

The Web, HTML, & CSS

Overview of the WWW

- Internet
 - Global interconnected network of computer networks
- WWW
 - Tim Berners-Lee at CERN created WWW as a way to hyperlink to documents to view them; used:
 - HTML (HyperText Markup Language)
 - HTTP (HyperText Transfer Protocol)
 - URLs (uniform resource locator)

Overview of the WWW (cont)

- URL
 - Specifies a Web page address
 - Basic form: *how://where/what*
 - *how* - protocol
 - *where* - domain name of the computer
 - *what* - local name of file including the path to it
(name can be omitted if it is index.html)

- Example:

<http://cs.unh.edu/~sna4/cs408/index.html>

protocol		folder		file name
	domain name of Web server	sub-folder		

HTML

- HyperText Markup Language
- Started in early 90s, version number increases as language evolves
- Simple, text-based mark-up language
- Describes meaning of the content
 - Paragraphs, headings, lists, etc.
- Works alongside CSS (Cascading Style Sheets)

HTML (cont.)

- CSS (cont.)
 - Defines how your content and Web page will look
 - Created in 1996 (after HTML)
- Web philosophy
 - Info on WWW should be accessible to all
 - Describe content with HTML
 - Add specific design details with CSS
 - Makes web content usable with old browsers, mobile devices, screen readers, etc.

Some Elements

- 1 `<p> ... </p>` paragraph
- ▯ `<article> ... </article>` a distinct piece of content
- ▯ `<h1> ... </h1>` heading level 1 (most important)
- 1 ...
- ▯ `<h6> ... </h6>` heading level 6 (least important)
- ▯ ` ... ` important text (usually the same as ``, bold text)
- ▯ ` ... ` stress emphasis (is usually the same as `<i>`, italicizing content)
- ▯ ` Example ` link to other site/page

HTML Tag - Paragraph

`<p> ... </p>`

- Use the paragraph tag to break text into paragraphs
- Enclose block of text with beginning and ending paragraph tags
- Examples:
 - `<p>This is the first paragraph.</p> <p>This is the start of paragraph two.</p> <p>This is the third paragraph.</p>`
 - `<p>This is the first paragraph.</p>`
 - `<p>This is the start of paragraph two.</p>
<p>This is the third paragraph.</p>`
- Note: In the examples, both will be rendered exactly the same by the Web browser but the source code for the second one is easier for us to write and read.

HTML Tag - Headings

`<h1>...</h1>` etc.

- Use heading tags to designate headings and sub-headings
- Most browsers support a hierarchy of six levels of HTML headings where `<h1>` is the largest and `<h6>` is the smallest
- Browsers will display the headings in bold with various sizes and spacing on **separate** lines
- Example 1:
`<h6>Copyright Sofia Lemons, 2016. All rights reserved.</h6>`
- Example 2:
 `<h1>Sofia's Homepage for CS408</h1>`
 `<h1>Spring 2016</h1>`

HTML Tag - Anchor

`<a> ... `

- Anchor tag is used to create hyperlinks
- Three basic parts of a hyperlink:
 - Beginning and ending tag pair `<a> ... `
 - href (*hypertext reference*) attribute that specifies the URL of the page to be loaded when the hyperlink is selected
 - Text or graphic that appears on-screen as the active link

Clickable Text Hyperlinks

Text is often used as the clickable item for the link

- `Example`

[Example](http://www.example.com/ex.html)

Mailto Hyperlinks

- Provides a convenient way for someone viewing your Web page to send you e-mail
- Example:
`Contact Sofia`

A mail dialog box is launched when link is selected; the To field is already filled in

Note: syntax for mailto: URL is different from the http:// URL - no double slashes

Mailto Hyperlinks - cont

Most browsers extend the mailto urls with **subject** and **cc**:

- Example 1:

```
<a href = "mailto:sofia.lemons@cs.unh.edu?Subject=Question">Contact  
Sofia</a>
```

- Example 2:

```
<a href = "mailto:sofia.lemons@unh.edu?cc=admin@site.com">Contact  
Sofia</a>
```

Intra-document Links

- Allow you to link to other places on the same page
- Any element with an id attribute can act as an anchor
- Put a # sign before the name of the id you want to jump to
- The label that follows the # sign is called the *fragment*

- Example:

```
<h1 id = "page_top">Welcome to My Homepage</h1>
```

(content goes here...)

```
<a href = "#page_top">Go to top of page</a>
```

- ¹ To link to a particular anchor on another page, add the # sign followed by the fragment to the end of the url

Tips for Creating Hyperlinks

- Try not to split hyperlinks over multiple lines
- Do not put two or more hyperlinks side by side
- Do not use long lines of text as hyperlinks
- Do not use underlining near hyperlinks
- Do not use phrases like “click here” as the text for a hyperlink. Instead, use the name of the site you are linking to or something that actually describes the content, such as “About Me”.

File Names

- File names and aliases are case sensitive
- Best practices:
 - No spaces in file names
 - Use lowercase to avoid confusion
 - Use - (dash) instead of spaces or _ (underscores)

Lists

Used for organizing data as well as navigational links

-
- Three types of lists:
-
- **Ordered** – use bullets that are numbers, letters, or Roman numerals
-
- **Unordered** – use bullets that are disc, circles, squares, a custom image, or none at all

Lists (con't)

Basic ordered list:

-

```
<ol>
```

```
<li>first thing</li>
```

```
<li>second thing</li>
```

```
<li>next thing</li>
```

```
</ol>
```


Lists (con't)

Basic unordered list:

-

```
<ul>
```

```
<li>Something</li>
```

```
<li>Another thing</li>
```

```
<li>Still one more thing</li>
```

```
</ul>
```

HTML Tag - Image

- Used to include in-line images
- src (*source*) attribute is used to specify the URL of the image to be displayed
 - Either *relative* or *absolute URL* can be used to point to image file
 - 3 most common image file types have .gif, .jpg, or .png extensions
- Other attributes are:
 - alt - an “alternative” text string that describes the image
 - height and width - the dimensions of the image in pixels
- Importance of using the alt, height, and width attributes
- Notice built-in end of tag!

HTML Tag - (cont)

Example 1:

```
<img src = "IMAGES/mypicture.jpg"  
      alt = "Picture of Me"  
      height = "160"  
      width = "120" /> uses a relative url
```

Example 2:

```
<img src =  
      "http://pubpages.unh.edu/~sna4/408/  
      GRAPHICS/Fall12/sofia.jpg"  
      alt = "Picture of Sofia"  
      height = "160"  
      width = "120" /> not recommended! Uses absolute url
```


HTML Tag - Line Break

`
`

- The `
` tag adds a line break but the browser does not add any vertical space
- Notice the built-in ending tag
- Example:
`<p>This is the title sentence
 for the first paragraph.</p>`