What is the WWW?

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

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
### 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?

### Markup Languages

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

### 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
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

Some history

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

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
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

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

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
XHTML Document Structure

XHTML Basics

- Tags
  - Elements
  - Attributes
- Entities
  - `<`, `>`, `&`, `'`
  - Ö, ð, ÷, ©, etc.
  - See example at CS4173 website
- Comments

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
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.

XHTML Tags vs. Elements

- Browser-specific tags
  - MARQUEE, BLINK, etc.

- What happens when a browser doesn't recognize a tag?

XHTML Basics

- Tags may be *nested* but
- Tags may not overlap
Overlap versus Nesting

Tags must not overlap

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

Tags may nest however

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Links — Why The WWW Is HT

- **A** element
  - HREF
  - NAME
  - CLASS
  - REL
  - TYPE
- URIs and URLs
- RFCs

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Where are the tools?

- **HTML Tidy**
  - `/opt/bin/tidy` on borg
- **The validator**
  - [http://validator.w3.org/](http://validator.w3.org/)

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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)](http://faqs.org) (at faqs.org)
  - Explains some of the philosophy behind HTML
- [HTML 4.01](http://w3c) (at W3C)
  - Last version of HTML
- [XHTML 1.1](http://w3c) (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
Here endeth the lesson