HTML Lecture

Tim Berners Lee and the WWW

- Internet was created by dozens of people.
- WWW was created by one person:
  - Tim Berners Lee
- Lee invented HTML, HTTP, created the first web browser, and the first web server.

Inventing HTML

- History of the Web is fascinating.
- Check out "Weaving the Web" by Tim Berners Lee http://www.w3.org/People/Berners-Lee/
- Early challenge of the web: so many different operating systems: UNIX, Macintosh, NeXT, Mainframes, Windows.
- Lee wanted to create a very simple language that would work on any of these platforms.

Introduction to "Hypertext"

- HTML: Hypertext Markup Language
- Hypertext:
  - links within Web documents
  - connect one document to another
  - seems rather mundane today, but this was actually once revolutionary.

Origins of HTML

- Lee based HTML on SGML (Standardized General Markup Language)
- "A philosophical rule was that HTML should convey the structure of a hypertext document, but not the details of its presentation."
- Since then, HTML has evolved into a presentation language.

What is HTML?

- HTML (Hypertext Markup Language)
- HTML standards are developed under the authority of the World Wide Web Consortium (W3C), headed by Tim Lee
  - http://www.w3c.org
- HTML is the set of "markup" symbols or codes inserted in a file intended for display on a World Wide Web browser.
- The markup tells the Web browser how to display a Web page's text, images, sound and video files for the user.
- The individual markup codes are referred to as elements (but many people also refer to them as tags).

What is "Hypertext" ?

- Hypertext:
  - links within Web documents
  - connect one document to another
  - seems rather mundane today, but this was actually once revolutionary.
  - therefore, to understand HTML, you have to first examine the history of Hypertext.

HTML

- HTML is easy to pick up.
- WebMaster in a Nutshell is a great reference guide.
- Goal is to teach you the very basics and you can pick up the rest on your own.
- Not focused on creating beautiful web pages.

HTML Documents

- HTML documents are text documents
  - Simple ASCII text files
  - Html file extensions: .html or .htm
- You can create html documents using:
  - WordPad or Notepad on the PC and Simple Text (MAC os 9) or TExtEdit (MAC OS X)
- You can also use HTML Editors

HTML Document Structure

- HTML Document contains
  - Text (content of the page)
  - HTML uses the following file extensions or suffix: .HTML or .HTM
  - Embedded tags:
    - provides instruction for the structure, and appearance of the content

HTML Document Structure

- HTML document divides into major parts:
  - HEAD: contains information about the document:
    - As Title of the page, and Meta tag which describes content used by Search engines
    - Some JavaScript and Style sheets are part of the head
  - BODY: Contains the actual content of the document
    - It's the part that will be displayed in the Browser

Sample HTML Document

```
<HTML>

<HEAD>
   <TITLE> My web page </TITLE>
</HEAD>

<BODY>
Content of the document
</BODY>

</HTML>
```

HTML Tags

- All HTML tags are made up of a tag name and sometimes is followed by an optional list of attributes which all appear between angle

  brackets **< >**

  - Nothing within brackets will be displayed by the browser
  - Attributes are proprieties that extend or refine the tags function

Basic Syntax

- Most (but not all!) HTML tags have a start tag and an end tag:
  - <H1>Hello, world!</H1>
- Basic Document Structure
  - header: information about the page, e.g. the title.
  - body: the actual content of the page.
    - document starts with
    - <HTML> and ends with </HTML>

HTML Tags

- ## Containers
  - Most HTML tags have beginning (opener) or (START) tag
  - They also have an **end tag**
    - <HEAD> </HEAD>
    - <BODY> </BODY>
  - For Some tags, the end tag is optional:
    - <p>

HTML Tags

- Standalone tags
  - Few HTML tags do not use an end tag and are used for standalone element on the page:
    - <img>   to display an image
    -
                     Line break

HTML Tags

- Attributes

  <body bgcolor="khaki" text="#000000" link="blue" vlink="brown" alink="black" >

  - are added within a tag to extend a tag's action
  - You can add multiple attributes within a single tag
  - Attributes belong after the tag name, each attribute should be separated by one or more spaces
  - Most attributes take values, which follow an equal sign "=" after attribute's name
  - Values are limited to 1024 characters in length

<P> v.
 Tags

-
: Break
- <P>: Paragraph tag. Creates more space than a BR tag.
- <HR>: Creates a Horizontal Rule

Paragraph Tag <P>

- Leave one empty line after the tag
- Multiple <P> tags with no intervening text is interpreted as redundant by all browsers and will display a single <P> tag

Line break

- Breaks line and starts text at a new line.
- It will not add an empty line like the paragraph tag
- Multiple <br> tags will display multiple line breaks

Comments <!--   -->

- Browser will NOT display text in between
  <!--   This is a comment   -->

  <!--   This is another comment
  -->
- I. E. uses the following tag as a comment:
  <comment>   this a comment   </comment>

Headings: <h1> .. <h6>

- You can create Headlines of various sizes on your page
- Headlines appear as bold letters
- An empty line will also follow the headlines.
- Used for titles
  - H1 is the largest font and h6 is the smallest heading
  - Headings need an end tag </h1>

Font Tags

```
<FONT FACE=ARIAL SIZE=6>
  <B>The Curse of Xanadu</B>
</FONT>
<FONT FACE=ARIAL SIZE=3>
  by By Gary Wolf, <I>Wired Magazine</I>
</FONT>
```

- Font tags:
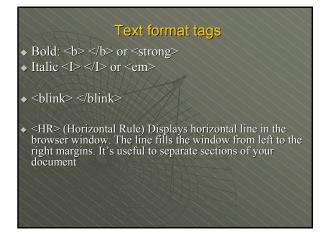 - face: Arial, Courier, etc.
  - size: e.g. 3, 6
  - color: e.g. "RED", "GREEN", etc.

Font Tags:
specifies information about font:
font type, size and color

```
<FONT FACE=ARIAL SIZE=6>
  <B>The Curse of Xanadu</B>
</FONT>
<FONT FACE=ARIAL SIZE=3>
  by By Gary Wolf, <I>Wired Magazine</I>
</FONT>
```
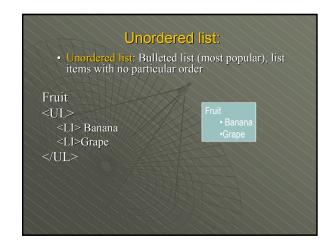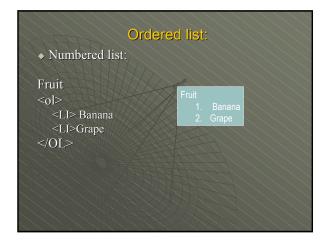
- Font tags:
  - face: Arial, Courier, etc.
  - size: e.g. 3, 6
  - color: e.g. "RED", "GREEN", etc.

Text format tags

◆ Bold: or <strong>
◆ Italic <I> </I> or <em>

◆

◆ <HR> (Horizontal Rule) Displays horizontal line in the browser window. The line fills the window from left to the right margins. It's useful to separate sections of your document

Lists

◆ There are several lists which is used to organize item lists in browser
  • Unordered list: Bulleted list (most popular), list items with no particular order
  • Ordered list: Numbered list

Lists

▪ HTML supports two types of Lists:
  ▪ Ordered Lists (OL): e.g. 1,2,3
  ▪ UnOrdered Lists (UL): e.g. bullets.
▪ Basic Syntax:
  <UL>
      <LI>Item 1
      <LI>Item 2
  </UL>

Unordered list:

  • Unordered list: Bulleted list (most popular), list items with no particular order

Fruit
<UL>
   <LI> Banana
   <LI>Grape
</UL>

Fruit
  • Banana
  •Grape

Ordered list:

◆ Numbered list:

Fruit

   <LI> Banana
   <LI>Grape
</OL>

Fruit
  1. Banana
  2. Grape

Hyperlinks (Anchor Tag):

◆ Hyperlinks are used for linking:
  ◆ within the same page (Name tags)
  ◆ To another page in your web site (Relative Link or local link)
  ◆ To another page outside your web site (Absolute or remote link)
  ◆ Email Link
  ◆ Text links
  ◆ Image links
◆ Hyper Links: are highlighted and underlined text. When clicked on, it takes you to another page on the web.

<A command="target">highlighted text</A>
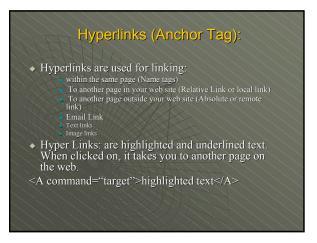
Hyperlinks:

◆ Absolute Link: links to another page outside your web site. Have to specify entire URL of the site.

<A HREF="http://www.emich.edu/">EMU Web Site</A>

Hyperlinks:

◆ Relative Link: links to another page in your web Site. Do not have to specify entire URL.

<A HREF="index.html">Go back to main page</A>

back to main page

Targeted Links

▪ A tag includes a target attribute. If you specify target="_blank", new browser window will be opened.

```
<A target="_blank"
HREF="http://www.wired.com/wired/archive//3.06/xanadu.ht
ml?person=ted_nelson&topic_set=wiredpeople">Full Text of
Article</A>
```

▪ More on this when we get to frames...

Creating Anchor links:

◆ Anchors name tag is the text you will link internally to a section within one document
◆ Used for long documents to create a dynamic table of content
◆ Anchors will make you jump to a different section in one document

 introduction
.
.
introduction

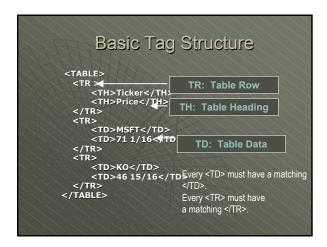## Email Link:

◆ You can email me at:
<a href="mailto:dsouthwe@emich.edu">Don Southwell</A>

HTML Tables

▪ Tables represent a simple mechanism for creating rows and columns of data
▪ Great tool for laying out the content of any web page.
▪ Very widely used
▪ Very simple tag structure

HTML - Tables

- Tables tags starts with
  1. <TABLE> tag, then
     1. <TR> defines table rows.
        - Each <TR> represents one row in the table.
        - The number of rows is determined by the number of <TR>
     2. <TD> Table data or <TH> Table Header can follow the <TR> tag
        - The number of cells in each row is determined by the number of <TH> (Table Header) and/or <TD> (Table data) tags contained within that row.
        - <TH> text will be in bold, and centered
  2. </table>

Basic Tag Structure

```
<TABLE>
   <TR>
      <TH>Ticker</TH>
      <TH>Price</TH>
   </TR>
   <TR>
      <TD>MSFT</TD>
      <TD>71 1/16</TD>
   </TR>
   <TR>
      <TD>KO</TD>
      <TD>46 15/16</TD>
   </TR>
</TABLE>
```

| TR: Table Row |
| TH: Table Heading |
| TD: Table Data |

Every <TD> must have a matching </TD>.
Every <TR> must have a matching </TR>.

Table Attributes

<TABLE ALIGN="left" BORDER=0 BGCOLOR="cyan" width=600 cellpadding=0 cellspacing=0>

- Align: "left", "center" or "right" - "left" is the default
- Border: thickness of the border in pixels - 0 for no borders
- Bgcolor: is background color in HEX or as a name color
- Background=url (works with IE only)
- Cellpadding=n   (n is number of pixels (space) between cell content and its border
- Cellspacing=n (n is number of pixels (space) between cells)
- Height=n (height of table in pixels or percentages 100%)
- Width=n (Width of table in pixels or percentages 100%)

Adding multimedia files

- You may want to have an image open as a separate document when a user activates a link
- This is called an external image, and it is useful if you do not wish to slow down the loading of the main document with large inline images.

- To include a reference to an external image, enter:

- `<A HREF="MyImage.gif">link anchor</A>`

- Use the same syntax for links to sounds files and movies.
- The only difference is the file extension of the linked file. this example, specifies a link to a QuickTime movie.
  - `<A HREF="AdamsRib.mov">link anchor</A>`

Embedded Images

- `<img src= "http://static.wired.com/wired/images/wired_logoblue.gif" width="153" height="31" border="0" alt="W I R E D">`
- Image Attributes
  - src: URL for the image
  - width/height: not required but recommended.
  - border: not required.
  - alt: recommended.

Embedding Audio

- For Internet Explorer, you can use BGSOUND:
  `<BGSOUND src="http://www.3-cities.com/~yogi/Starwars/impressive.wav">`
- Netscape doesn't support BGSOUND, so you need to use the EMBED tag:
  `<EMBED SRC="http://www.3-cities.com/~yogi/Starwars/impressive.wav" controls="console">`

Embedded Video

- Use the Embed tag:

```
<EMBED
SRC="http://www.nba.com/theater/video/jord
an_m_layup_020898.avi"
AUTOSTART=false>
```