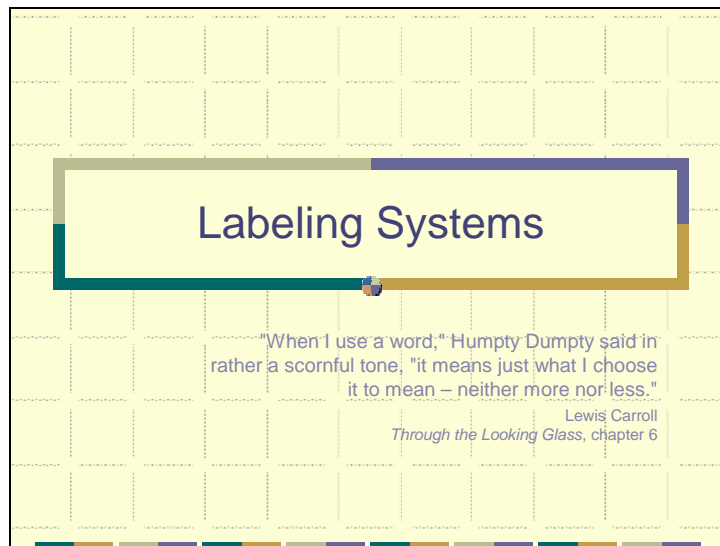


Labeling Systems

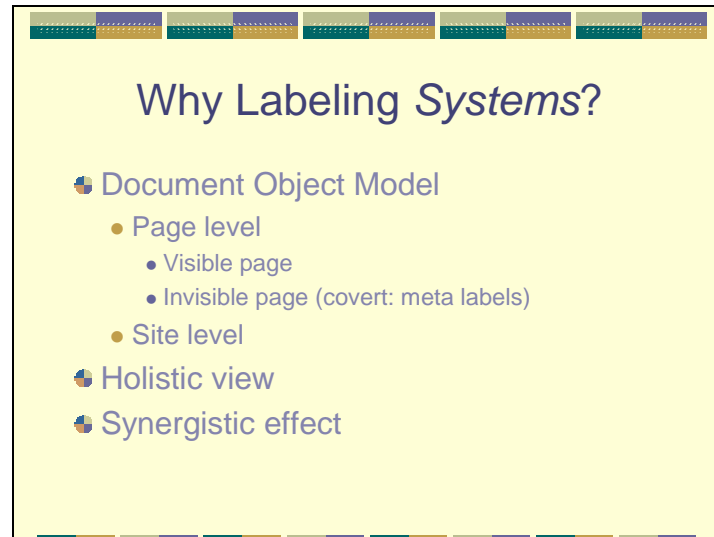
Dr. William J. Buchholz
Professor and Department Chairman
Information Design and Corporate Communication
Bentley College
Waltham, MA 02452
wbuchholz@bentley.edu
781-891-2216

The complete PowerPoint presentation is available as a Web slideshow at
http://cyber.bentley.edu/faculty/wb/presentations/labeling_systems_04_files/frame.htm



Humpty-Dumpty is alive and well on the Web. The role of information architecture is to make absolutely sure that he has a smashing fall. We must not – cannot, shall not, will not – help all the king's horses and all the king's men put Humpty together again.

Slide 2: Why Labeling Systems?



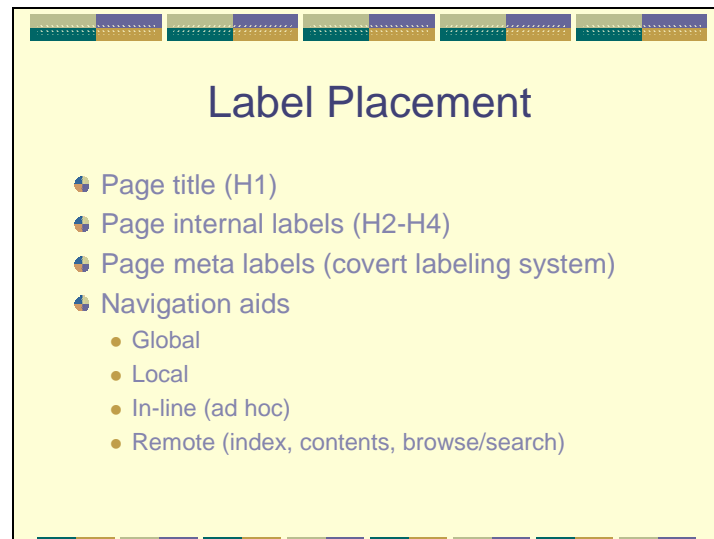
Why Labeling Systems?

- Document Object Model
 - Page level
 - Visible page
 - Invisible page (covert: meta labels)
 - Site level
- Holistic view
- Synergistic effect

As Rosenfeld and Morville correctly point out, we need to think of labels in terms of systems. Labels, though they appear to exist independently, are inextricably bound to content, and together with content make up the information system. You could think of labels as handles glued to chunks of content. Imagine all these labeled content chunks organized in a hierarchical structure from the page-level up to the site-level. You now have a whole (holistic) view of the information architecture.

Your visitor's ability to extract information from the site depends directly on an appropriately labeled information architecture (*overt* and *covert*) presenting an accurate content model of the parts relative to the whole. I am calling this architecture "synergistic" because the interaction of your visitors with well-labeled, discrete chunks of information is what produces a whole greater than the sum of its parts. In other words, the site will work; your visitors won't have to. (Well....at least not as hard.)

Slide 3: Label Placement



A system of labels is a network of identifiers existing at micro- and macro-levels. Further, the label network is both visible and invisible – at once apparent to and hidden from the visitor. The labeling system can thus extend itself *underground* (behind or beyond the page), into metadata structures – what I have called the “covert” labeling systems, which we will explore in some depth later.

At the *micro-level*, we have the elements (or objects) of the page: the title (H1), headings (H2-H4), internal category names, list titles, table and figure titles, callouts, and the like. At the *macro-level*, we have the navigational labels. All these parts of the labeling system are visible.

The *covert* labeling system is most easily understood initially through XHTML meta tags and attributes (*alt*, *title*, and *id*). These XHTML elements and attributes often just ape the overt (visible) labels, so usually not much all that interesting happens under the hood – that is, until you start to explore the world of the various metadata initiatives (such as the Dublin Core and RDF: Resource Description Framework) and controlled vocabularies (especially taxonomies, thesauri, and ontologies). We’ll examine this invisible layer later in the course.

Slide 4: Tool Labels I

Web sites have various tools that enable visitors more easily to search content and conduct business. While these tools go by various names, the next few slides capture some of the more common conventional labels. Most visitors intuit correctly what these labels are identifying. Of course, any labeling system is only as effective as its users say it is. User-test all labels to be sure that you've selected clear and informative label sets.

Slide 5: Tool Labels II



A slide titled "Tool Labels II" with a yellow background and a decorative border at the top and bottom. The border consists of a repeating pattern of colored squares: purple, green, yellow, and blue. The slide contains two columns of tool labels, each preceded by a small icon of a person with a gear.

Tool Labels II

- Join
- Shopping Cart
- Store
- Purchase
- Your Account
- Tracking Your Order
- Privacy Policy (notice)
- Conditions (Terms) of Use
- Trust Statement
- Sign in
- Register, Registration
- Membership
- Gallery
- Partners
- Developers
- Community
- International

Slide 6: Tool Labels III



A slide titled "Tool Labels III" with a yellow background and a decorative border at the top and bottom. The border consists of a repeating pattern of colored squares: purple, green, yellow, and blue. The slide contains two columns of tool labels, each preceded by a small icon of a person with a gear.

Tool Labels III

- White Papers
- Press
- News
- Media Kit
- Resources
- Case Studies
- Events
- Tour (site, product)
- Showcase
- Career Opportunities
- Jobs
- Syndication
- Other:

Slide 7: Under the XHTML Hood



Under the XHTML Hood

- Meta-Information through <meta> tags
 - Title
 - Key words
 - Description
 - Author
 - Copyright
 - Programmer comments
- ALT and Title (tool tips)
 - graphics
 - hyperlinks

Now to the nether world of hidden labels. In the HTML head, Web authors have a number of means to label page content. Often what is under the hood appears visibly on the page as well. But some search engines pay particular attention to <meta> tags. The ALT (alternative graphics text) and TITLE attributes for graphics and hyperlinks serve important purposes as well.

Slide 8: Title + 2 HTML <Meta> tags



The slide displays the following HTML code:

```
<TITLE>Bentley College</TITLE>
<META NAME="keywords"
CONTENT="Bentley,Bentely,Bently,Bentley
College,college,university,business,business school,Bentley
Business,massachusetts,new england,Massachusetts
colleges,education,business education,corporate education,business
communication,graduate school,grad,MBA,higher
education,accounting,accountancy,finance,financial,information
systems,information,management,marketing,info
systems,technology,economics,computer,taxation">
<META NAME="description"
CONTENT="Bentley College is committed to providing the most advanced
business education possible by integrating information technology with a broad
business and liberal arts curriculum.">
```

Page TITLE (not a <meta> tag), <meta>keywords, and <meta>description tags are important because some search engines take them seriously. TITLE also names the page of your browser (top bar), supplies the title for bookmarking, and labels the header or footer when you save or print pages from the browser. Functionally, as you can see, TITLE is really not invisible at all, and, in fact, is an extremely important head tag.

Slide 9: HTML <Meta> tags + Comments

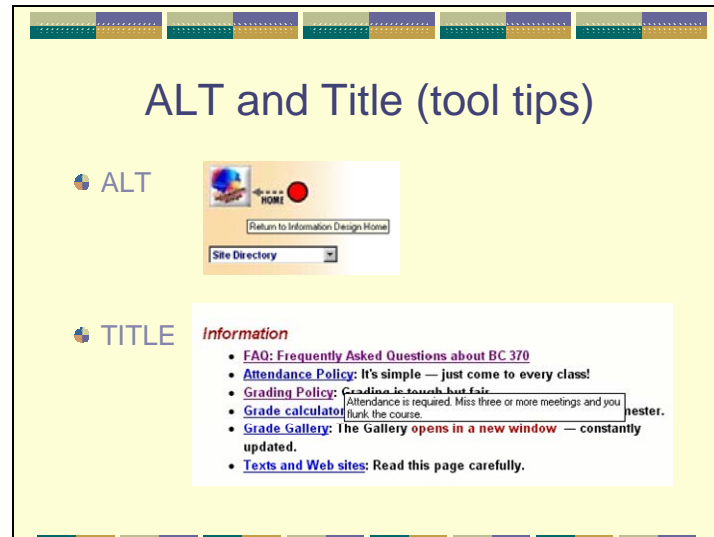


HTML <Meta> tags + Comments

- Author**
<META NAME="author" CONTENT="William James Buchholz">
- Copyright**
<META NAME="copyright" CONTENT="1998, William James Buchholz">
- Programmer Comments**
<!-- URL: <http://cyber.bentley.edu/faculty/wb> or <http://www.wbuchholz.com> -->
<!-- information design site by William James Buchholz -->
<!-- Professor, Information Design Program, Bentley College, Waltham, MA 02452 -->
<!-- Phone: 781-891-2216 -->
<!-- Please feel free to contact me via e-mail at wbuchholz@bentley.edu-->

The author and copyright <meta> tags, as well as the programmer comments, are less common yet very useful and will be picked up by some search engines.

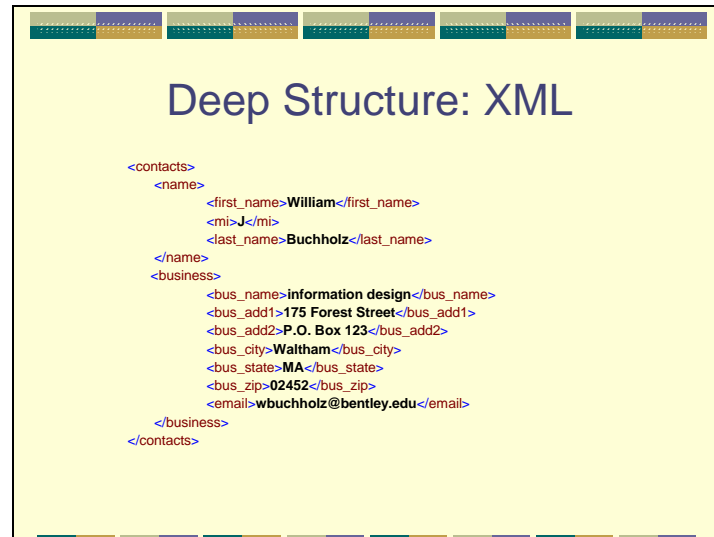
Slide 10: ALT and Title (tool tips)



The ALT (alternative graphics text) tag is shown when the cursor rests on the graphic. All meaningful graphics should have the ALT tag to insure accessibility for user agents (browsers). In fact, this attribute is required in the HTML 4.0 and XHTML 1.0 standards.

The TITLE tag attribute for the hyperlink element is less critical but more fun to use. You can have an invisible sidebar conversation with your visitors, if, of course, they have a browser that shows tool tips.

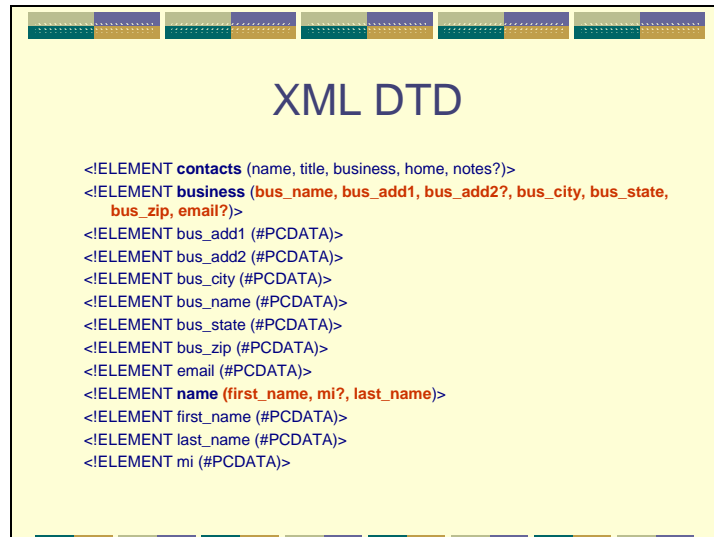
Slide 11: Deep Structure: XML



Let's go a little deeper into the body. XML, the eXtensible Markup Language, is the most exciting thing to happen to labeling in years, for it gives us the ability to make Web pages "smart." Separating content and structure from style means that we can now label at the deepest semantic level possible on the page, right down to a single letter or number, should we so desire. We also have the benefit of imposed hierarchy with XML.

A thorough mastery of writing valid XML is beyond the scope of this course, but you can see, from my example here, the power of an extensible markup language that enables us to label *all* the parts. Because these tagged pages are both human- and machine-readable, XML-based information architectures can be thoroughly automated for machine-to-machine interactions across operating systems, independent of the original data form, hence the Semantic Web.

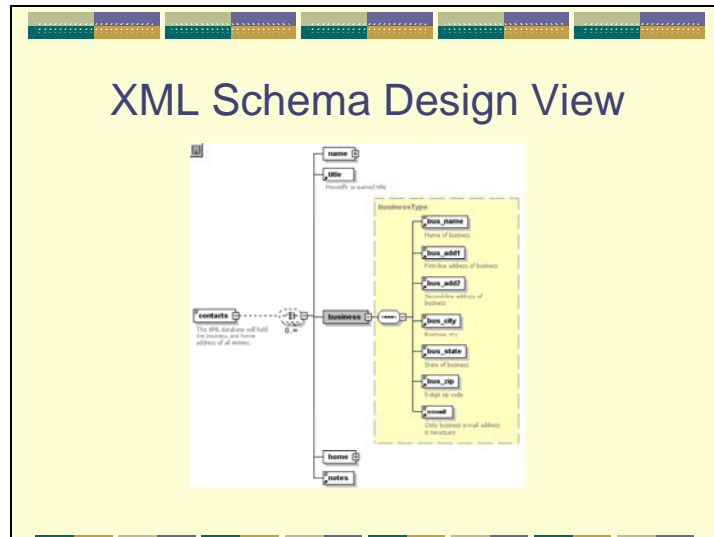
Slide 12: XML DTD



```
<ELEMENT contacts (name, title, business, home, notes?)>
<ELEMENT business (bus_name, bus_add1, bus_add2?, bus_city, bus_state,
bus_zip, email?)>
<ELEMENT bus_add1 (#PCDATA)>
<ELEMENT bus_add2 (#PCDATA)>
<ELEMENT bus_city (#PCDATA)>
<ELEMENT bus_name (#PCDATA)>
<ELEMENT bus_state (#PCDATA)>
<ELEMENT bus_zip (#PCDATA)>
<ELEMENT email (#PCDATA)>
<ELEMENT name (first_name, mi?, last_name)>
<ELEMENT first_name (#PCDATA)>
<ELEMENT last_name (#PCDATA)>
<ELEMENT mi (#PCDATA)>
```

Here is a portion of an XML DTD (Document Type Definition), the “brain” that dictates the syntax and makeup of the tags (allowed elements, attributes, nesting order and structure). An XML document is said to be *valid* if its markup matches the rules as defined by the DTD. An XML document is well-formed *if and only if* all elements are properly nested. An XML document may be well-formed but is not necessarily valid. If valid, however, the document by definition must be well-formed.

Slide 13: XML Schema Design View



This pretty picture of the preceding markup and allied DTD gives you the conceptual data model (DOM or tree structure) with which XML parsers work. If you start to model information conceptually like this, your architecture will become disciplined, thorough, spare, and sleek. Ya gotta love it. . . .

Slide 14: Iconic Systems



Iconic Systems

- [Diamonds.com](#)
- [J&C Adams](#)
- [Taxi.com](#)
- [Energex](#)

Slide 15: Labeling Tips I

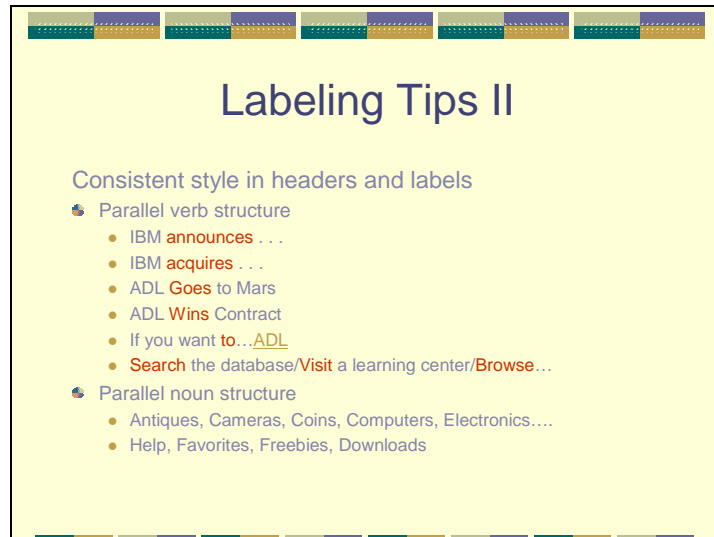
A presentation slide with a yellow background and a decorative border of colored squares at the top and bottom. The title "Labeling Tips I" is centered at the top in a dark blue font. Below the title is a bulleted list of tips for labeling, each preceded by a small blue icon of a person with a speech bubble. The tips are: 1. Choose mutually exclusive categories (with sub-bullets: Reflect user content needs in phrasing, Avoid orgjarg phrasing (organization jargon)). 2. Select a short key phrase or single key word. 3. Use a substantive or active word form (with sub-bullets: Nouns and verbs, Beware: adjectives, adverbs, articles/conjunctions (stop words)). 4. Pick a descriptive word or phrase (with sub-bullets: Specific not general or vague, Concrete not abstract, Accurate not nearly or in- accurate). 5. Scannability: heads, subheads, lists.

- Choose mutually exclusive categories
 - Reflect user content needs in phrasing
 - Avoid orgjarg phrasing (organization jargon)
- Select a short **key** phrase or single **key** word
- Use a substantive or active word form
 - Nouns and verbs
 - Beware: adjectives, adverbs, articles/conjunctions (stop words)
- Pick a descriptive word or phrase
 - Specific not general or vague
 - Concrete not abstract
 - Accurate not *nearly* or *in-* accurate
- Scannability: heads, subheads, lists

Keep your titles, headings, and labels as short as possible. For page titles and column, section, or paragraph heads, use no more than a single line, if possible. For navigation labels, use a single word, or a two-word phrase. Cut your descriptions to the core, focusing primarily on nouns and verbs. Cull out the extraneous articles (*a*, *and*, *the*), adjectives, and adverbs. The best way to be descriptive is to be specific (not general or vague), concrete (pictorial), and accurate. Furthermore, every Web page should be scannable, as your visitors will unlikely be reading carefully; make sure they can scan your pages easily (Nielsen, 1997, October 1; 1997, March 15).

Remember too that context will determine relevance. For example, if your label says "Help," visitors expect to find help. But help doing what? In this case, context will define "help," so be sure not to create false expectations. If visitors see the "help" button on the form fill-out page, and the "help" button connects to a page explaining how to search your site, you will disappoint your visitors and undermine their confidence in your site.

Slide 16: Labeling Tips II

A presentation slide with a yellow background and a decorative border of colored squares at the top and bottom. The title "Labeling Tips II" is centered at the top. Below it, the text "Consistent style in headers and labels" is followed by two bullet points: "Parallel verb structure" and "Parallel noun structure". Each bullet point has several sub-bullets with examples of consistent verb and noun structures.

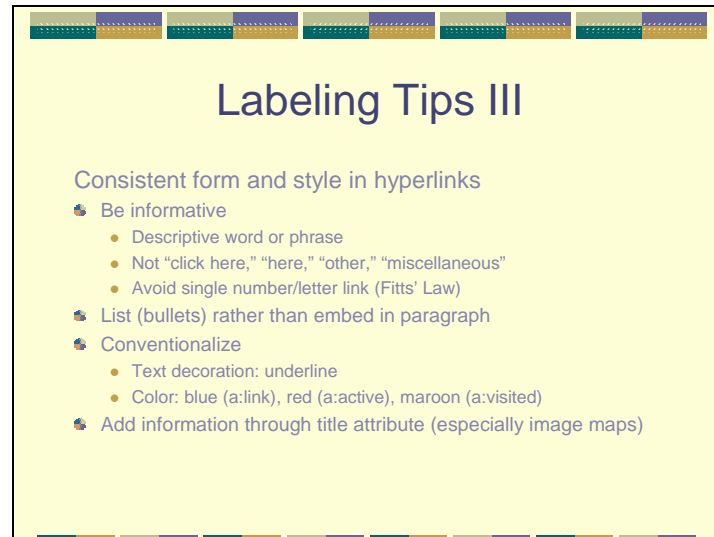
Labeling Tips II

Consistent style in headers and labels

- Parallel verb structure
 - IBM **announces** . . .
 - IBM **acquires** . . .
 - ADL **Goes** to Mars
 - ADL **Wins** Contract
 - If you want to . . . **ADL**
 - Search** the database/**Visit** a learning center/**Browse**...
- Parallel noun structure
 - Antiques, Cameras, Coins, Computers, Electronics....
 - Help, Favorites, Freebies, Downloads

The key to a consistent style in writing your headings and labels is to stick rigorously to an adopted form or pattern of expression, as these examples illustrate. As you design your page and arrange the heads and subheads, be sure to pay attention to scannability (Nielsen, 1997, October 1; 1997, March 15).

Slide 17: Labeling Tips III

A presentation slide with a yellow background and a decorative border at the top and bottom. The title "Labeling Tips III" is centered at the top. Below the title, the text "Consistent form and style in hyperlinks" is followed by a list of four items, each with a small icon and a sub-list of bullet points.

Labeling Tips III

Consistent form and style in hyperlinks

- Be informative
 - Descriptive word or phrase
 - Not "click here," "here," "other," "miscellaneous"
 - Avoid single number/letter link (Fitts' Law)
- List (bullets) rather than embed in paragraph
- Conventionalize
 - Text decoration: underline
 - Color: blue (a:link), red (a:active), maroon (a:visited)
- Add information through title attribute (especially image maps)

Hyperlinks within the ad hoc linking system need to be treated very carefully.

They should

Inform the visitor relative to content needs and desires (facilitate *purposive traversal*).

Visibly guide the visitor through scannable rather than embedded information structures.

Conform to convention whenever possible. As users become more sophisticated and learn an information space, however, consistency within that space is more important than conforming to the "larger" convention.

Add information through tool tips (the "title" attribute in XHTML) whenever desirable to do so.

Jakob Nielsen (1998, January 11) offers good advice on creating titles for links:

Appropriate information to include in a link title can be:

name of the site the link will lead to (if different from the current site)

name of the sub-site the link will lead to (if staying within the current site but moving to a different part of the site)

added details about the **kind of information to be found on the destination page** and how it relates to the anchor text and to the context of the current page

warnings about possible problems at the other end of the link (for example, "user registration required" when linking to *The New York Times*)

<http://www.useit.com/alertbox/980111.html>

Slide 18: Sources

A slide titled "Sources" with a yellow background and a decorative border. The slide lists several sources for the content.

Sources

- Nielsen, J. (1997, March 15). Be succinct! (writing for the Web). *Alertbox*. Retrieved January 1, 2004, from <http://www.useit.com/alertbox/9703b.html>
- ... (1997, October 1). How users read on the web. *Alertbox*. Retrieved January 1, 2004, from <http://www.useit.com/alertbox/9710a.html>
- ... (2000, January 9). Is navigation useful? *Alertbox*. Retrieved January 1, 2004, from <http://www.useit.com/alertbox/20000109.html>
- ... (1998, January 11). Using link titles to help users predict where they are going. *Alertbox*. Retrieved January 1, 2004, from <http://www.useit.com/alertbox/980111.html>
- Rosenfeld, L., & Morville, P. (2002). *Information architecture for the World Wide Web* (2nd ed.). Sebastopol, CA: O'Reilly.