

# Cascading Style Sheets and Dynamic HTML

---

Elaine and Jeff Randolph  
Write Track Communications

# Part I: Cascading Style Sheets

---

Efficient and effective (if you have  
the right browser)

# We've Come a Long Way...

---

- ◆ In the early days, the Web was used largely by scientists who wanted to share research
- ◆ Scientists were more concerned with content than appearance
- ◆ As the Web grew in popularity, authors wanted to design more attractive pages
- ◆ Early versions of HTML didn't support DTP-like features

# Design Work-Arounds for Control

---

- ◆ Using proprietary HTML extensions
- ◆ Converting text into images
- ◆ Using images for white space control (the clear pixel gif)
- ◆ Using tables for page layout

Result: Bloated tagging code within the document

# HTML 4.0 Gave Us Style Sheets

---

- ◆ Released in July, 1997
- ◆ Encourages the use of style sheets for document design

# What Are Styles?

---

Styles are “rules” that describe how HTML elements are presented to browsers. You can specify things like

- ◆ Margins and indents
- ◆ Detailed font information
- ◆ Boxes around text
- ◆ Subclasses of defined elements

# Style Sheets Use Inheritance

---

- ◆ HTML elements can inherit style properties through parent-child tree-structured relationships
- ◆ BODY is the “parent” of everything
- ◆ Inheritance doesn’t work the same way on Internet Explorer and Netscape Navigator-- you have to do extra work for Navigator

# Which Browsers Support Styles?

---

- ◆ Microsoft Internet Explorer 3.x (limited support)
- ◆ Microsoft Internet Explorer 4.0
- ◆ Netscape Navigator 4.0

# How Does Style Declaration Differ from HTML Tagging?

---

## Tagging Method:

```
<P><font face="Arial, Helvetica" size="12pt" color="#ffffff">xxxxxxxxxxxxxxxxxx</font>
```

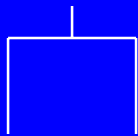
## Style Method:

```
P { font-family: Arial, Helvetica;  
    font-size: 12pt;  
    line-height: 14pt;  
    color: #ffffff;  
}
```

# Components of a Style Declaration

---

selector



H1

rule



{ font-family: Arial }



property



value

# Tools for Building Style Sheets

---

- ◆ Most recent HTML editors have support for building style sheets
  - through Style Sheet editors (Front Page 98, Hot Metal Pro 4.0, RoboHTML)
  - through wizards (Home Site)
- ◆ Or, you can simply use a text editor such as Notepad

# What Are Some Constraints of Styles?

---

- ◆ Some browsers do not support styles
- ◆ Not all features of the HTML 4.0 specification are enabled for use by current browsers
- ◆ Netscape does not support styles as well as Internet Explorer

# Constraints of Styles, cont.

---

- ◆ A user might not be able to display a unique font that you specify
- ◆ Style sheet editors/wizards can't do everything—you'll have to do some hand-tagging for things like
  - tables
  - nested lists

# How Do I Attach Styles?

---

- ◆ By linking to an **external** style sheet with the `<link>` tag:

```
<HTML>
```

```
<HEAD>
```

```
<LINK REL="STYLESHEET HREF="style1.css">
```

```
<TITLE>Name of Page</TITLE>
```

```
</HEAD>
```

# How Do I Attach Styles? cont.

---

- ◆ By **embedding** a style sheet with the `<style>` tag:

```
<HTML>
<HEAD>
<TITLE>Title of Page</TITLE>
<STYLE>
<!--
  STYLE DECLARATIONS
-->
</STYLE>
<BODY>
```

# How Do I Attach Styles? cont.

---

- ◆ By using an **inline** <style> attribute within the body of a document:

```
<DIV>  
<P STYLE="margin-left: 3em; margin-right: 2 em">  
text.....</P>  
</DIV>
```

```
<P><STYLE SPAN="font-family: Ignacio; font-size:  
24pt; color: fuschia">M</SPAN>ary had a little  
lamb...
```

# Relatively Safe Style Elements

---

- ◆ Background color
- ◆ Margins
- ◆ Font specifications
- ◆ Type colors
- ◆ Detailed list element specifications

If a browser ignores these specifications, users can still read your pages.

# Risky Style Elements

---

- ◆ Layers
- ◆ Negative space
- ◆ Elaborate formatting to create visual elements from text

If a browser ignores your specifications, pages with these elements could be difficult to see:

# Classes

---

- ◆ Classes enable you to devise variations of a parent style
- ◆ Designate them in your style declaration with a period separating the selector and the class: **P.INDENT**
- ◆ If you use a WYSIWYG HTML editor, you need to hand-tag them in HTML view:  
**<P CLASS="INDENT">**

# What Does Cascading Mean?

---

- ◆ Several style sheets can be attached to a document
- ◆ What happens when style specifications are in conflict with each other?
- ◆ The browser determines which conflicting style specification has precedence
- ◆ The most “immediate” style wins:
  - Inline beats embedded
  - Embedded beats linked

# What Is CSS1?

---

- ◆ Stands for Cascading Style Sheet, level 1
- ◆ Is a type of style sheet
- ◆ Is the prevalent type of style at present.

# CSS2 Style Recommendation

---

- ◆ W3C has just issued the new CSS2 Recommendation (May 1998)
- ◆ Adds support for
  - Media-specific styles
  - Downloadable fonts
  - Element positioning
  - Expanded table features

# Tips for Using Style Sheets

---

- ◆ Keep the design fairly simple at first—you can add to it as needed
- ◆ Know which properties work and which don't work or have problems
- ◆ If you want special text effects, you'll still need to create them as graphics
- ◆ Practice a lot

# More Information

---

- ◆ Essential book: *Cascading Style Sheets* by Hakon Lie. ISBN 0-241-41998-X.
- ◆ W3C: “HTML 4.0 Specification,”  
[www.w3c.org/TR/WD-html40-970708/](http://www.w3c.org/TR/WD-html40-970708/)
- ◆ Essential site: Web Design Group,  
“Cascading Style Sheets”  
[www.htmlhelp.com/reference/css/](http://www.htmlhelp.com/reference/css/)

# CSS Demonstrations

---

- ◆ Netscape inheritance problems
- ◆ Change page appearance by linking to a different style sheet

## Part 2: Dynamic HTML

---

It's Not Exactly What You Think

# What is Dynamic HTML?

---

Everyone has their own particular spin on dynamic HTML. In the literature, there's ...

- ◆ Dynamic HTML (“Big D”). Microsoft’s Trademark for a set of predefined items supported by Microsoft products
- ◆ dynamic HTML (“Small D”). Defined in terms of how an HTML document works

# What is dynamic HTML?

---

- ◆ The use of a combination of HTML, style sheets, or scripts that controls how the document is presented on the screen.
- ◆ dynamic HTML is not tied to a particular product

# Time-Sensitive Examples

---

- ◆ A play list on a radio station's web page that changes even though you don't choose to reload the page (example: <http://www.arrowfm.com>)
- ◆ Time changes
- ◆ Stock market information or sports scores (example: <http://www.CNN.com>)

# Event-Driven Examples

---

- ◆ Browser-specific pages, with HTML specially prepared for a particular browser's features
- ◆ Platform-specific pages (example: <http://home.netscape.com>)
- ◆ Page hit counts for visitors to your site
- ◆ Client-side image maps

# HTML 4.0 & dynamic HTML

---

- ◆ W3C does not use the term “Dynamic HTML” in their HTML 4.0 specification
  - New specification refers to a “Document Object Model” specification, which is under construction
  - The committee used the term “Interactive HTML” in their July 1997 specification
- ◆ W3C added forms into Interactive HTML because a form will do nothing until you click somewhere to take action

# What Is dynamic HTML?

---

- ◆ Any element of an HTML document that is executed client-side
- ◆ HTML evaluated as the document loads
- ◆ HTML triggered by an event—mouse movement, keystroke, and so on

# What Is dynamic HTML? (cont.)

---

- ◆ HTML document containing a script language ...
  - ECMAScript (formerly JavaScript/Jscript)
  - VBScript
  - Perl
- ◆ ... or a compiled programming language (Java, C++, or C)
- ◆ HTML document containing a Form (we were doing dynamic HTML and didn't even know it!)

# Demos of dynamic HTML

---

- ◆ Sample JavaScript to display specific HTML code for a particular browser
- ◆ Sample JavaScript to display an entirely different page based on what browser is being used

# Demos of dynamic HTML

---

- ◆ Changing an image display when sliding the mouse over an image
- ◆ Sample form containing new HTML 4.0 elements
  - Pushing updated content into fields dynamically
  - How to get around the problem of the browser Reload/Refresh button
- ◆ Sample JavaScript producing a similar effect as an animated GIF

# More Information

---

- ◆ W3C: “Document Object Model (DOM)”  
[www.w3c.org/DOM](http://www.w3c.org/DOM)
- ◆ W3C: “HTML 4.0 Specification: Interactive HTML Documents”  
[www.w3c.org/pub/WWW/TR/WD-html40/interact/intertop.htm](http://www.w3c.org/pub/WWW/TR/WD-html40/interact/intertop.htm) (July 1997 archives)
- ◆ *JavaScript: The Definitive Guide, 2nd ed.*, by David Flanagan. ISBN 1-56592-234-4

# More Information

---

- ◆ [www.javascript.com](http://www.javascript.com). Comprehensive list of ready-to-use JavaScript scripts