CHAPTER 3: CSS

Note

All examples for this chapter are at

https://swe.umbc.edu/~zzaidi1/is448/chap3-examples/

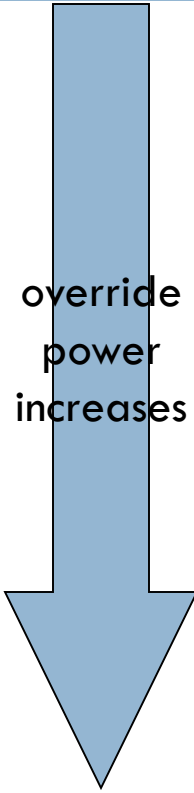# CSS and XHTML

- Recall, XHTML mainly concerned with content
- But some XHTML tags, such as the <code> tag specify presentation details
- Cascading Style Sheets (CSS)
  - exclusively to specify presentation style
  - allows more precise and consistent definition of presentation specifications

Cascading Style Sheets

- Why cascading?
  - browser's default styles
  - **external** style sheet files (in a <**link**> tag)
  - **document** style sheets (inside a <**style**> tag in the page's header)
  - **inline** style (the **style** attribute of the HTML element)

override power increases

External Style Sheets

- Can apply to multiple documents

- These styles are stored separately, not part of the XHTML document

- The <link> tag is used: must appear in <head> element of page

  `<link rel="stylesheet" type="text/css" href="filename"/>`

- Example from UMBC website

`<link href="stylesheets/homepage_style.css" rel="stylesheet" type="text/css" />`

External Style Sheets

☐ Can also use the @import directive

```
<style>
    @import url('css/styles.css');
</style>
```

☐ Differences between <link> and @import
  ☐ imported file can contain markup as well as style rules

☐ Example: See mypage_external.html and external_style.css

Document Style Sheets

☐ Appear as content of a style element within header of a document

> **<style type** = "text/css">
>   *rule list*
> **</style**>

☐ <style> tag

 □ **type** attribute is always "text/css"

 □ each rule has two parts

  ■ **selector:** indicates tag affected by rule

  ■ list of **property/value pairs**

> **selector** {
> **property_1:value_1;**
> **property_2:value_2;**
> ……………………;
> **property_n:value_n;**
> }

Example:

> **p** {
> **font_family:sans_serif;**
> **color:blue;**
> }

Document style sheets

- Example: See mypage_document.html

Simple Selector

- Selector is a single XHTML element name
  - e.g., h1
  - or, h2
  - or, body
- Examples

```
h1{
    font-size: 24pt;
}
```

```
h2, h3{
        font-size: 20pt;
}
```

- See mypage_document.html

Class Selectors

□ Allow different occurrences of same tag to use different style specs

```
<html><head>
<style>
  p.normal{
    font-size: 12pt;
  }
  p.warning{
    font-size: 16pt;
  }
</style>
</head>
<body>
<p class = "normal">
  Normal Text</p>
<p class="warning">
  Some urgent message</p>
</body></html>
```

Browser view:
See mypage_class_selectors.html

ID Selectors

- Selectively applies CSS rule only to paragraphs that have the id 'missionstatement'

```
#missionstatement {
        font-style: italic;
        font-family: "Garamond", "Century Gothic", serif;
}
```
CSS

HTML
```
<p> Coca Cola </p>
<p id="missionstatement">
The Coca-Cola Company exists to benefit and refresh
everyone it touches.</p>
```

- Example: See mypage_id_selectors.html
- Differs from class selector in that an id can only be used once in the HTML document
  - Page won't pass HTML validation otherwise

Generic Selectors

- Create a class of style specs that applies to content of more than one tag

- Example:

   See mypage_generic_selectors.html

```
<html><head>
<style>
.sale{
    font-size:16pt;
}
</style>
</head>
<body>
<h3 class = "sale">
   Normal Text
</h3>
<p class="sale">
   Some urgent message
</p>
</body></html>
```

Universal Selectors

- Denoted by an asterisk (*)

- Applies style to all elements in the document

- Example: See mypage_universal_selectors.html

CSS

```
* {
  color: red
}
```

Comments in CSS

- Enclosed in /* and */
  - cannot use // type comments in CSS
- Can span multiple lines
- Use comments just like you would when writing programs in other programming languages

Property/Value

- CSS categories of properties
  - Colors
  - Fonts
  - Lists
  - Alignment of Text
  - Backgrounds
  - Borders
  - Margins

- Values
  - keyword values
    - small, large, medium
  - length values
    - point, pixel, centimeters, millimeters, inches, em, ex
  - percentage values
    - relative to previously used values (75%)
  - url values
    - e.g., url(tetons.jpg)
  - color values
    - hex values or color names

Pop Quiz: Terminology in CSS

- Simple Selector or Property?

  h1

- Class selector or ID selector?

  #sidebar

- Generic selector or class selector?

  p.normal

- Property or Value?

  background-color

- Property or Value?

  white

CSS Properties for Color

□ color property: specifies foreground color of XHTML element

□ background-color property: specifies background color of XHTML element

CSS code:

```
p {
    color:white;
    background-color:red;
  }

.....

<p> This text is in a different background </p>
```

Browser view:

This text is in a different background

See mypage_color_property.html

CSS Properties for Color

- Color **names** identified by all browsers

Name	Hexadecimal Code	Name	Hexadecimal Code
black	000000	green	008000
silver	C0C0C0	lime	00FF00
gray	808080	olive	808000
white	FFFFFF	yellow	FFFF00
maroon	800000	navy	000080
red	FF0000	blue	0000FF
purple	800080	teal	008080
fuchsia	FF00FF	aqua	00FFFF

Specifying Color Names

☐ Example: CSS code

```
h3 { color: #FF8800;  /*orange */ }
```

Example: See mypage_color_property.html

Summary: Color Properties

- color
- background-color

CSS Properties for Fonts
Font property: font-family

☐ font-family: used to specify a list of font names

p   { font-family: Arial, Helvetica, Futura, serif; }   CSS Code

This is a paragraph text   Browser view

☐ Good practice: use a generic font as last font in list

  ☐ serif, sans-serif, cursive, fantasy, monospace

☐ Example: see mypage_font_property.html

Font Property: font-size

- Specify size using numbers
  - Units: pixels (px), points (pt), m-size (em)
  - 10px, 10pt, 10em (note: no space between number and unit)
- Or use: xx-small, x-small, small, medium, large, x-large, xx-large
- Or can also use relative sizes: smaller, larger
- Example: see mypage_font_property.html

```
p   { font-family: Arial, Helvetica, Futura;
         font-size: 10px; }
```

Font property: font-style and font-weight

- font-style
  - Example: see mypage_font_property.html

  ```
  p   { font-family: Arial, Helvetica, Futura;
          font-size: 15px;
          font-style: italic; }
  ```

- font-weight
  - Example: see mypage_font_property.html

  ```
  p   { font-family: Arial, Helvetica, Futura;
          font-size: 15px;
          font-style: italic;
          font-weight: bold;}
  ```

Summary: Font Properties

- font-family
- font-size
- font-variant
- font-style
- font-weight

List properties

```
li{
    list-style-type: disc;
}
```

- ☐ Change shape of the bullets by
  - ☐ list-style-type property
    - ■ disc, circle, square or none (unordered list)
    - ■ decimal, upper-alpha, lower-alpha, upper-roman, lower-roman (ordered list)
    - ■ Example: see mypage_list_property.html
  - ☐ list-style-image property
    - ■ can use an image

```
li{
        list-style-image: url(small_airplane.gif);
}
```

CSS Properties for Text: text-decoration Property

- text-decoration: Specifies special features of text
- Available values are
  - line-through
  - overline
  - underline
  - None
- Example: See mypage_text_decoration.html

Style for the *body* element

- Apply a style to the <body> element to apply style to entire body of page

- Advantage: do not have to specify individually for each element within the body of the XHTML page

- Example: See mypage_7.html

```
body{
    font-family: 'Times New Roman';
    font-size: 15px;
    font-weight: bold;
}
```

Lab

- Open the page you created in the last lab of Chapter 2. Save as css_lab.html
- Use an external style sheet (name this file as css_lab.css) and simple selectors for this lab
- Set background color of entire page to yellow
- Main heading should use "Comic Sans MS" font
- Link text should be red and bold-faced
- Lists should appear in "Lucida Console" font
- List bullets should be set to square shape
- Create a new folder for chapter3 labs on the local machine and on GL and save this page in the chapter3 folder
- Validate your CSS page (see next slide)

W3C CSS Validation

- Make sure your page validates by checking at this link: http://jigsaw.w3.org/css-validator/