Administrativa

- Orientation session this evening for Tablet-PCs.

- Quiz on last Weds lecture.
Information Design

- A confusing term, sometimes used as a catch-all for web design.
- We mean the organization of information (content) on a site. Hierarchy, links, navigation.
Genres of Web Sites

A genre is a particular style of document, together with accepted practices of use:
- Wedding invitation
- Jury summons
- Tax bill

Web site genres:
- Personal home page
- Informational page
- Portal page
- E-commerce page
Information Tasks

1. Specific Fact-finding:
   * Find the library of Congress call number for future shock
   * Find the phone number of Bill Clinton
   * Find highest-resolution LANDSAT image of College Park at noon on 13 Dec 1997
Information Tasks

2. Extended Fact-finding:
   * What other books are by the author of Jurassic Park?
   * What kinds of music is Sony publishing?
   * Which satellites took images of the Persian Gulf War?
Information Tasks

3. Open-ended browsing:
   * Does the Matthew Brady Civil War photo collection show the role of women?
   * Is there new work on voice recognition in Japan?
   * Is there a relationship between carbon monoxide and desertification?
Information Tasks

4. Exploration of availability:
   * What genealogy information is at the National Archives?
   * What information is there on the Grateful Dead band members?
   * Can NASA data sets show acid rain damage to soy crops?
Objects/Actions Model

- Related to task analysis.

- Start with objects and actions.

- Organize both into taxonomies.

```
$\text{ANIMAL} \\
\quad \text{BIRD} \quad \text{MAMMAL} \\
\quad \quad \quad \text{GENERAL\_CAT} \quad \text{HOOFED\_MAMMAL} \\
\quad \quad \quad \quad \quad \text{DOMESTIC\_CAT} \quad \text{TIGER} \quad \text{LEOPARD} \quad \text{HORSE} \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \text{SIAMESE\_CAT}$
```
Objects/Actions Model
Taxonomies

- The object taxonomy is a traditional taxonomy.
  * E.g. music library -> music styles -> albums -> songs

- The action hierarchy is a TDH (Task Decomposition Hierarchy)
  * Find Alanis Morissette -> Use search -> enter terms
OAI model

Task
* Structured information objects (e.g. hierarchies and networks)
* Information actions (e.g. searching, linking)

Interface
* Metaphors for information objects (e.g. bookshelf and encyclopedia)
* Handles (affordances) for actions (e.g. querying and zooming)
Organizing information

Define “atomic” information - the smallest chunks a user might want.

Organize the atoms (if not automatic):

* Short unstructured lists: highlights, what’s new
* Linear structures: Calendars, alphabetic lists
* Arrays or tables: Time/place, Model/features
* Hierarchies: Home/office -> product type -> model
* Multi-trees: links that enable navigation in several trees at once
* Networks: General hypertext
Action hierarchies

Define atomic actions
* Looking for a name in a list
* Scanning a list for something interesting
* Reading a paragraph

Aggregate actions
* Browsing TOC, jump to chapter, scan for topics
* Locate term in index, start reading section with that term
* Follow cross references from one doc to another, until no new docs.
Info Metaphors

Mostly, we use hierarchies
* File cabinet/folder
* Book/chapter
* Encyclopedia with articles
* Television with channels
* Shopping mall with stores
* Museum with exhibits
Action Metaphors

- Various “next” buttons
- Slide show metaphor
- Zoom in/lens
- Up/down in a hierarchy
Info search: Four-phase pattern

1. Formulation
   * Pick the appropriate library or collection
   * Pick the style of search, normal/advanced
Four-phase pattern

2. Action
   * Click on search
   * Adjust parameters of previous search
Four-phase pattern

3. Review of results
   * URL+Document title, with context
   * Explanatory messages
   * Ordering method, alphabetical etc.
   * Apply clustering by topic
Four-phase pattern

4. Refinement
* Offer help in redefining the query
* Relevance feedback (good/bad docs)
* Provide search page with previous values
* Provide option to save search options if complex
Research issues

- Lots of them…

- Automatic clustering of atomic information can help build a site automatically.

- Any a-priori site organization is probably not best. You need to look at user motion around the site.
Research projects

*WebQuilt* - visualization of user traffic on a site:
Faceted meta-data (UCB Flamenco)

### Denali Image Search

- Media
  - aquatint (2029)
  - basketry (164)
  - book (866)
  - ceramic (1160)
  - costume (650)
  - decorative box (165)
  - domestic object (776)
  - drawing (2064)
  - drypoint (2140)
  - etching (2907)
  - furnishing (227)
  - glass (387)
  - more...

- Nature
  - animal material (515)
  - birds (189)
  - bodies of water (3004)
  - creatures (481)
  - fish (216)
  - flowers (1220)
  - geological formations (2122)
  - heavens (2355)
  - hooved mammals (2560)
  - invertebrates and arthropods (330)
  - mammals (2416)
  - plant material (798)
  - more...

- Location
  - Africa (463)
  - Asia (1230)
  - Australia (25)
  - Central America (134)
  - Europe (2333)
  - Middle East (73)
  - North America (1171)
  - Oceania (111)
  - Roman Empire (4)
  - South America (493)

- Date
  - 1 - 1000 A.D. (138)
  - 12th century (3)
  - 13th century (1)
  - 14th century (3)
  - 15th century (56)
  - 16th century (1225)
  - 17th century (3280)
  - 18th century (2287)
  - 19th century (7558)
  - 20th - 21st century (18)
  - 21st century (1209)
  - more...

- Themes
  - military (2235)
  - mortality (589)
  - music, writing, and
  - nautical (1872)
  - religion (5807)

- Places and Spaces
  - bridges (982)
  - building parts (3088)
  - buildings (2381)
  - dwellings (1709)
  - lawn (20)
  - open spaces (1732)
  - roads (1460)
  - workplaces (759)

- People
  - aristocrats (876)
  - children (2501)
  - men (7312)
  - occupations (715)
  - women (5998)

- Shapes, Colors, and Materials
  - colors (5862)
  - decorations (1441)
  - fabrics (366)
  - metal (278)
  - paper (957)
  - shapes (2732)
  - visual framing (5917)

- Artists
  - A.C. creative 19th century (2)
  - Abades, Eugenio, 1824- (2)
Wrap-up

SAVE your notes before you quit Livenotes.
Summary

- Information design defined
- Genres of web sites
- Information tasks
- OAI model
- Information Metaphors
- Four-phase info search pattern
- Research issues