COMP 4021
Internet Computing

Introduction to Cascade Style Sheets (CSS)

Why Cascade Style Sheets (CSS)?

- CSS separates visual parameters (colour, spacing, etc.) from actual content (words)
- http://www.w3.org/Style/
- You have already seen how style can be used for individual elements:

```
<p style="color:red; background-color:yellow; font-size:46pt;
   font-style:italic">A pretty paragraph.</p>
```

- But what if you want the same visual information to be used for *all* paragraphs in the web page?

CSS Terminology

- A style rule:

$$\overbrace{\text{h1}}^{\textit{Selector}}\ \{\ \underbrace{\overbrace{\text{color:}}^{\textit{Property}}\ \ \overbrace{\text{red}}^{\textit{Value}}}_{\textit{Declaration}}\ \}$$

- You can define a rule for:

	Selector Syntax	Examples
Element Type	Element_name	h1, div, p
Class	.class_name	.highlight
Element ID	#ID	#myDiv

CSS with Element Selector

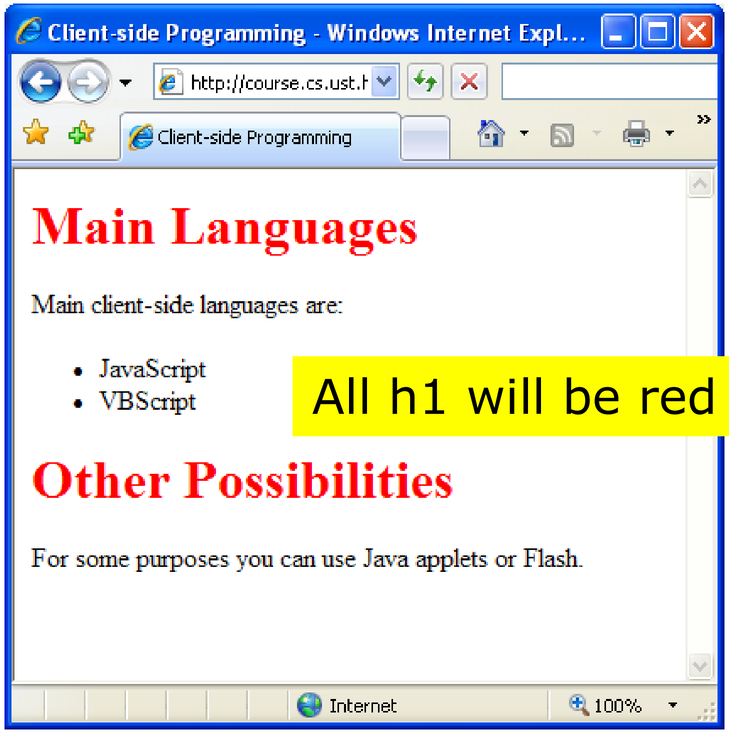
- Declare "style" once and apply it to all paragraphs
- You can put a style section at the top of the page

```
<style>
h1 { color: red }
</style>
… …
<body>
<h1>Main Languages</h1>
<p>Main client-side languages are:</p>
<ul>
<li>JavaScript</li>
<li>VBScript</li>
</ul>
<h1>Other Possibilities</h1>
<p>Java applets or Flash</p>
</body>
```

Rule:

h1 { color: red }

selector↑ ↑ style



Main Languages

Main client-side languages are:

- JavaScript
- VBScript

Other Possibilities

For some purposes you can use Java applets or Flash.

All h1 will be red

Style Using a Relative Link

- An alternative is to separate style and data into two files:

File: my_style.css

```
h1 { color: red }
```

File: css_simple.html

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

<body>
<h1>Main Languages</h1>
<p>Main client-side languages are:</p>
<ul>
<li>JavaScript</li>
<li>VBScript</li>
</ul>
<h1>Other Possibilities</h1>
<p> Java applets or Flash.</p>
</body>
```

- The visual result is the same as before

ID Selector

- Define a rule for a particular element using element **ID**, e.g.,

```
#big_title { font-size: 48pt;
             font-family: Arial; color: red }

<h1 id="big_title">My Report</h1>

<h2 id="small_title">Conclusion</h2>
```

Class Selector

- Create a rule for a **class** of heterogeneous elements (having different element names):

  .zappy { font-weight: bold; font-family: Impact; color: blue }

  The rule will be applied to both of the followings:
  <p class="zappy">Hi! This is my zappy style!</p>

  <div class="zappy">My name is Zebedee!</p>
- Class can be restricted to a particular set of elements:

  p.zappy { … declaration …}

  div.zappy { … declaration … }
  - p.zappy is applied to <p class="zappy"> …
  - div.zappy is applied to <div class="zappy">…

Nice Way to Style a Div

- Typically you would first define the style information for a div (such as the position and colours):

```
<style type="text/css">

      .layer_style1 {
            position:absolute; top:20px; left:5px;
            color:#CC00EE; width:200px;
      }

  </style>
```

A style class is created. Note the dot before the class name

Declaring the Div

- The div is defined using the style rule:

Style class created in the last slide is used

```
<div id="layer_name1" class="layer_style1“ >
     <h1>Layer 1</h1>
     <p>Content for layer 1 goes here.</p>
</div>
```

Anchors (Pseudo Class)

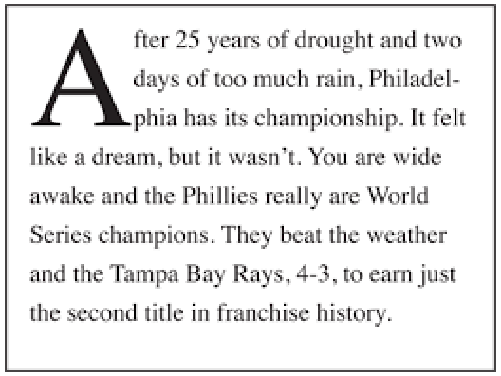
- Style anchor text to distinguish it from normal text
- However, properties like whether a link has been visited or not is available only to the browser, no the author/designer
- Pseudo classes are classes not defined by human by provided by browser

```
A:link          { text-decocoration: underline }
A:visited       { text-decocoration: none}
A:hover         { background: black}
```

$\underbrace{\text{link visited hover}}_{\text{Pseudo-class names}}$

Pseudo Elements

- Pseudo Elements refer to parts of an element’s content, e.g.,
  - FIRST-LETTER and FIRST-LINE
- To achieve the “drop letter” effect:
  <span class=“drop-letter”>A</span>fter …
  and define the style for <drop-letter>
- Using CSS built-in pseudo element:



After 25 years of drought and two days of too much rain, Philadelphia has its championship. It felt like a dream, but it wasn’t. You are wide awake and the Phillies really are World Series champions. They beat the weather and the Tampa Bay Rays, 4-3, to earn just the second title in franchise history.

Class name (defined by a rule not shown here)

P.INITIAL:FIRST-LETTER { font-size: 200%; float:left}

Pseudo-class names

Display at the left of the parent element (i.e., P)

Take Home Message

- CSS separates content and style, making webpages easier to read and maintain
  - Powerful "selector" make selecting DOM elements easy
- CSS is much more powerful than covered here
  - In jQuery, we will learn more CSS selectors