



INTERNET & WEB APPLICATION DEVELOPMENT SWE 444

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Module 2 (V): CSS [Part 2]

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Objectives/Outline

• Objectives

- Learn how to create and use external style sheets
- Learn how to change the font, text and color properties

• Outline

- External Style Sheets
- CSS File
- Reference the CSS File
- Style sheet Inheritance
- Font Settings
- Text Properties
- Color

External Style Sheets

- This is a separate file of pure CSS rules which can be applied by referencing the file inside the <head> tag
- Advantage
 - Allows the same style to be applied easily to multiple documents
 - convenient way to give a site a uniform “look and feel”
 - Reusable – reduce development effort
 - Better performance – since it can be cached once for all pages in the site, it reduces download time and bandwidth usage on the server

External Style Sheets (cont.)

- To use external style sheets
 - Step 1: Place a number of CSS rules in a file
 - Step 2: Reference the external style sheet
 - Step 3: Decide if you want to selectively override the external style sheet attributes for a particular page using embedded or inline styles

The CSS File

- Simply place CSS rules in a text file using CSS syntax, e.g.:
 - `body {color: brown; background-color: antiquewhite}`
 - `h1 {color:brown; font-family:sans-serif}`
- Save the file with a recommended .css extension
- Must be published to a web server as any other file would be to be used on the web
- Reference this file in the HTML document using
 - the `<link>` or `@import` commands

Reference External Files

- `<link>` can be used to reference external files other than a CSS
- Link syntax

```
<link href="url" rel="relation_type" type="link_type" />
```

 - where
 - href: location of the external file
 - rel: must be "stylesheet" to tell HTML the link is for a stylesheet
 - type: the MIME type needed to download the file, usually "text/css"

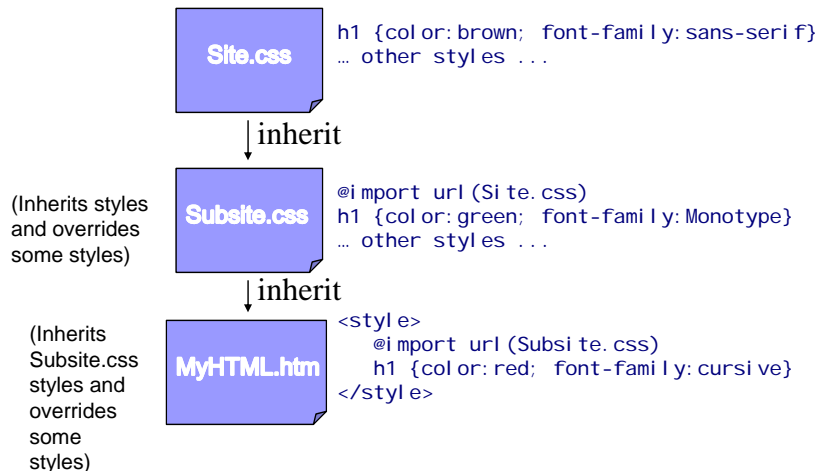
Example

```
<head>
  <title>Cascading Style Sheets</title>
  <link href="styles.css" rel="stylesheet"
type="text/css" />
</head>
```

@import

- Can be used in the <style> tag, or used in a .css file by itself as a CSS command
- Essentially allows for multiple inheritance of style sheets attributes
 - e.g., a subsite style sheet may override a general site style sheet
 - An HTML page may override the subsite's style sheet
- Can't be used with Netscape 4.x
 - Supported by HTML 4.0 browsers only

@import Example



Style Sheet Inheritance

- Tags embedded in other tags inherit style attributes, e.g.
 - `<p>` inherits from `<body>` because it can only appear in the `<body>` section
 - `` inherits from `` because `` appears inside `` tag
- Example

```
<body style="color: red" >
  <p>This paragraph will appear with red text because it
  inherits properties of the body tag that encloses
  it. </p>
  <p style="color: green">This paragraph will appear with
  green text because it explicitly overrides the red text
  inherited from the body tag. </p>
</body>
```

Font Settings

- When text is displayed in a browser it appears in a default font face, size, style, and color.
- Most browsers use the Times New Roman font face at approximately 12-point size and rendered in black.
- CSS settings permit you to change these default settings to bring a different look to your pages
- There are six font style settings that can be used
 - font-family
 - font-size
 - font-style
 - font-weight
 - font-variant
 - font

Font Family

- A generic description of a range of font types all having a similar design supported by all CSS capable browsers
- The font-family property needs to be specified to change the browser's default setting from Times New Roman.
- Five generic font families are supported by CSS:
 - Serif (e.g., Times)
 - Sans-serif (e.g., Arial or Helvetica)
 - Cursive (e.g., Zapf-Chancery)
 - Fantasy (e.g., Western)
 - Monospace (e.g., Courier)

Font Family (cont.)

- A computer may provide additional font families that supplement generic font families
- You cannot assume these additional families will be available
- So if used specify a generic font to use if the specific font family is not available
- The following font faces are typical on a Windows-based PC
 - **impact**
 - tahoma
 - times new roman
 - verdana
 - arial
 - arial narrow
 - **comic sans ms**
 - courier new
 - georgia

Font Family (cont.)

- Example
 - h1, h2, h3, h4, h5, h6 {font-family:Arial Helvetica sans-serif}
- As with the tag proceed from the most unlikely to the most likely font family
 - Similar to attribute
- End with a generic font family

Font Size

- The font-size property is used to change the browser's default 12-point size.
 - can use pixels to set letter heights for special styling.
- Two ways to specify font sizes:
 - Absolute
 - Relative
 - Using a Keyword description
 - As a percent of the default font size for a tag

font-size property (cont.)

| Text Values | Em Units | Px Units | Pt Units | Percentage |
|-------------|----------|----------|----------|------------|
| xx-small | .5 em | 10 px | 6 pt | 50% |
| x-small | .60 em | 11 px | 8 pt | 60% |
| small | .75 em | 13 px | 10 pt | 75% |
| medium | 1 em | 16 px | 12 pt | 100% |
| x-large | 1.5 em | 24 px | 18 pt | 150% |
| xx-large | 2 em | 28 px | 24 pt | 200% |

Examples

```
b {font-size: xx-large}
body {font-size: 150%}
h1 {font-size: 0.5in}
h2 {font-size: 130%}
p {font-size: 100%}
```


Font Size Specification

➤ Units

- millimeters (use mm)
- inches (use in)
- points (72 points per inch; use pt)
- pica (6 picas per inch; use pc)
- pixel (use px)
 - Smallest display element on computer monitor

➤ Can specify decimal units

➤ Example

- h1 {font-size: 0.5in}

Font Size Specification (cont.)

➤ Specify according to relationship to the standard character

➤ Standard characters: em and ex

- EM Unit – Equal to width of capital letter “M” in the default font
- EX Unit – Equal to the height of a lower case “x” in the default font

➤ Why Relative Units?

- Allows for scalable fonts
- Monitors vary in size of display and screen resolution
 - Specifying a relative unit ensures a uniform viewing experience across the variety of monitors rendering your page

Font Style

- Specifies appearance of font
- Browser default is the normal style
- Syntax
 - font-style: style_type
- Style Types
 - normal
 - *italic*
 - *oblique* (similar to italic)
- Example:
 - p {font-style: italic}

Font Weight

- Specified the degree of “boldness” of the type
- Specified from 100-900 in intervals of 100
 - 100 is lightest
 - 900 is heaviest
- Example:
 - p {font-weight: 300}

Font Variant

- Not supported by Netscape 4.x
- Attribute values:
 - small-caps (EXAMPLE)
 - Uppercases but reduces font size
 - normal
 - to return the text to standard display

Font Property

- Pools together a variety of text and font attributes
- Attribute values are positional:
 - font-style specified first, font-variant second, font-weight last
- Example
 - h2 {font: italic small-caps bold}
 - instead of
 - h2 {font-style:italic; font-variant:small-caps; font-weight:bold}

Text Properties

- Font settings can be paired with other style sheet properties to apply additional formatting to strings of text.
- The following text properties can be paired with font settings to bring more variety to text displays.
 1. word-spacing
 2. letter-spacing
 3. line-height
 4. text-align
 5. vertical-align
 6. text-indent
 7. text-decoration
 8. text-transformation
- Word, letter and line spacing specify amount of white space to leave between words, letters and lines
- Syntax:
 - word-spacing: size
 - letter-spacing: size
 - line-height: size
- Size can be expressed as “normal” (browser determines spacing) or a specific unit

Word, Letter, and Line Spacing Examples

- `p {letter-spacing: 1 em}`
 - Might render: L e t t e r
- `p {word-spacing: 2 em}`
 - Might render: This is an example
- `p {line-height: 2}`
 - Indicates line height is twice the font size height
 - Default is 1.2

text-align

- Specifies horizontal alignment to use
 - Essentially the same as the align attribute of various HTML tags
- Syntax:
 - `text-align: left | center | right | justify`
- Example:
 - `h2 {text-align: center}`

vertical-align

- Specifies vertical alignment to use
- Syntax:
 - `vertical-align:`
 - `baseline | bottom | middle | sub | super |`
 - `text-bottom | text-top | top`
- Example:
 - `h2 {vertical-align: text-bottom}`

vertical-align attribute values

- `baseline`: aligns with bottom of font
- `bottom`: aligns with bottom of lowest element in the line
- `middle`: align in the middle of text
- `sub`: Subscript
- `super`: Superscript
- `text-bottom`: aligns with font's bottom
- `text-top`: aligns element with top of tallest letter
- `top`: aligns with top of tallest letter or graphic in the line

text-indent

- Used to indent first line of paragraph
- Specifying a negative number makes a hanging indent
 - Works sporadically in browsers
 - Negative indents are buggy in some browsers
- Can specify in absolute or relative units
- Example:
 - `p {text-indent: 2 em}`

text-decoration

- Attribute values:
 - none
 - underline (Example)
 - overline (Example)
 - line-through (Example)

text-transform

- Attribute values:
 - none
 - capitalize (first letter of each word is capitalized)
 - uppercase
 - Lowercase
- text-decoration and text-transform affect the style of characters
 - Thus, they are better thought of as font properties

Color

➤ Specified similar to colors in HTML

➤ Examples:

- `body {color: teal }`
- `body {color: #008080 }`
- `body {color: rgb(0, 128, 128) }`
- `body {color: rgb(0%, 50%, 50%) }`

Use one of 256
Standard
color names

Allows you
to specify
decimal (range
0-255)

↑ ↑ ↑
Red Green Blue

% of maximum
intensity, 50%
of 256 is 128

Q & A



References

- Some useful links with examples and other resources:
 - *Internet and World Wide Web How to Program*, 4/e, H. M. Deitel, P. J. Deitel, and A. B. Goldberg, Pearson Education Inc., 2008. Chapter 5.
 - *Web Development and Design Foundations with XHTML*, 4/e, Pearson Education Inc. 2009. Chapter #####.
 - W3C
 - Cascading Style Sheets: <http://www.w3.org/Style/CSS/>
 - CSS2 Specification: <http://www.w3.org/TR/CSS2/>
 - W3 Schools CSS Tutorial:
<http://www.w3schools.com/css/default.asp>
 - CSS Editors
 - Best CSS stand alone editor is Topstyle Pro – <http://www.bradsoft.com>
 - CSS Validators
 - <http://jigsaw.w3.org/css-validator/>
 - Index DOT CSS (The Advanced CSS Reference)
 - <http://www.blooberry.com/indexdot/css/index.html>