Information Design

Lecture 5
Chapter 4 Rosson & Carroll

• Transforms activities (functions) into information design
• Second stage in Design
• Representation of information
  – Mode can be visual, auditory, touch
  – User Interface
    • Controls as well as output
• Design process
  – Exploration, elaboration, rationale

Who earns > $50,000?
Stages of Action in Human-Computer Interaction

Perceiving Information

- Perception
  - Where are the objects?
    - Color & Shading
    - Line and contour
    - Size
- Gestalt principles
- Organization: Using grid layout

Gestalt Principles

- Proximity
- Similarity
- Closure
- Area
- Symmetry
- Continuity
Organization: Using Grids

Horizontal and vertical lines to locate window components
- align related components

Organization
- contrast to bring out dominant elements
- grouping of elements by proximity
- show organizational structure
- alignment

Consistency
- location
- format
- repetition
- organization

More on Grids

Grids
Interpreting Information

- Interpretation
  - What do the objects mean?
- Familiarity
  - Use the user’s language!
- Realism vs. Refinement
  - Icons
- Affordances
  - Form follows function!

What does this mean?

Icons
Making Sense of Information

- Making sense
  - Is this what I want to use to achieve my goals?
- Information integration
  - Consistency creates expectations
  - Metaphors
- Reasoning with information
  - Information models
- Interaction
  - Dynamic displays

Metaphor

Who earns > $50,000?
Interactive Graphics

Good Visual Design

- Legibility and Readability
- Visual Consistency
  - Repetition
- Alignment
  - Grids and Layout
- Economy of Visual Elements
- Visual relationships
  - Proximity and white space
- Navigational Cues
Useful Resources!

*Designing Visual Interfaces* by Mullet & Sano, 1995, Prentice Hall


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Process of Information Design

- Explore
  - Elaborate
  - Rationale

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Explore

- For core activity scenarios
  - Brainstorm about possible overall information design
  - Many alternative approaches: Choose best
  - Prior user knowledge (metaphors) & technology options
Use of Information Metaphors

<table>
<thead>
<tr>
<th>VIF Information</th>
<th>Real World Metaphor</th>
<th>Implications for VIF Information Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>An article looks like a...</td>
<td>Lab journal</td>
<td>Journals organized pages with headings, sections, index</td>
</tr>
<tr>
<td></td>
<td>Encyclopedias</td>
<td>Pages of material organized by topics</td>
</tr>
<tr>
<td>A teacher looks like a...</td>
<td>Faculty (teacher)</td>
<td>Faculty in a class, seated, teaching</td>
</tr>
<tr>
<td></td>
<td>Instructor</td>
<td>Instructor sitting at desk</td>
</tr>
<tr>
<td>The text looks like a...</td>
<td>Study notes</td>
<td>Study notes written in a notebook</td>
</tr>
<tr>
<td></td>
<td>Pocket notes</td>
<td>Notes written in a pocket notebook</td>
</tr>
</tbody>
</table>

Sketches of Overall Metaphors

Information Technology Options

<table>
<thead>
<tr>
<th>VIF Information</th>
<th>VIF Design Technology</th>
<th>Implications for VIF Information Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>An article looks like a...</td>
<td>Desktop publishing</td>
<td>Desktop publishing makes it easy to organize and format text</td>
</tr>
<tr>
<td></td>
<td>Electronic publishing</td>
<td>Electronic publishing is efficient and cost-effective</td>
</tr>
<tr>
<td></td>
<td>Web pages</td>
<td>Web pages are interactive and easy to navigate</td>
</tr>
<tr>
<td>A teacher looks like a...</td>
<td>Lectures</td>
<td>Lectures are structured and organized</td>
</tr>
<tr>
<td></td>
<td>Presentations</td>
<td>Presentations are visual and engaging</td>
</tr>
<tr>
<td>The text looks like a...</td>
<td>Report generator</td>
<td>Report generator is useful for creating professional reports</td>
</tr>
<tr>
<td></td>
<td>Information maps</td>
<td>Information maps are helpful for visualizing data and relationships</td>
</tr>
</tbody>
</table>
Elaborate

- Sketch screens for activities
  - Use grid layouts and Gestalt principles
- Write information scenarios
  - Check coherence
    - Do the designs integrate with each other?
  - Check completeness
    - Do the designs cover the major functions and possible difficulties?
- Participatory design

Sketch: Welcome Window

Sketch: Exhibit Window
Writing Information Scenarios

• Start with the activity scenario
• Add in the descriptions of the information design

Sketch: Email

Dear Delia,
Are you interested in seeing my science fair project?
It’s now on a website called MOOsburg. (Don’t ask me why it has that name. It’s weird.)

Here’s the address:
www.MOOsburg.org

Hope to see you there.
Best, Sally Harris

Sketch: Welcome Window
Sketch: Welcome Window

Sketch: Welcome Window

Sketch: Exhibit Window
Information Scenario Summary

- The school includes a setting that bốke recognizes as a UK, a US, or Asia.
- As the user scrolls, the interface identifies different stakeholders and solutions at the level of the user, with possible advice to work with, risks, and issues.
- A subtle design map as a high school fiber link. The Steps class, where multistory is the office or a peer resource. They see a great deal of the girl’s data, which is either romantic or typical. Alice reflects, “Is this the girl” the place to check out the next site?
- The tour uses critical data presented in the context of a large collection of people, with names on the board, other announcements.
- The user view is crowded, with the user in a large collection of people, with names on the board, other announcements.
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Rationale

- Write information design claims analysis
  - How does the design work?
  - How does the design not work?
  - Note tradeoffs
  - Sometimes need evaluation with real users

Claim: Welcome Window

<table>
<thead>
<tr>
<th>Situation Feature</th>
<th>Possible Pros (+) or Cons (-) of the Feature</th>
<th>Scenarios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making a request for help</td>
<td>usability, the user is familiar with real-world buildings and spaces</td>
<td>Advice and links to the contact form.</td>
</tr>
<tr>
<td>Embodies a convenient (virtual) overview of exhibits at the site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>But visitors may wonder if they must “walk” to reach exhibits.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Claim: Under construction

- Situation Feature
- Possible Fix (+) or Con (-) of the Feature
- Scenario

- Fix exhibit "Under construction" icon
- Add a note to the user to check back later
- Remove or hide additional content

Claim: Exhibit Window

- Situation Feature
- Possible Fix (+) or Con (-) of the Feature
- Scenario

- Direct users immediately to the selected component
- Highlight the selected module or overall context
- Note: it is impossible to view multiple components together

Review of Information Design

- Information design = Specification of what the user sees, hears or feels
- Process: Explore, elaborate, rationalize
- Elements
  - Check for coherence, consistency, Gestalt principles
  - Tools: Grid layout, sketches, participatory design
- Products
  - Sketches of screens, widgets
  - Information scenarios
  - Information claims analysis