WWW/HTML Basics

CS 3172

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What is the WWW?

Perspective for this lecture

- A distributed document delivery system
- Uses a client-server model
- Main presentation language is HTML

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Client-Server Model

Two processes (possibly networked):

- The client
  - Sends requests to the server
  - Blocks until reply is received
- The server
  - Processes requests from clients
  - Never blocks
  - Can reply to several clients simultaneously

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HTML

- Hypertext Markup Language
- Intended to be maximally portable
  - Logical markup
  - Graceful degradation of presentation
- An ideal promoted by early WWW
  - Used to be more honoured in the breach
  - Is it getting better now?

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Markup Languages

- Markup:
  - Embedded codes in documents
  - Codes are called `tags'
  - Codes
    - Describe the structure documents
    - Include instructions for processing
- Markup language:
  - Computer language for describing syntax of tags
  - May be used with other tools to specify rendering

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Logical Markup

- Logical markup:
  - Describes parts of document
  - Does not specify how to render
- Example:
  - `This is <strong>very</strong> important`
  - This is *very* important

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Logical Markup

- Presentation is client's `decision'
- When client cannot present then there is graceful degradation
  - `<img alt="image description" src="foo.gif">`
  - Object example from Cougar

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Some history

- Gopher & the Internet Superhighway
- SGML
  - GML + Charles Goldfarb = SGML
  - eXtensible Markup Language
- HTML
- XML and XHTML

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Why HTML became XHTML

- HTML was originally a SGML application
  - Tags described the syntax
  - A DTD could check the syntax
  - Informal mapping from syntax to rendering
- Multiple incompatible versions arose
  - IETF moves at 'net speed not web $peed
  - Tag abuse was rampant in the 'net
  - They were a plague unto the users

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Why HTML became XHTML (2)

- If you think `IMG` is bad …
- Big vendors (M$ and N$ mostly) agreed
  - To start over
  - To use eXtensible Markup Language
    - A re-write of SGML emphasizing simplicity
    - Carefully planned by CS savvy folks
    - Includes hooks for future development

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XHTML Basics

- Very few real changes from HTML
- But more strict
- All tags are in lowercase
- All tags must be closed
  - Empty tags
  - Paired tags

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XHTML Basics

3 Parts to an XHTML or HTML document

- DOCTYPE
  - What DTD are you using
- Head
  - Meta information
  - Only `<title>` is required
- Body
  - Text to render

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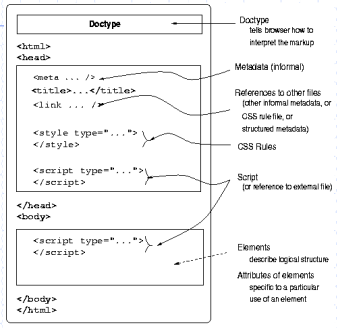
XHTML Document Structure



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XHTML Basics

- Tags
  - Elements
  - Attributes
- Entities
  - <,>,&,' '
  - Ö,ð,÷,©, etc.
  - See example at CS3172 website
- Comments

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XHTML Tags vs. Elements

- Tag is markup to represent an element
- Logical vs. Presentation Elements
  - TT ≈ CODE, KBD, PRE?
  - B/IT/U ≈ EM/STRONG
- Lists
  - UL/OL
  - DL

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XHTML Tags vs. Elements

- Block-level and in-line elements
  - TABLE, P, BLOCKQUOTE, DIV, etc.
  - CODE, Q, H1, SPAN, etc.
- Grouping Elements
  - DIV
  - SPAN
- One-part elements
  - BR, etc.

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XHTML Tags vs. Elements

- Browser-specific tags
  MARQUEE, BLINK, etc.
- What happens when a browser doesn't recognize a tag?

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XHTML Basics

- Tags may be *nested* but
- Tags may not overlap

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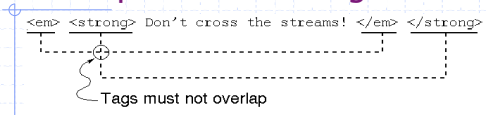
Overlap versus Nesting




```
<ol>
  <li>First level
    <ol>
      <li>Second level</li>
    </ol>
  </li>
</ol>
```

Tags may nest however

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Links — Why The WWW Is HT

- 'A' element
  - HREF
  - NAME
  - CLASS
  - REL
  - TYPE
  - TITLE
  - ID
  - STYLE
  - Anchor Text
  - TABINDEX
- URIs and URLs
- RFCs

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Where are the tools?

- HTML Tidy
  - **`/opt/bin/tidy`** on `torch`
- The validator
  - http://validator.w3.org/
  - http://www.cs.dal.ca/validator?
  - http://www.cs.dal.ca/validate?
  - http://www.cs.dal.ca:81?

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XHTML/HTML Examples

- XHTML element sampler
- XHTML sample template

  Both in the examples section of the website

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For More About HTML

- RFC 1866 (HTML 2.0) (at faqs.org)

  Explains some of the philosophy behind HTML
- HTML 4.01 (at W3C)

  Last version of HTML
- XHTML 1.1 (at W3C)

  Modularized XHTML

So many choices!...

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Which Standard to Follow?

- Minimal standard for this course is HTML 4.01 Transitional
- Preferred standard is XHTML 1.0 or 1.1
- See *Picking a Rendering Mode*
  - By Eric Meyer
  - In the Readings part of the Resources

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