

WWW/HTML Basics

CS 4173

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What is the WWW?

- ◆ 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 `very` 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
 - ``
 - [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

The diagram illustrates the structure of an XHTML document. It starts with a `<!DOCTYPE>` declaration, which tells the browser how to interpret the markup. This is followed by the `<head>` section, which contains metadata (informal), references to other files (other informal metadata, or CSS rule file, or structured metadata), CSS rules, and scripts (or reference to external files). The `</head>` section is followed by the `<body>` section, which contains elements that override the typical structure and attributes of elements specific to a particular use of an element. The document ends with `</body>` and `</html>` tags.

```

<!DOCTYPE ... >
<html>
<head>
  <meta ... />
  <title>...</title>
  <link ... />
  <style type="...">
  </style>
  <script type="...">
  </script>
</head>
<body>
  <script type="...">
  </script>
  ...
</body>
</html>

```

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XHTML Basics

- ◆ Tags
 - Elements
 - Attributes
- ◆ Entities
 - `<, >, &, ' ,`
 - `Ö, ð, ÷, ©, etc.`
 - See [example](#) at CS4173 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

` Don't cross the streams! `

Tags must not overlap

```

<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 borg`
- ◆ 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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Here endeth the lesson

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