Today’s Topics

Basic HTML
  • The basis for web pages
  • “Almost” programming

Upcoming
  • Programming
  • Java

Reading
  Great Ideas Chapters 1, 2
HTML

- **WWW**: Lots of computers connected together in a collection of networks.

**HyperText Markup Language (HTML)** is a common formatting language for the web
- Non-proprietary format based.
- Can be created and processed by a wide range of tools.
  - simple plain text editors - you type it in from scratch.
  - sophisticated WYSIWYG authoring tools.
  - Described/developed by *HTML Working group*.

- Used by the World Wide Web (WWW) global information initiative since 1990
The HTML working group have a strong focus to:
- Describe existing features before developing new features
- Base specification on existing practice
- Express the relationship of HTML to URIs, MIME, SGML and HTTP
- Define conformance levels
- Define transition possibilities and compatibilities between versions and levels

General Goals
- Platform independent Text Specification
  (also called a Markup Language)
- Links to other network resources
• Tags are *non-printing* formatting markers
  • Identified by angle brackets (i.e. `<TAG>`) 
  • Example: `<TITLE>The Human Tornado</TITLE>`
  • Come in delimiting pair
• First tag says, “Begin mode”
• Second tag (containing “/”) says, “End mode”
• So `<TITLE>The Human Tornado</TITLE>` means
  1. Begin title mode
  2. The text “The Human Tornado” is in title mode
  3. End title
HTML

Document Tags

- `<HTML> </HTML>`
  - MUST be the first and last tags in a HTML document
- `<HEAD> </HEAD>`
  - Contain all of the document's header information. Such as...
- `<TITLE> </TITLE>`
  - Title of your document
  - Will appear at the top of the browser's title bar, and also in the history list, bookmark file (if you create a bookmark to a page.)
- `<BODY> </BODY>`
  - Contains all the stuff that gets displayed in the browser window

Comment Tags

- `<!-- This is a comment -->`
Basic Text Structures

- **Headings:**
  » `<Hn> Nth Heading </Hn>`

- **Paragraph:**
  » `<p> Text of the paragraph goes here. </p>`

- **Line Break:**
  » `<BR>`

- **Blockquote:**
  » `<blockquote> ...text... </blockquote>`
Delimiting with tags

- Using this construct, we can *nest* several different modes and have interesting behavior.

- Good tutorials on HTML
  - [http://www.w3.org/MarkUp/Guide/](http://www.w3.org/MarkUp/Guide/)
  - [http://archive.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimer.html](http://archive.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimer.html)

- In lab1, you will create a HTML webpage using a text editor
More HTML

- Some General HTML rules
  - For tags, case doesn’t matter, e.g., `<html>` = `<HTML>`
  - In the text, spaces don’t matter: *it* will decide!
    (we call that “free format”)
  - `<br>` starts a new line

- Headings
  - Use `<h n>` to specify heading where smaller *n*
    designates more important heading
  - For example `<h1>` - - - `<h1>` is largest, boldest heading
  - `<h4>` - - - `<h4>` designates a fairly minor heading
HTML

- Basic Web Page Structure

```html
<html>
<head>
<title> Ted’s Home Page </title>
</head>
<body bgcolor="White">
<center> <h1> Ted’s Page </h1> </center>
Welcome to Duke University! <br>
<i> more to come … </i>
</body>
</html>
```
HTML

- Want to link things together!
- Hypertext (from the Webopedia)
  - A special type of database system, invented by Ted Nelson in the 1960s, in which objects (text, pictures, music, programs, and so on) can be creatively linked to each other.
- An anchored link:
  ```html
  <a HREF="http://www.duke.edu">The Duke Web Page</a>
  ```
  - Produces link to URL specified in HREF and display info between <a> tags: The Duke Web Page
**HTML**

- *Ordered list* `<ol> … </ol>` using `<li>` for items
  1. - - -
  2. - - -
  3. - - -

- *Bulleted list* `<ul> … </ul>` using `<li>` for items
  • - - -
  • - - -
  • - - -

- Can *nest* arbitrarily deep - - lists within lists
HTML

• Other useful info
  • For italics or emphasis use
    \(<i>\) or \(<em>\)
  • For darker or bold use
    \(<strong>\) or \(<b>\)
  • For text space exactly as typed (not free format) use
    \(<pre>\)
Specifying Colors

- Can be specified in different ways
  - e.g., for standard colors can specify "white" or "red"
- Can specify arbitrary colors by specifying the amount of red, blue, and green involved. (RGB)
- Uses base 16 arithmetic: 0, 1, …, 9, a, b, c, d, e, f
  - Red: “ff0000”  Green: “00ff00”  Blue: “0000ff”
  - Black: “000000”  Gray: “7f7f7f”  White: “ffffff”
  - Yellow: “ffff00”  Orange: “ff7f00”  Purple: “c000e0”
- Can experiment!
• Tables

```html
<table border=1>
<tr>
    <td> Cell 1 </td>
    <td> Cell 2 </td>
</tr>
<tr>
    <td> Cell 3 </td>
    <td> Cell 4 </td>
</tr>
</table>

produces simple table
**HTML**

- **Images**
  
  `<img src="http://www.cs.duke.edu/~siddhesh/ScubaDiving.jpg"`

  displays image

- Absolute reference: begins with `http://www. ..`

- Relative reference: `<img src="ScubaDiving.jpg">`
In UNIX, your web page folder is found in a standard location:

- `~userID/public_html/`

and for OIT Duke files is accessed with a web browser at

- `//www.duke.edu/~userID`

Many people don’t code in raw HTML

- Save as Web Page in Microsoft Word
- Netscape Composer, Macromedia Dreamweaver, Bluefish

These all generate HTML for you (WYSIWYG)

View other people’s web page source (HTML) from most browsers -- learn from others
Monday’s topic

• Introduction to Java
  • Read GI Chapter 2 (to page 39)

• Lab starts Tuesday (05/24)
  • Prelab 1 online (due before lab!)