

HTML Concepts

What is HTML?

- HTML, otherwise known as HyperText Markup Language, is the language used to create Web pages
- Using HTML, you can create a Web page with text, graphics, sound, and video

Tags

- The essence of HTML programming is tags
- A tag is a keyword enclosed by angle brackets (Example: <I>)
- There are opening and closing tags for many but not all tags; The affected text is between the two tags

More Tags...

- The opening and closing tags use the same command except the closing tag contains an additional forward slash /
- For example, the expression `Warning ` would cause the word 'Warning' to appear in bold face on a Web page

Nested Tags

- Whenever you have HTML tags within other HTML tags, you must close the nearest tag first
- Example:

`<H1> <I> The Nation </I> </H1>`

Structure of a Web Page

- All Web pages share a common structure
- All Web pages should contain a pair of `<HTML>`, `<HEAD>`, `<TITLE>`, and `<BODY>` tags

`<HTML>`

`<HEAD>`

`<TITLE> Example </TITLE>`

`</HEAD>`

`<BODY>`

This is where you would include the text and images on your Web page.

`</BODY>`

`</HTML>`

The <TITLE> Tag

- Choose the title of your Web page carefully; The title of a Web page determines its ranking in certain search engines
- The title will also appear on Favorite lists, History lists, and Bookmark lists to identify your page

Text Formatting

- Manipulating text in HTML can be tricky; Oftentimes, what you see is NOT what you get
- For instance, special HTML tags are needed to create paragraphs, move to the next line, and create headings

Text Formatting Tags

 Bold Face

<I> *Italics* </I>

<U> Underline </U>

<P> New Paragraph </P>

 Next Line

Changing the Font

- The expression ``
... `` can be used to change the font of
the enclosed text
- To change the size of text use the
expression `` ``
where n is a number between 1 and 7

Changing the Font

- To change the color, use `.... `; The color can also be defined using hexadecimal representation (Example: `#ffffff`)
- These attributes can be combined to change the font, size, and color of the text all at once; For example, ` `

Headings

- Web pages are typically organized into sections with headings; To create a heading use the expression `<Hn>....</Hn>` where n is a number between 1 and 6
- In this case, the 1 corresponds to the largest size heading while the 6 corresponds to the smallest size

Aligning Text

- The ALIGN attribute can be inserted in the <P> and <Hn> tags to right justify, center, or left justify the text
- For example, <H1 ALIGN=CENTER> The New York Times </H1> would create a centered heading of the largest size

Comment Statements

- Comment statements are notes in the HTML code that explain the important features of the code
- The comments do not appear on the Web page itself but are a useful reference to the author of the page and other programmers
- To create a comment statement use the `<!-- -->` tags

The Infamous Blink Tag

- It is possible to make text blink using the `<BLINK> ... </BLINK>` tag
- However, it is best to use this feature at most sparingly or not at all; What seems like a good idea to a Web designer can become very annoying to a Web user
- The `<BLINK>` tag is not supported by Internet Explorer

Page Formatting

- To define the background color, use the BGCOLOR attribute in the <BODY> tag
- To define the text color, use the TEXT attribute in the <BODY> tag
- To define the size of the text, type <BASEFONT SIZE=n>

Example

```
<HTML>
```

```
<HEAD>
```

```
<TITLE> Example </TITLE>
```

```
</HEAD>
```

```
<BODY BGCOLOR="black" TEXT="white">
```

```
<BASEFONT SIZE=7>
```

This is where you would include the text and images on your Web page.

```
</BODY>
```

```
</HTML>
```

Inserting Images

- Type ``, where `image.ext` indicates the location of the image file
- The `WIDTH=n` and `HEIGHT=n` attributes can be used to adjust the size of an image
- The attribute `BORDER=n` can be used to add a border `n` pixels thick around the image

Alternate Text

- Some browsers don't support images. In this case, the ALT attribute can be used to create text that appears instead of the image.
- Example:
``

Links

- A link lets you move from one page to another, play movies and sound, send email, download files, and more....
- A link has three parts: a **destination**, a **label**, and a **target**
- To create a link type
` label `

Anatomy of a Link

` label `

- In the above link, “page.html” is the destination. The destination specifies the address of the Web page or file the user will access when he/she clicks on the link.
- The label is the text that will appear underlined or highlighted on the page

Example: Links

- To create a link to CNN, I would type:

```
<A HREF="http://www.cnn.com">CNN</A>
```

- To create a link to MIT, I would type:

```
<A HREF="http://www.mit.edu">MIT</A>
```

Changing the Color of Links

- The LINK, VLINK, and ALINK attributes can be inserted in the <BODY> tag to define the color of a link
 - LINK defines the color of links that have not been visited
 - VLINK defines the color of links that have already been visited
 - ALINK defines the color of a link when a user clicks on it

Using Links to Send Email

- To create a link to an email address, type
``
Label``
- For example, to create a link to send email to myself, I would type: `email Katie Dunn`

Anchors

- Anchors enable a user to jump to a specific place on a Web site
- Two steps are necessary to create an anchor. First you must create the anchor itself. Then you must create a link to the anchor from another point in the document.

Anchors

- To create the anchor itself, type `label` at the point in the Web page where you want the user to jump to
- To create the link, type `label` at the point in the text where you want the link to appear

Example: Anchor

Chapter Two

Link →

Table of Contents

[Introduction](#)
[Chapter One](#)
[Chapter Two](#)

Introduction

(Text for Introduction)

Chapter 1

(Text for Chapter 1)

Chapter 2 *Anchor* →

Chapter 2

(Text for Chapter 2)

Ordered Lists

- Ordered lists are a list of numbered items.
- To create an ordered list, type:

``

`` This is step one.

`` This is step two.

`` This is step three.

``

Here's how it would look on the Web:

- 1. This is step one.**
- 2. This is step two.**
- 3. This is step three.**

More Ordered Lists....

- The TYPE=x attribute allows you to change the the kind of symbol that appears in the list.
 - A is for capital letters
 - a is for lowercase letters
 - I is for capital roman numerals
 - i is for lowercase roman numerals

Unordered Lists

- An unordered list is a list of bulleted items
- To create an unordered list, type:

 First item in list

 Second item in list

 Third item in list

Here's how it would look on the Web:

- **First item in list**
- **Second item in list**
- **Third item in list**

More Unordered Lists...

- The TYPE=shape attribute allows you to change the type of bullet that appears
 - *circle* corresponds to an empty round bullet
 - *square* corresponds to a square bullet
 - *disc* corresponds to a solid round bullet; this is the default value

Forms

- What are forms?
 - An HTML form is an area of the document that allows users to enter information into fields.
 - A form may be used to collect personal information, opinions in polls, user preferences and other kinds of information.

Forms

- There are two basic components of a Web form: the shell, the part that the user fills out, and the script which processes the information
- HTML tags are used to create the form shell. Using HTML you can create text boxes, radio buttons, checkboxes, drop-down menus, and more...

Example: Form

First Name:

← Text Box

Last Name:

Type of Shirt:

← Drop-down Menu

Size: ☐ Large ☒ Medium ☐ Small

← Radio Buttons

Color: ☐ Red ☒ Navy ☐ Black

← Checkboxes

Comments?

← Text Area

Buy Now!

Reset

Reset Button

Submit Button

The Form Shell

- A form shell has three important parts:
 - the <FORM> tag, which includes the address of the script which will process the form
 - the form elements, like text boxes and radio buttons
 - the submit button which triggers the script to send the entered information to the server

Creating the Shell

- To create a form shell, type `<FORM METHOD=POST ACTION="script_url">` where “script_url” is the address of the script
- Create the form elements
- End with a closing `</FORM>` tag

Creating Text Boxes

- To create a text box, type <INPUT
TYPE="text" NAME="name"
VALUE="value" SIZE=n
MAXLENGTH=n>
- The NAME, VALUE, SIZE, and
MAXLENGTH attributes are optional

Text Box Attributes

- The NAME attribute is used to identify the text box to the processing script
- The VALUE attribute is used to specify the text that will initially appear in the text box
- The SIZE attribute is used to define the size of the box in characters
- The MAXLENGTH attribute is used to define the maximum number of characters that can be typed in the box

Example: Text Box

```
First Name: <INPUT  
TYPE="text"  
NAME="FirstName"  
VALUE="First Name"  
SIZE=20>  
<BR><BR>
```

```
Last Name: <INPUT  
TYPE="text"  
NAME="LastName"  
VALUE="Last Name"  
SIZE=20>  
<BR><BR>
```

- Here's how it would look on the Web:

First Name:

Last Name:

Creating Larger Text Areas

- To create larger text areas, type
`<TEXTAREA NAME="name" ROWS=n1
COLS=n2 WRAP> Default Text
</TEXTAREA>`, where n1 is the height of
the text box in rows and n2 is the width of
the text box in characters
- The WRAP attribute causes the cursor to
move automatically to the next line as the
user types

Example: Text Area

Comments?

<TEXTAREA NAME="Comments" ROWS=10
COLS=50 WRAP>

</TEXTAREA>

Creating Radio Buttons

- To create a radio button, type `<INPUT TYPE="radio" NAME="name" VALUE="data">Label`, where “data” is the text that will be sent to the server if the button is checked and “Label” is the text that identifies the button to the user

Example: Radio Buttons

** Size: **

**<INPUT TYPE="radio" NAME="Size"
VALUE="Large">Large**

**<INPUT TYPE="radio" NAME="Size"
VALUE="Medium">Medium**

**<INPUT TYPE="radio" NAME="Size"
VALUE="Small">Small**

Creating Checkboxes

- To create a checkbox, type `<INPUT TYPE="checkbox" NAME="name" VALUE="value">Label`
- If you give a group of radio buttons or checkboxes the same name, the user will only be able to select one button or box at a time

Example: Checkboxes

 Color:

<INPUT TYPE="checkbox" NAME="Color"
VALUE="Red">Red

<INPUT TYPE="checkbox" NAME="Color"
VALUE="Navy">Navy

<INPUT TYPE="checkbox" NAME="Color"
VALUE="Black">Black

Creating Drop-down Menus

- To create a drop-down menu, type
`<SELECT NAME="name" SIZE=n
MULTIPLE>`
- Then type `<OPTION VALUE=
"value">Label`
- In this case the SIZE attribute specifies the height of the menu in lines and MULTIPLE allows users to select more than one menu option

Example: Drop-down Menu

WHICH IS FAVOURITE FRUIT:

<SELECT>

<OPTION VALUE="MANGOES">MANGOES

<OPTION VALUE="PAPAYA">PAPAYA

<OPTION VALUE="GUAVA">GUAVA

<OPTION VALUE="BANANA"> BANANA

<OPTION VALUE="PINEAPPLE">PINEAPPLE

</SELECT>

Creating a Submit Button

- To create a submit button, type `<INPUT TYPE="submit">`
- If you would like the button to say something other than submit, use the `VALUE` attribute
- For example, `<INPUT TYPE="submit" VALUE="Buy Now!">` would create a button that says “Buy Now!”

Creating a Reset Button

- To create a reset button, type `<INPUT TYPE="reset">`
- The `VALUE` attribute can be used in the same way to change the text that appears on the button

Tables

- Tables can be used to display rows and columns of data, create multi-column text, captions for images, and sidebars
- The `<TABLE>` tag is used to create a table; the `<TR>` tag defines the beginning of a row while the `<TD>` tag defines the beginning of a cell

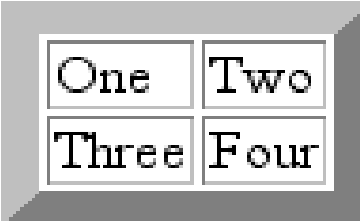
Adding a Border

- The BORDER=n attribute allows you to add a border n pixels thick around the table
- To make a solid border color, use the BORDERCOLOR=“color” attribute
- To make a shaded colored border, use BORDERCOLORDARK=“color” and BORDERCOLORLIGHT=“color”

Creating Simple Table

```
<TABLE BORDER=10>
  <TR>
    <TD>One</TD>
    <TD>Two</TD>
  </TR>
  <TR>
    <TD>Three</TD>
    <TD>Four</TD>
  </TR>
</TABLE>
```

- Here's how it would look on the Web:



One	Two
Three	Four

Adjusting the Width

- When a Web browser displays a table, it often adds extra space. To eliminate this space use the `WIDTH =n` attribute in the `<TABLE>` and `<TD>` tags
- Keep in mind - a cell cannot be smaller than its contents, and if you make a table wider than the browser window, users will not be able to see parts of it.

Centering a Table

- There are two ways to center a table
 - Type `<TABLE ALIGN=CENTER>`
 - Enclose the `<TABLE>` tags in opening and closing `<CENTER>` tags

Wrapping Text around a Table

- It is possible to wrap text around a table. This technique is often used to keep images and captions together within an article.
- To wrap text around a table, type `<TABLE ALIGN = LEFT>` to align the table to the left while the text flows to the right.
- Create the table using the `<TR>`, `<TD>`, and `</TABLE>` tags as you normally would

Adding Space around a Table

- To add space around a table, use the HSPACE=n and VSPACE=n attributes in the <TABLE> tag
- Example:

<TABLE HSPACE=20 VSPACE=20>

Spanning Cells Across Columns

- It is often necessary to span one cell across many columns. For example, you would use this technique to span a headline across the columns of a newspaper article.
- To span a cell across many columns, type `<TD COLSPAN=n>`, where n is the number of columns to be spanned

Spanning Cells Across Rows

- To span a cell across many rows, type `<TD ROWSPAN=n>`, where n is the number of rows

Aligning Cell Content

- By default, a cell's content are aligned horizontally to the left and vertically in the middle.
- Use VALIGN=direction to change the vertical alignment, where “direction” is top, middle, bottom, or baseline□
- Use ALIGN=direction to change the horizontal alignment where “direction” is left, center, or right

Controlling Cell Spacing

- Cell spacing is the space *between* cells while cell padding is the space *around* the contents of a cell
- To control both types of spacing, use the CELLSPACING =n and CELLPADDING=n attributes in the <TABLE> tag

Nesting Tables

- Create the inner table
- Create the outer table and determine which cell of the outer table will hold the inner table
- Test both tables separately to make sure they work
- Copy the inner table into the cell of the outer table
- Don't nest too many tables. If you find yourself doing that, find an easier way to lay out your Web page

Changing a Cell's Color

- To change a cell's color, add the BGCOLOR="color" attribute to the <TD> tag
- Example:
 <TD BGCOLOR="blue">

Dividing Your Table into Column Groups

- You can divide your table into two kinds of column groups: structural and non-structural.
- Structural column groups control where dividing lines are drawn; Non-structural groups do not
- Both let you format an entire column of cells at once

Column Groups

- To create structural column groups, type `<COLGROUP SPAN=n>` after the `<TABLE>` tag, where n is the number of columns in the group
- To create non-structural column groups, type `<COL SPAN=n>`, where n is the number of columns in the group

Dividing Table into Horizontal Sections

- You can also create a horizontal section consisting of one or more rows. This allows you to format the rows all at once
- To create a horizontal section, type `<THEAD>`, `<TBODY>`, or `<TFOOT>` before the first `<TR>` tag of the section
- Netscape does not support these tags

Controlling Line Breaks

- Unless you specify otherwise a browser will divide the lines in a cell as it sees fit.
- The NOWRAP attribute placed within the `<TD>` tag forces the browser to keep all the text in a cell on one line
- Example:
 - `<TD NOWRAP>`Washington, D.C.