandable names
  - “quick search” vs “search”
- Keywords early
  - More accessible
- Page name of resulting page should closely match the link text
- Don’t stack underlined links
  - Hard to distinguish - one link or two?

Forms
- Submit button
  - Can sometimes just use Enter key
  - More self-evident
- Concise labels

Web Interfaces
- Web interfaces are composed of
  - Menus
  - Forms
  - GUIs

Use Menus When...
- A finite list of well-defined choices
- Users will understand choices without help
- Users need to be reminded what they want
Menu Considerations

- Menu system structure
- Number of items
- Sequence of items
- Titles
- Prompts
- Phrasing of items
- On-line help
- Selection

Menu Types

- Binary
- Multiple-item
- Extended
- Pop-up
- Permanent
- Multiple selection

Binary Menus

- One of two choices can be made (Yes or No)

Are you a new customer? Open account

- Brief
- Concise
- But not descriptive

Binary Menu: Alternative

You may
1. Open a new account
2. Login to an existing account

- More space
- Just as fast
- Instructions clear
- Results are clear
- Uses conversational dialogue, not stilted formalism

Multiple-Item Menus

- Only one item can be chosen

What would you like to do?
Withdraw
Deposit
Check Balance
Quit
Select your choice.

Ordering Menu Items

- Frequently used first
  - Most common strategy
- Numeric
- Alphabetic
- Chronological (time)
- Grouping of related items
Adaptive Menus

- An adaptive menu changes to adapt to the user’s habits.
  - Reorders the menu choices
  - Infrequently used items put in a "background" menu (as in MS Office 2000)
- Risky
  - Can be confusing
    - Different when returning to site
    - Different for different users
  - No "average" or "typical" user
    - (Old) empirical evidence was not positive

Screen Design Hints

- Legibility
  - Sans-serif
  - Upper & lower case
- Titles
  - Alone
  - Top middle or top left
  - Titles & selections--same text!
    - Same titles in documentation
- Text
  - Brief, descriptive and consistent grammatical style

More Screen Design Hints

- Instructions
  - At top, concise
  - Consistent on each screen
  - Offer help
- Navigation
  - Escape labeled--how to get out
- Options
  - How to make choices
  - Few options (about 7)
  - Numbering (we measure from 0, number from 1)

More Screen Design Hints

- Consistent Layout
  - Menu status always in the same place
  - Error messages in the same place
- Take screen size into account
- Left-justify items
- No irrelevant info
  - Get rid of "happy talk"
- No strange codes or symbols

Phrasing of Menu Choices

- Familiar
- Consistent
- Distinct
- Concise
- Use the keyword first
  - Improves accessibility

Clarity vs. Social Amenities

- "Please", "do you wish", "If you want" can be eliminated to improve clarity
- Questions can be implicit

Please select the criteria for class choice: [ ]
vs.

Class choice criteria: [ ]
Wordy Version

Please enter course or name: ___
If entering course, also enter major: ___
(Enter category for level 2 reports only)
1. Add a class
2. Drop a class
3. Change section

Simpler Version

CLASS REGISTRATION
1. Add
2. Drop
3. Change section

Registration options:
Class Number or Name: ___ ___ ___ ___
Major Code: ___ ___

Design for Common Data

Address: Street _________
Box or number _____
State _________
Zip _____
Name: First: __________
Middle Initial: ___
Last: _______

Better Design

Address: Address 1 _________
Address 2 _____
State _________
Zip _____
Name: First: __________
Middle: _________
Last: _______

Going Through a Web App

Homework: Analysis of Usability

• Answer “Trunk test” questions for four pages
• Find examples of sites that demonstrate good and poor usability
Project

- Your Questions
- Any new ideas, functionality?
- Preparation for Meeting
  - Questions to Ask

To Do

- HW - Analysis of Usability
  - Due Wednesday
- Requirements, Design, Work Plan
  - Documents on Wiki
  - Name for your company
  - Coordination/cooperation, division of responsibilities
  - Does this work?
- Read Quality Attributes of Web Software
  - Due Friday
  - Write up on Wiki