



IE 4727 Web Application Design

Cascading Style Sheets (CSS)

Lecturer: Dr. Hu Xiao

Email: xiao.hu@ntu.edu.sg

Tel: 67904543





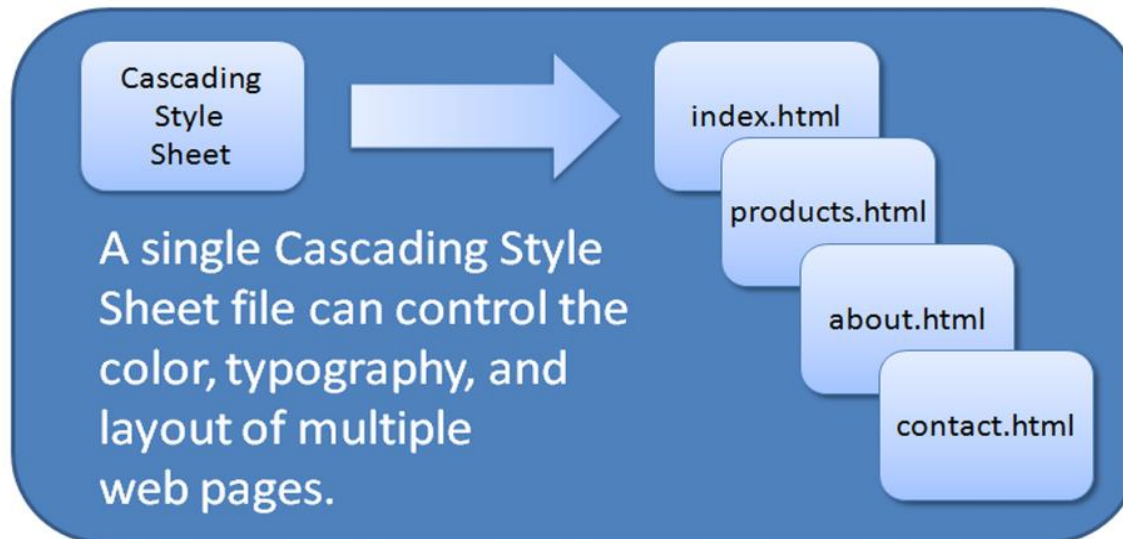
CSS3-Part 1

- 1 **What is CSS and why ?**
- 2 Objective
- 3 CSS3 Styles
- 4 CSS3 Selectors
- 5 Summary

What is CSS ?



- Style Sheets
 - apply typographical **styles and spacing** to printed media
- CSS
 - provides the functionality of style sheets (*and much more*) for web developers
 - a **flexible, cross-platform**, standards-based language.



Why CSS ?



- Greater typography and page layout control
- Styles can be stored in a separate document and linked to from the web page
- Potentially smaller documents
- Easier site maintenance

- Types of Cascading Style Sheets
 - Inline Styles
 - Embedded Styles
 - External Styles
 - Imported Styles

Objectives



- To add CSS styles to an HTML 5 document.
- To set font size and color using CSS3 selectors.

Types of CSS



➤ Inline Styles

- Configured in the **body** of the web page
- Use the **style** attribute of an HTML tag
- Apply only to the **specific element**

```
<h1 style>  
<p style= "" >...</p>
```

➤ Embedded Styles

- Configured in the **head** section of a web page.
- Use the HTML **<style>** element
- Apply to the **entire web page** document

```
<head>  
<style>...</style>  
</head>
```

➤ External Styles

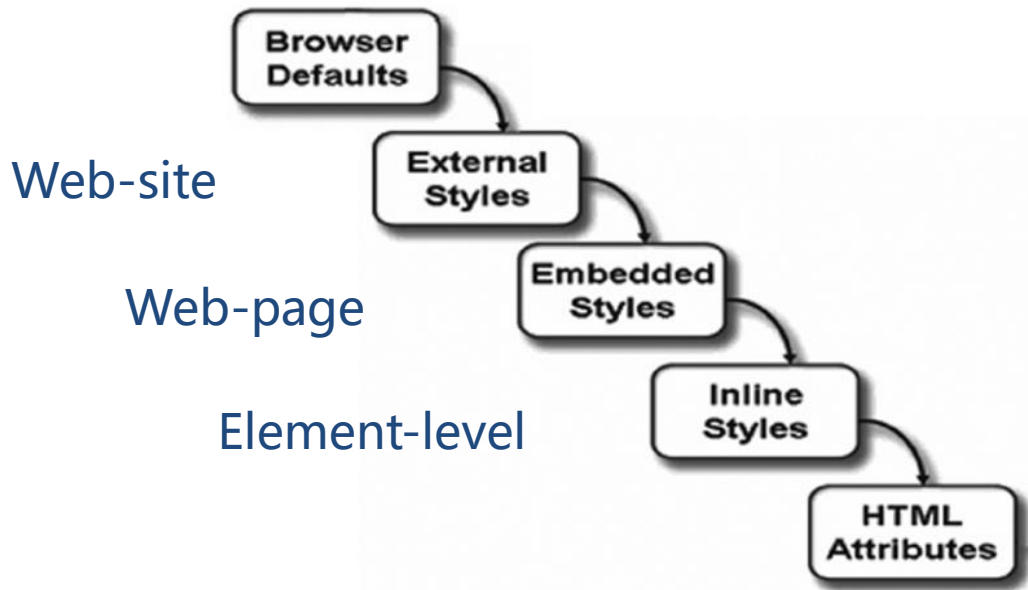
- Configured in a **separate text file** with **.css** file extension
- The HTML **<link>** element in the **head** section of a web page associates it with the .css file
- Similar to External Styles (using **@import url(...)**, not covered in this course)

```
<head>  
<link...>  
</head>
```

The “Cascade”



- Styles applied from external to HTML Attributes
 - Site-wide style can be external styles.
 - Page specific styles can be embedded or inline styles.



CSS Syntax



- Selector can be an HTML name (**tag** name), a **class** name, or an **id** name.
- To configure a web page to display blue text and yellow background.

```
body { color: blue;  
background-color: yellow; }
```

OR

```
body { color: #0000FF;  
background-color: #FFFF00; }
```

- ✓ List of color names and numerical values at
- ✓ <http://webdevbasics.net/color>

CSS Syntax: Color Values



- Syntax to configure a paragraph with **red text**:

CSS Syntax	Color Type
p { color: red }	Color name
p { color: #FF0000 }	Hexadecimal color value
p { color: #F00 }	Shorthand hexadecimal (one character for each hexadecimal pair – only used with web safe colors)
p { color: rgb(255,0,0) }	Decimal color value (RGB triplet)
p { color: rgba(255,0,0,0.5) } }	CSS3: Decimal color value (RGB triplet) followed by the alpha opacity (a value from 0 to 1). <i>The CSS3 Color Module is in draft status and is not yet uniformly supported by all browsers.</i>

- Demo of color picker: http://www.w3schools.com/colors/colors_picker.asp

CSS Syntax: Style Element



- Style Element `<style></style>`

```
<style type = "text/css">  
h1{  
  font-size: 12px;  
  color: #cc0000;  
}  
</style>
```

Exercise CSS01: Inline Styles



- Create an html file, named “**CSS01inline.html**” and type the following codes. Then view the result in a browser.
- Then, duplicate the heading and the paragraph with your own choice of colors.

```
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4  <title>Inline CSS Example</title>
5  <meta charset="utf-8">
6  </head>
7  <body style="background-color: #F5F5F5;color: #008080;">
8  <h1 style="background-color: #008080;color: #F5F5F5;">Inline CSS</h1>
9  <p>This paragraph inherits the styles applied to the body tag.</p>
10 </body>
11 </html>
```

Configure Embedded CSS with the Style Element



- Configured in the `<head>` section of a web page.
- Use the HTML `<style>` element
- Apply to the **entire web page** document
- Style declarations are contained between the opening and closing `<style>` tags

Example:

```
<head>
```

```
  <style>
```

```
    body { background-color: #000000;  
           color: #FFFFFFF;
```

```
    } </style>
```

```
</head>
```

CSS Embedded Styles



<head>

- ❑ The **body** selector sets the global style rules for the **entire page**.
- ❑ These global rules are overridden for <h1> and <h2> elements by the **h1** and **h2** style rules.

```
<style>
body { background-color: #E6E6FA;
      color: #191970;}
h1 { background-color: #191970;
     color: #E6E6FA;}
h2 { background-color: #AEAED4;
     color: #191970;}
</style>
```

</head>

Exercise CSS02: Embedded Styles



- Copy the 3 html files in the **Week 01->TMD** folder to a new folder **CSS3->CSS02**.
- Add embedded CSS codes to the **index.html** between the `<style>` tag.
- View the index.html file to see the effect. **mycolor.css**
- Click on other link to see the scope of the effect.

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4 <title>Trillium Media Design</title>
5 <meta charset="utf-8">
6 <style type="text/css">
7   body { background-color: #E6E6FA;
8         color: #191970;}
9   h1 { background-color: #191970;
10        color: #E6E6FA;}
11   h2 { background-color: #AEAED4;
12        color: #191970;}
13 </style>
14 </head>
```

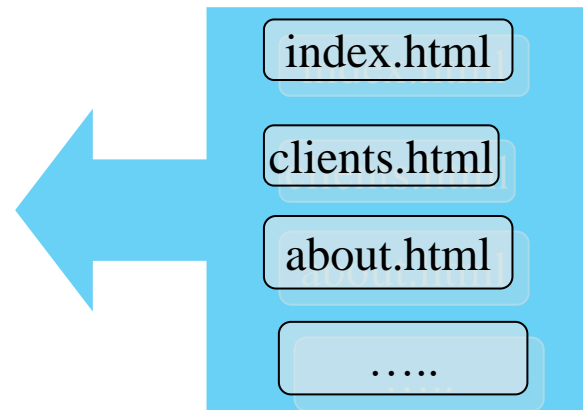

External Style Sheets



- CSS style rules are contained in a **text file** separate from the HTML documents.
- The External Style Sheet text file:
 - extension **".css"**
 - contains only **style rules**
 - does not contain any HTML tags
- Multiple web pages can associate with the same external style sheet file.

site.css

```
body {background-color: #E6E6FA;
      color: #000000;
}
h2 { color: #003366; }
```



Exercise CSS03: External CSS—The Link Element



- Type the code below and save it to “**CSS03ext.html**”.
- Type the external CSS style shown in the previous slide and save it as “**color.css**”

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4 <title>External Styles</title>
5 <meta charset="utf-8">
6 <link rel="stylesheet" href="color.css">
7 </head>
8 <body>
9 <p>This web page uses an external style sheet.</p>
10 </body>
11 </html>
```

color.css

```
body { background-color: #0000FF;
        color: #FFFFFF; }
```

Exercise CSS04: External CSS



- Based on exercise CSS02, copy all the 3 html files to a new folder **CSS04**, modify the codes in all 3 files to add an external CSS style sheet named **“mycolor.css”**.
- Copy the embedded CSS style in exercise CSS02 (the codes between the `<style> ... </style>` tags) to a separate file named **“mycolor.css”**.
- View the result in browser. Navigate to all 3 pages in the browser and observe the effect.

CSS3 Selectors



- Selectors: A CSS selector is a pattern used to select and style elements in an HTML document.
- Types of Selectors: Basic Selectors; Advanced Selectors.
- **Basic Selectors:**
 - Tag selector
 - Class selector
 - ID selector
- **Advanced Selector:**
 - Descendant Selector

CSS3 Basic Selector: Tag Selector



➤ Syntax

```
h1{ font-size: 12px; color: #F00;}
```

Tag selector

Attributes

Values

CSS3 Basic Selector: Class Selector



➤ class Selector

- Apply a CSS rule to ONE OR MORE elements on a web page
- Does not associate the style to a particular HTML element

➤ Configure with **.classname**

➤ The sample creates a class called “redtext” with red italic text.

➤ To use the class, code the following :

```
<p class="redtext">This is text is red and in italics</p>
```

```
<style>  
.redtext { color: #FF0000;  
           font-style: italic;  
           }  
</style>
```


CSS3 Basic Selector: ID Selector



- **id** Selector
 - Apply a CSS rule to **ONLY ONE** element on a web page.
- Configure with **#idname**

```
<style>  
#left_panel { color: #FF0000;  
                font-size:2em;  
                font-style: italic;  
            }  
</style>
```

- The sample creates an id called “left_panel” with red, large, italic text.
- To use the id, code the following :
`<p id=“left_panel”>This is text is red, large, and in italics</p>`

CSS3 Advanced Selector: Descendant Selector



- **Descendant** Selector
 - Apply a CSS rule within the context of the container (parent) element.
 - Sometimes called a **contextual** selector.
- Configure by listing the container selector followed by the selector you are styling.

e.g.

The sample below specifies a green text color for only the **paragraph** elements located *within the footer* element.

```
<style>  
  footer p {color: #00ff00; }  
</style>
```

Class Selector Example with <div>



- <div> is a block-display element.

- Embedded CSS:

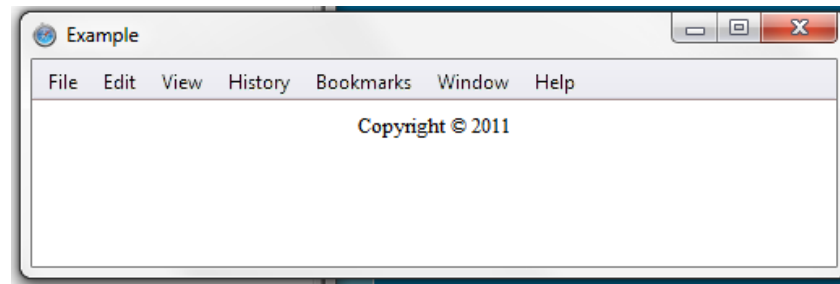
```
<style>
```

```
.myfooter { font-size: small;  
            text-align: center; }
```

```
</style>
```

- HTML

```
<div class="myfooter">Copyright &copy; 2011</div>
```



Class Selector Example with

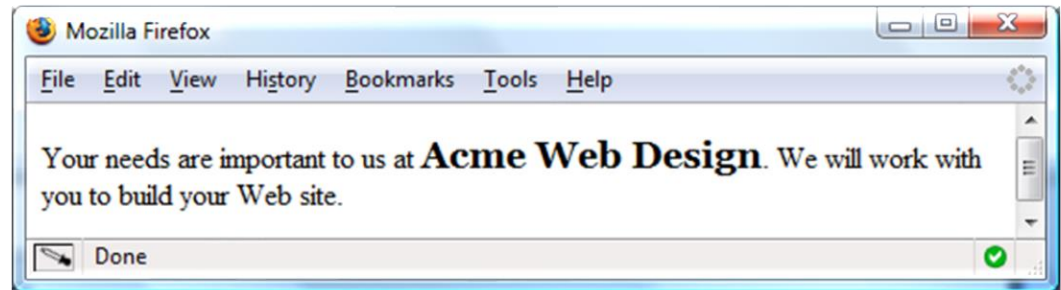


- An **inline-level** element
- Purpose: Configure a specially formatted area displayed in-line with other elements, such as within a paragraph.
- There is no line break before and after the .
- Embedded CSS:

```
<style> .companyname { font-weight: bold;  
font-family: Georgia, "Times New Roman", serif;  
font-size: 1.25em; }  
</style>
```

- HTML:

```
<p>Your needs are important to us at <span class="companyname">Acme Web  
Design</span>. We will work with you to build your website.</p>
```



Exercise CSS05



- Type the codes as shown on the right and in the following slide (modified from CSS02's index.html).
- Save it to “**CSS05.html**”
- View the page in the browser
- Modify the CSS properties and observe how the page is affected.

```
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4  <title>Trillium Media Design</title>
5  <meta charset="utf-8">
6  <style>
7  body { background-color: #FFFFFF;
8  color: #191970; }
9  h1 { background-color: #191970;
10     color: #E6E6FA;
11     margin-bottom: 0;}
12  h2 { color: #6A6AA7; }
13  nav { background-color: #E2E2EF; }
14  .companyname { color: #6A6AA7; }
15  footer { color: #666666; }
16 </style>
17 </head>
```

Exercise CSS05 (cont.)



```
18 <body>
19 <header>
20   <h1>Trillium Media Design</h1>
21 </header>
22 <nav><a href="index.html">Home</a> &nbsp;
23   <a href="services.html">Services</a> &nbsp;
24   <a href="contact.html">Contact</a>
25 </nav>
26 <div>
27   <h2>New Media and Web Design</h2>
28   <p><span class="companyname">Trillium Media Design</span> will bring your company's Web presence to the next level.<br>
29   We offer a comprehensive range of services:</p>
30   <ul>
31     <li>Website Design</li>
32     <li>Interactive Animation</li>
33     <li>E-Commerce Solutions</li>
34     <li>Usability Studies</li>
35     <li>Search Engine Optimization</li>
36   </ul>
37   <h2>Meeting Your Business Needs</h2>
38   <p>Our expert designers are creative and eager to work with you.</p>
39 </div>
40 <footer>
41   Copyright &copy; 2014 Your Name Here
42 </footer>
43 </body>
44 </html>
```


Summary



CSS3 Basics Part 1

- Definition of CSS
 - Developments
 - Advantages
- CSS Syntax, using `<style></style>` tag
- CSS Styles
 - Inline styles
 - Embedded styles
 - External style sheets
 - `<link>...</link>`
 - `@import`
- CSS Selectors:
 - Basic Selectors
 - Tag selector
 - Class selector
 - ID selector
 - Advanced Selectors: Descendant Selector



Thanks



Lecturer: Dr. Hu Xiao

Email: xiao.hu@ntu.edu.sg