

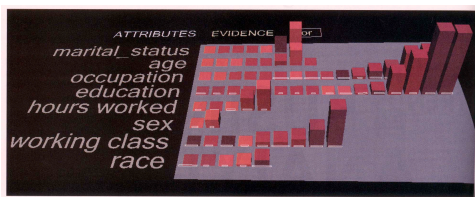
Information Design

Lecture 5
Chapter 4 Rosson & Carroll

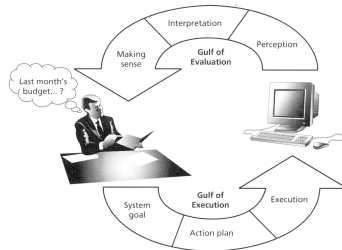
Information Design

- 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

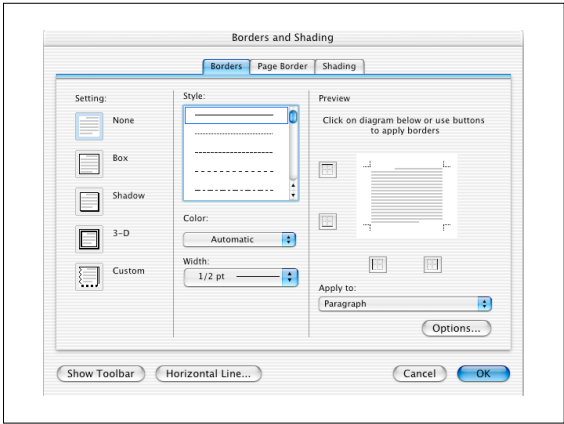


Perceiving Information

- 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

- aligns 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

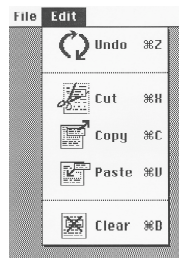
Interpreting Information

- 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



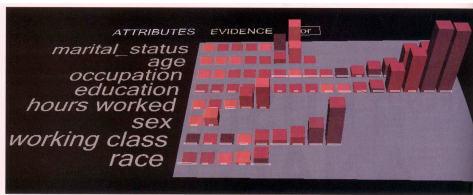
Making Sense of Information

- 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

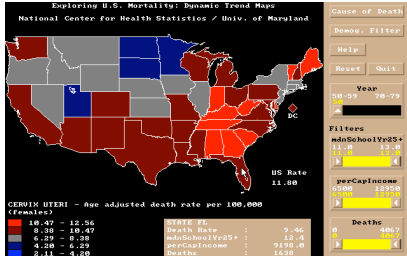
Metaphor

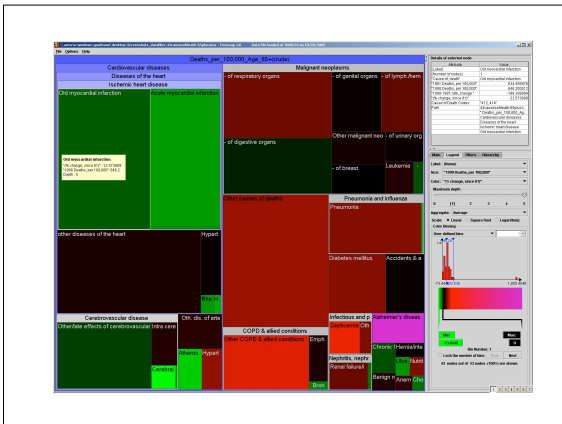


Who earns > \$50,000?



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

The Display of Visual Information by Edward Tufte, 2nd edition, 2001, Graphics Press

Process of Information Design

- Explore
- Elaborate
- Rationale

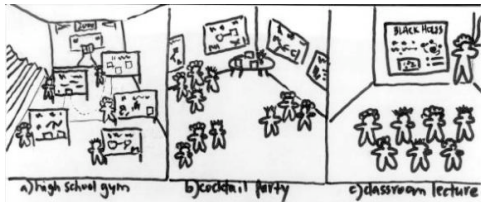
Explore

- 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

VSF Information	Real World Metaphor	Implications for VSF Information Design
An exhibit looks like a...	Lab Journal	Loosely organized pages with handwriting, sketches
	Documentary	Movie or animated sequence of screens and audio
A teacher-coach looks like a...	Peer (colleague)	Friendly face of same age, character as student
	Director	Professional-looking image with specific tools, agenda
The fair looks like a...	Study room	Empty work area with a place to write, materials to be read
	Public lecture	Uninterrupted single presented in focal view
	Cocktail party	Groups of people, auditory cues to conversation, activity

Sketches of Overall Metaphors



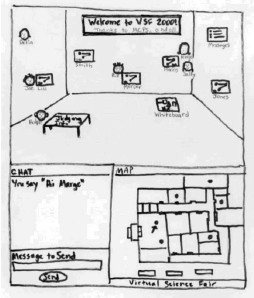
Information Technology Options

VSF Information	MOOsburg Technology	Implications for VSF Information Design
An exhibit looks like a...	Multimedia notebook	A video and audio presentation organized into pages
	Electronic Whiteboard	Rectangular white space with colored lines and text
	Web pages	Netscape-like browser with underlined 'hot links'
A teacher-coach looks like a...	Email	A list of messages organized by date or sender
	Threaded discussion	A list of comments indented to show replies/responses
	Chat	Sequential log of messages prefaced with sender name
The fair looks like a...	Room panorama	Panorama of walls, floor, maybe doors, and windows
	Interactive map	Geographic coordinates showing landmarks, paths

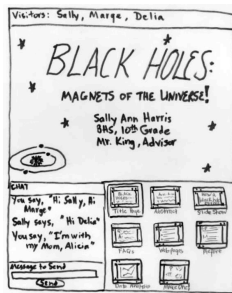
Elaborate

- 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

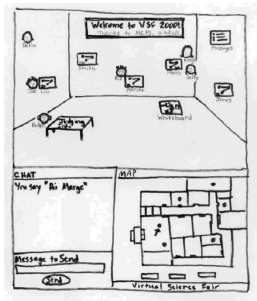
Sketch: Email

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.)

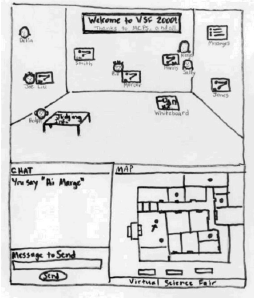
Here's the address:
www.MOOsburg.org

Hope to see you there.
Best, Sally Harris

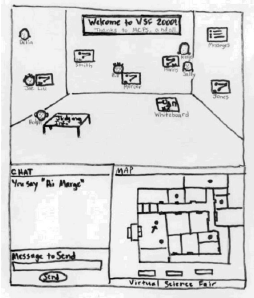
Sketch: Welcome Window



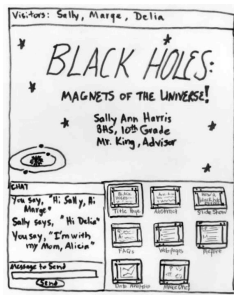
Sketch: Welcome Window



Sketch: Welcome Window



Sketch: Exhibit Window



Information Scenario Summary

- The email includes a string that Delia recognizes as a URL in MOOsburg.
- At the VSF they recognize standard [MOOsburg layout panorama view](#) of the fair, brief list of objects to work with, chat tool, interactive map.
- Alicia recognizes map as a high school floor plan. She shows Delia where she worked in the office as a peer counselor. They see a green dot in the gym, blue dots in other rooms. Alicia infers they are "in" the gym; she plans to check out the rest later.
- The main view is crowded. At the back is a large Welcome sign, with thanks to organizers, other announcements.
- Exhibits are arrayed around the room, each with a student name attached. Some are covered with a [black and yellow banner](#); Delia suggests that these must be "under construction".
- People are in the room. Some are small photos, others smiley faces or simple line drawings. Because they logged in under Delia's school ID, they appear as her school photo.
- They are attracted to an exhibit with lots of people around, but then Alicia notices friend Marge, so they join her instead at Sally's exhibit.
- The exhibit appears in a [separate window](#). Like in the welcome area, there is a main view. It displays what looks to them like a title name.

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

Situation Feature	Possible Pros (+) or Cons (-) of the Feature	Scenarios
Using a room panorama for laying out exhibits	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> leverages visitors' familiarity with real world buildings and layouts <input checked="" type="checkbox"/> produces a convenient (spatial) overview of exhibits at the fair <input type="checkbox"/> but visitors may wonder if they must "walk" to reach exhibits 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Alicia and Delia go to the science fair.

Claim: Under construction

Situation Feature	Possible Pros (+) or Cons (-) of the Feature	Scenarios
Yellow and black flags over incomplete exhibits	<input checked="" type="checkbox"/> builds on common experience with "under construction" sites <input checked="" type="checkbox"/> emphasizes that the fair activity is extended, dynamic, and ongoing <input type="checkbox"/> but these bright color cues make the display more complex	<input checked="" type="checkbox"/> Alicia and Della go to the science fair.

Claim: Exhibit Window

Situation Feature	Possible Pros (+) or Cons (-) of the Feature	Scenarios
A main viewing window for each exhibit	<input checked="" type="checkbox"/> directs viewers attention to the selected component <input checked="" type="checkbox"/> builds on the visual structure of the overall fair and of MOOSburg <input type="checkbox"/> but makes it impossible to view multiple components together	<input checked="" type="checkbox"/> Sally plans her exhibit on black holes. <input checked="" type="checkbox"/> Alicia and Della go to the science fair.

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
