<html>

• XHTML is an XML application (set of tags).
• XML is case-sensitive.
  – All elements and attributes in the xhtml namespace are lower-case!
  – Differs from HTML 4.0
• Definitive references:
    • http://www.w3.org/TR/html4
  – xml 1.0 (2nd edition)
    • http://www.w3.org/TR/2000/REC-xml-20001006
  – xhtml 1.0: The Extensible HyperText Markup Language
    • http://www.w3.org/TR/xhtml1

Sections

• Global Structure
• Text
• Lists
• Tables
• Links
• Object, Images, and Applets
• Style Sheets
• Alignment, font styles, and horizontal rules
• Frames
  – Multi-view presentation of documents
• Forms
  – User-input Forms: Text Fields, Buttons, Menus, and more
• Scripts
  – Animated Documents and Smart Forms
Global - <head>

- *must* contain a <title> element
  - used as window titles, in favourite lists, search engine results, …
  - choose a good, context-rich one - it's displayed a lot.
    - POOR: "Introduction"
    - BETTER: "Introduction to Medieval Bee-Keeping"

- May contain
  - <meta>
  - <link>
  - <base>

Global - <meta>

- Allowed meta-attributes/values may be specified via a "profile".
  - won't get into that here.

- e.g.,
  <meta name="Author" content="Dave Penny"/>
  <meta http-equiv="Expires" content="Tue, 20 Aug 199 14:25:27 GMT">
  <meta name="keywords" lang="en" content="vacation, sunshine">
  <meta name="keywords" lang="fr" content="vacances, soleil">

- Efforts underway to standardize document meta-data
  - e.g., The Dublin Core Metadata Initiative
Global - <link>

- Conveys relationship information that may be rendered by user agents in a variety of ways or used by search engines – e.g., a tool-bar with a drop-down menu of links

```html
<html>
<head>
    <title>General Relativity - Chapter 2</title>
    <link rel="Index" href="../index.html"/>
    <link rel="Next" href="ch3.html"/>
    <link rel="Prev" href="ch1.html"/>
    <link rel="Start" href="grtitlepage.html"/>
</head>
```

%attrs; = Common Attributes

- Certain attributes are fairly common across all elements (but check individual element)
  - %i18n;
    - lang and dir
  - %coreattrs;
    - id, class, style, title
  - %events;
    - onclick, ondblclick, onmousedown, …
Global - <body>

- %attrs;
- Most of the former most commonly used attributes are deprecated in favour of stylesheets.

Global - Grouping Elements

- Used in conjunction with class and id and stylesheets
  - <DIV>
    - generic block-level element
  - <SPAN>
    - generic inline tag
Global - Headings

- There are six levels of headings in HTML with H1 as the most important and H6 as the least.
  - Visual browsers usually render more important headings in larger fonts than less important ones.
- Headings do not surround their section, only their titles
  - Use <div> for that

Global - Section Delimiters

```html
<DIV class="section" id="forest-elephants">
  <H1>Forest elephants</H1>
  <P>In this section, we discuss the lesser known forest elephants.
  ...this section continues...
  <DIV class="subsection" id="forest-habitat">
    <H2>Habitat</H2>
    <P>Forest elephants do not live in trees but among them.
    ...this subsection continues...
  </DIV>
</DIV>
```

...this continues...
Text - White Space

- White-space is defined as
  - ASCII space &x20;
  - ASCII tab &x9;
  - ASCII form-feed &xC;
  - Unicode zero-width space &x200B;
  - line breaks
    - carriage return &xD;
    - line feed &xA
    - or any combination of them
- Within an element, sequences of white space separate "words"
  - Layout may involve inserting inter-word spacing.
- Except for the <pre> element

Text - Phrase Elements

- Phrase elements add structural information to text fragments.
- phraseelements.html
Text - Quotations

- `<blockquote>`
  - for a block of text
  - indents the entire paragraph
  - ought to add " signs, but doesn't because of historical use as simply an indented paragraph

- `<q>`
  - for in-line quotes
  - can be nested
  - doesn't work

- `quotes.html`

Text - Lines and Paragraphs

- `<p>` starts a new, logical paragraph.
  - Can contain only inline elements
  - no block elements allowed

- `<br/>` forces a line break
  - clear attribute indicated where the next line should start

- An non-breaking space prohibits a line break
  - `&nbsp;` &`#xA0;`

- soft hyphen encourages a line break
  - `&shy;` &`#xAD;`

- `lines.html`
Text - misc.

- Subscripts and superscripts
  - supb.html
- Inserts and deletions
  - insdel.html
- Preformatted text
  - pre.html

Lists

- Unordered lists
- Ordered lists
- Definition lists
- lists.html
Tables

- Extremely useful for controlling layout
  - penny.html
  - You can even use them for laying out tables of data
    - basictable.html
- Features
  - row and column groups
    - to apply the same style across them
  - rules
  - backgrounds
  - header and footer sections
  - controlling width
  - decimal-point alignment
  - …

Links

- Use an "anchor" element
  - Can tag a certain part of the document with an anchor name:
    - <a name="chapter1"/>
    - <div id="chapter1"> … </div>
  - Can then jump there using a fragment identifier:
    - <a href="#chapter1">go to chapter 1</a>
    - <a href="http://www.foo.com/book.html#chapter1">
Frames

- HTML frames allow authors to present documents in multiple views
  - may be independent windows or subwindows.
  - Multiple views offer designers a way to keep certain information visible, while other views are scrolled or replaced.

- frames.html

Frames - Size Control

- `<FRAMESET rows="50%, 50%">`
  - divides the space in half
- `<FRAMESET cols="1*,250,3*">`
  - middle frame has a width of 250px
  - left gets 25% of remaining, right 75%
- `<FRAMESET rows="30%,70%" cols="33%,34%,33%">`
  - creates a 2x3 grid
- `<FRAMESET rows="30%,400,*,2*">`
  - first takes 30%, next takes 400px
  - second last takes 1/3 of remainder, last 2/3.
Frames - Linking Control

- Each link can have a "target"
  
  `<a target="_top" href="foo.html">`
  
  - Pre-defined and reserved targets
    - `_blank`
    - `_self` (default)
    - `_parent`
    - `_top`
    
    - `<frame name="top-frame" src="bar.html"/>
    
      - `<a target="top-frame">`

Objects

- `<object>` allows authors to include
  
  - images (or use `<img>`)  
  - applets (replaces deprecated `<applet>`)  
  - video clips (no other standard way of doing it)
  - sound files (no other standard way of doing it)
  - other HTML documents (or use `<iframe>`)  

- `<object>` not yet fully supported