600152 people data and the web

lecture 7b xhtml + css
cascading style sheets

CSS

separates style from content
styles are 'cascaded' or passed down

Defining a Style

selector {
    style-attribute1 : value1;
    style-attribute2 : value2;
    style-attribute3 : value3;
}

colons : must separate attribute from value
semicolon ; must be at end of value
except last, though a good idea to include it

Example

h1 {
    text-align: center
}

cascading style sheets

selector {
  style-attribute : value;
}

selector: id and classes

id
identifies a unique tag in a document
defined in CSS with # (hash)
   #c100 {styles}

class
identifies several tags belonging to the same group or class
defined in CSS with . (dot)
   .city {styles} OR
   p.city {styles}

if element name is not included, style is applied to all elements
that use that class
selector {
    property: value;
}

general

Universal selector: all elements
* {color: black}

Tag Selector: HTML elements e.g. <h1>
  h1 {color: black}

Class Selector: elements with the specified class
  e.g. <h1 class="aClass">
    .aClass {color: black}
    h1.aClass {color: black}

specific

Id Selector: Single/Unique element identified by an id
  e.g. <div id="pageTitle">
    #pageTitle {color: black}
pseudo class

Syntax

selector:pseudo-class {property: value}

Anchor pseudo class

a:link {color: #ff0000} /* unvisited link */
a:visited {color: #00ff00} /* visited link */
a:hover {color: #ff00ff} /* mouse over link */
a:active {color: #0000ff} /* selected link */

Class and Pseudo-class

a.red:visited {color: #ff0000}

<a class="red" href="css_syntax.asp">CSS Syntax</a>
coloring your page

Expressing Color

standard CSS colors
  red, blue, black, purple ...
rgb decimal
  rgb (255, 0, 0) is ‘red’
  rgb (0, 128, 128) is ‘teal’
rgb hexadecimal
  #ff0000 is ‘red’
  #008080 is ‘teal’
  #ffffff is ‘ivory’

Color properties

color
background-color

Color Names:
http://www.w3schools.com/html/html_colors.asp
http://html-color-codes.info/
background images

background-image: url(URL)
  default horizontal and vertical repeat
  background-image: bg.jpg

background-repeat
  background-repeat: no-repeat

background-position
  background-position: top left

... or commonly
  background: bg.jpg no-repeat bottom center
formatting text - 1

font-family:

  GENERIC - serif, sans-serif, monospace, cursive, fantasy
  Generic fonts allows the OS to chose the best match, but you cannot be sure exactly how it will be rendered

  SPECIFIC - Arial, Helvetica, Times, Garamond, ...
  Specific fonts provide a more accurate idea of the display, but the OS may not have the font

It is common to specify more than one font, from specific to generic

Web-safe Fonts:
http://www.ampsoft.net/webdesign-l/WindowsMacFonts.html
http://dustinbrewer.com/fonts-on-the-web-and-a-list-of-web-safe-fonts/
http://www.typetester.org/
formatting text - 2

font-size:
  unit of length (mm, cm, in, pt, pc, px)
  keyword (small, x-large, larger, smaller ...)
  relative (%em, ex)

font-style:
  normal, italic, oblique

font-weight:
  normal, bold

text-align
  left, center, right, justify

font-variant
  small-caps
three ways of adding styles to xhtml

(1) inline style
   <h1 style="text-align: center">Page Title</h1>

(2) embedded style
   <head>
      <style>
         h1 {text-align: center}
      </style>
   </head>
   <body>
      <h1>Page Title</h1>
   </body>
three ways of adding styles to xhtml

(3) External Style Sheet (with `<link>`)

```html
<html>
  <head>
    <link type="text/css" href="my_styles.css" rel="stylesheet">
  </head>
  <body>
    <h1>Page Title</h1>
  </body>
</html>

h1 {text-align: center}
```

my_styles.css
three ways of adding styles to xhtml

(3) External Style Sheet (with @import)

```html
<html>
<head>
  <style>
    @import url(mystyles.css)
  </style>
</head>
<body>
  <h1>Page Title</h1>
</body>
</html>

h1 {text-align: center}

my_styles.css
borders, margins and padding

All have variants with
‘top’, ‘bottom’, ‘right’, ‘left’
e.g. `{padding-left:10pt} {margin-bottom:5px}`
borders

{border-width: 5pt}
{border-color: blue}
{border-style: dotted}

{border: 5pt dotted blue}
positioning

**position**

absolute (placed at an absolute location within containing block)
relative (offset from default location)

**float**

floating, placed at the left or right side of the containing block
float (allow text to wrap around element)

**clear**

clear (do not allow text to wrap around element)
{clear:right} means no floating elements are allowed on the right hand side
size (width & height)

Absolute

px (default)

pixel (default) – smallest display element

in, cm, mm, pc, pt

1 inch = 2.54 cm = 25.4 mm = 6 picas = 72 points

Relative

% 

as a percentage of parent

em

the width M in the browser’s default font

ex

the height of x in the browser’s default font
advanced selectors

descendant selector (space in between selectors):
  div#bigContainer .aClass {property: value}

child selector (>):
  div.mainText > .aClass {property: value}

adjacent sibling (+):
  p + div#bigContainer {property: value}

first child pseudo class:
  p:first-child {property: value}
**media**

specify different style sheet for different media

```css
/* specify CSS for audio */
@import url("voice.css") aural;

/* larger font for print */
@media print {
    body { font-size: 12pt }
}

/* smaller font for screen */
@media screen {
    body { font-size: 10pt }
}
```

```html
/* in HTML file */
...
<link rel="stylesheet" type="text/css" media="print, handheld" href="foo.css">
...
```

http://www.w3.org/TR/CSS2/media.html
cascading order

media type
browser's style sheet > user style sheet
from general to specific, id selector wins over class selector
the order css styles appear, if they are at the same level
css inheritance

An xhtml element that lies within another xhtml element inherits *some of* the styles of its parent

Example:

```
<body>
<p>This is <strong>very</strong> important</p>
</body>
```

Some styles allocated to `<body>` are inherited by `<p>` and `<strong>`

Applicable to styles like color and font.
validation

paste CSS in http://jigsaw.w3.org/css-validator/

note CSS and XHTML validation at bottom of http://www.csszengarden.com/
Zen Garden

The Beauty of CSS Design

A demonstration of what can be accomplished visually through CSS-based design. Select any style sheet from the list to load it into this page.

The Road to Enlightenment

Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, and broken CSS support.

Today, we must clear the mind of past practices. Web enlightenment has been achieved thanks to the tireless efforts of folk like the W3C, WaSP and the major browser creators.

The css Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with clarity. Learn to use the (yet to be) time-honored techniques in new and invigorating fashion. Become one with the web.

So What is This About?

There is clearly a need for CSS to be taken seriously by graphic artists. The Zen Garden aims to excite, inspire, and encourage participation. To begin, view some of the existing designs in the list. Clicking on any one will load the style sheet into this very page. The code remains the same, the only thing that has changed is the external .css file. Yes, really.

CSS disentangles layout from content, the end of a broken document. There's nothing worse...
resources

Standards
  W3C (http://www.w3.org/Style/CSS/)
    add style to XML (http://www.w3.org/Style/styling-XML)
    tips & tricks (http://www.w3.org/Style/Examples/007/)

Tutorial
  W3 Schools (http://www.w3schools.com)
    online tutorial (http://www.w3schools.com/css/default.asp)
    demo (http://www.w3schools.com/css/demo_default.htm)
    quiz (http://www.w3schools.com/css/css_quiz.asp)

Examples
  CSS Zen Garden (http://www.csszengarden.com/)
  Eric Meyer (http://www.meyerweb.com/eric/css/edge/)

CSS Reference
  SitePoint CSS Reference (http://reference.sitepoint.com/css/)