

BASIC WEB DESIGN

Learning Objectives

- Understand reasons for building web sites
- Understand terms associated with web design
- Learn basic components of a web page
- Learn how to use text editors

Websites and Internet Play Large Role in Society

- More people now using the internet
- More people now have access to computers at home
- 42% in Asia (825 Million)
- 24% in Europe (475 Million)
- 13.5% in North America (266 Million)

Why Build A Web Site?

- When all is said and done, 2 BASIC REASONS
- SHARE INFORMATION
- MAKE MONEY

SOME DEFINITIONS AND TERMS

A FEW THINGS TO KNOW

Web Page or Web Site?

- Web page – single web document containing information
- Web site – collection of web pages that are interlinked to each other
- Domain name – a identifiable address for a web site (ex-bdpari.org, bslsystems.com). Must be registered for ownership
- Web host – a server location where web page files are stored

More Terms

- CSS – Cascading Style Sheets. Single page of code that can control all features of a web page
- SQL – special coding language that deals with databases in web pages
- HTML – Hypertext Markup Language. The main language of web pages that defines structures
- Scripting – specialized web languages that control structure or content display

TWO DIFFERENT TYPES OF WEB PAGES

STATIC WEB PAGES DO NOT OFTEN CHANGE

Often Referred to as “Flat Pages”

Static Web Pages

- Text and graphics content are specifically named and placed in areas of web page
- Must always know the specific name and location of included files
- Usually saved with .htm or .html file extension
- Often referred to as “flat pages”
- Content must be manually edited or changed

DYNAMIC PAGES USE SCRIPTING

Fresh Content Information Generated for Each Page

Dynamic Web Pages

- Content normally generated from a database
- Text and graphics usually determined by what is stored in database
- Fields of database used to place information in page
- Files saved based upon scripting language used to create page
- Main purpose is automation of content

SERVER-SIDE SCRIPTING

Basic Scripting Languages Used

- Active Server Pages (ASP) - .asp
- Coldfusion - .cfm (easiest to learn)
- Java Server Pages - .jsp
- PHp - .php (pre-processor)
- All used with some form of database
- All are SERVER-BASED LANGUAGES
- Commands are performed on server not your machine

TAG, YOU'RE IT!!!

Tags Make-up The Pages

HTML TAGS

- Hypertext Markup Language
- Consists of tag-based items which define areas and objects on web page
- Forms – allow interaction, collection of data
- Tables – provide page formatting
- Images – provide graphic look
- Each has specific characteristics that can be modified by additional attributes, elements

A BASIC WEB PAGE

What Is HTML?

- HTML is a language for describing web pages.
- HTML stands for Hyper Text Markup Language
- HTML is not a programming language, it is a **markup language**
- A markup language is a set of **markup tags**
- HTML uses **markup tags** to describe web pages

HTML Tags

- HTML markup tags are usually called HTML tags
- HTML tags are keywords surrounded by **angle brackets** like `<html>`
- HTML tags normally **come in pairs** like `` and ``
- The first tag in a pair is the **start tag**, the second tag is the **end tag**
- Start and end tags are also called **opening tags** and **closing tags**

HTML Documents = Web Pages

- HTML documents **describe web pages**
- HTML documents **contain HTML tags** and plain text
- HTML documents are also **called web pages**
- The purpose of a web browser (like Internet Explorer or Firefox) is to read HTML documents and display them as web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page:

A Sample Web Document

```
<html>
<head>
<title>A Sample Web Document</title>
</head>
<body>

  <h1>My First Heading</h1>

  <p>My first paragraph.</p>

</body>
</html>
```

Explanation

- The text between `<html>` and `</html>` describes the web page
- The text between `<body>` and `</body>` is the visible page content
- The text between `<h1>` and `</h1>` is displayed as a heading
- The text between `<p>` and `</p>` is displayed as a paragraph

HTML Element Syntax

- An HTML element starts with a **start tag / opening tag**
- An HTML element ends with an **end tag / closing tag**
- The **element content** is everything between the start and the end tag
- Some HTML elements have **empty content**
- Empty elements are **closed in the start tag**
- Most HTML elements can have **attributes**

Nested Elements

- Most HTML elements can be nested (can contain other HTML elements).
- HTML documents consist of nested HTML elements.

A Start and A Finish

- HTML documents are defined by HTML elements.
- An HTML element is everything from the start tag to the end tag
- The start tag is often called the **opening tag**. The end tag is often called the **closing tag**.
- An HTML element starts with a **start tag** `<opening tag>`
- An HTML element ends with an **end tag** `</closing tag>`
- The **element content** is everything between the start and the end tag

Creating A Basic Web Page

- Basic page format can have 7 tags or elements
- Specific format for placement of tags
- `<html>`
- `<head>`
- `<title></title>`
- `</head>`
- `<body>`
- `</body>`
- `</html>`

WHAT'S IN EACH PART?

Content is King

The <HTML> Element

- The <html> element defines the whole HTML document.
The element has a start tag <html> and an end tag </html>.
The element content is another HTML element (the body element).

The <HEAD> Element

- Used to define location of additional references for page
- CSS style notations or file location
- Javascript
- Location of favicon
- Page title – what you see at top of browser

The <TITLE> Element

- Shows the name of the page
- What is typically seen at the top of the browser
- NOT ALL web pages have titles
- Tag is ALWAYS placed between opening and closing <head></head> tags

The <Body> Element

- The <body> element defines the body of the HTML document.
The element has a start tag <body> and an end tag </body>.
The element content is another HTML element (a p element).
- Body content can be text, images, other HTML elements

Body Content

- Body content is what you want people to read or see on the page
- Text – words that you use to state purpose of web page, information to be shown, etc.
- Forms – interactive elements that collect information
- Images – pictures (.jpg, .gif, .bmp, .png, .tif), flash movies
- **CONTENT IS KING!!**

Empty Elements

- HTML elements with no content are called empty elements. Empty elements can be closed in the start tag.
- `
` is an empty element without a closing tag (the `
` tag defines a line break).
- In XHTML, XML, and future versions of HTML, all elements must be closed.
- Adding a slash to the start tag, like `
`, is the proper way of closing empty elements, accepted by HTML, XHTML and XML.

HTML ATTRIBUTES

- HTML elements can have **attributes**
- Attributes provide additional information about HTML elements.
- Attributes provide **additional information** about an element
- Attributes are always specified in **the start tag**
- Attributes come in name/value pairs like:
name="value"

Attribute Example

- `Black Data Processing Associates RI Chapter`
- HTML links are defined with the `<a>` tag. The link address is specified in the href attribute
- Attribute values should always be enclosed in quotes.
- Double style quotes are the most common, but single style quotes are also allowed.
- Attribute names and attribute values are case-insensitive, but should learn to always use lower-case.

Heading Tags

- Headings are important in HTML documents.
- Headings are defined with the `<h1>` to `<h6>` tags.
- `<h1>` defines the largest heading. `<h6>` defines the smallest heading.
- Use HTML headings for headings only. Don't use headings to make text **BIG** or **bold**.
- Search engines use your headings to index the structure and content of your web pages.

Lines, Paragraphs and Comments

- The `<hr />` tag creates a horizontal line in an HTML page.
- The `hr` element can be used to separate content
- `
` tag is line break
- `<p>` tag is paragraph
- Comments can be inserted into the HTML code to make it more readable and understandable. Comments are ignored by the browser and are not displayed
- `<!-- This is a comment -->`

Text Formatting

- HTML uses tags like `` and `<i>` for formatting output, like **bold** or *italic* text.
- These HTML tags are called formatting tags
- Other tags are ``, `<small>`, `<u>`, `<blockquote>`

Hyperlinks

- Links are found in nearly all Web pages. Links allow users to click their way from page to page.
- A hyperlink (or link) is a word, group of words, or image that you can click on to jump to a new document or a new section within the current document.
- Links are specified in HTML using the <a> tag.
- The <a> tag can be used in two ways:
 - To create a link to another document, by using the href attribute
 - To create a bookmark inside a document, by using the name attribute

Hyperlink Syntax

- The HTML code for a link is simple. It looks like this
- `Link text`
- The href attribute specifies the destination of a link.

Different Types of Hyperlinks

- `Visit BDPARI` - The target attribute specifies where to open the linked document
- `Useful Tips Section`- The name attribute specifies the name of an anchor. The name attribute is used to create a bookmark inside an HTML document.
- Bookmarks are not displayed in any special way. They are invisible to the reader.
- `Visit the Useful Tips Section`

Using Images

- In HTML, images are defined with the `` tag.
- The `` tag is empty, which means that it contains attributes only, and has no closing tag.
- To display an image on a page, you need to use the `src` attribute. `src` stands for "source". The value of the `src` attribute is the URL of the image you want to display.
- ``
- The `alt` attribute provides alternative information for an image if a user for some reason cannot view it

How To View HTML Source Code

- right-click in the page and select "View Source" (IE) or "View Page Source" (Firefox), or similar for other browsers.
- This will open a window containing the HTML code of the page.
- Able to see how page is constructed
- With pages designed in ASP or PHP can also see how database is manipulated (field names, etc)
- Cannot see database scripting code in Coldfusion

Using Text Editors

- Principal text editor used will be Notepad
- Best way to learn to write html
- professional web developers often prefer HTML editors like FrontPage or Dreamweaver, instead of writing plain text
- FrontPage and Dreamweaver provide pre-formatted web documents

HTML File Extensions

- Standard html - .htm or .html
- ASP (active server pages) - .asp, .aspx
- Php (Hypertext Preprocessor) - .php, .php3
- Coldfusion - .cfm
- ASP, PhP, and Coldfusion are SERVER-SIDE SCRIPTING LANGUAGES
- scripts are executed on the server
- Used to support databases (Access, MySQL, MS SQL, ODBC)

THINGS TO REMEMBER

The Basic Page Setup

- `<html>`
- `<head>`
- `<title></title>`
- `</head>`
- `<body>`
- `</body>`
- `</html>`

Comment Your Code

- `<!-- Explain what comes next -->`
- Commenting helps in troubleshooting problems
- Helps designate parts of design
- `<!-- Show where it stops -- >`

Correct URL Locations for Links

- `Web Site`
- Full location to link to other web sites
- `Page Name or Title`
- Name and extension for pages (useful for menus)
- `Target Area`
- Targeted area of page

Headings

- Always use heading tags to define content areas
- `<h1>` Largest heading
- `<h6>` Smallest heading
- Helps in search engines

Content Areas

- Use `<p>` to start paragraphs, `</p>` to end
- Use `
` for line breaks
- Use `` `` to make things bold
- Use `<i>``</i>` to italicize
- Use `<u>``</u>` for underlining

HOW WELL DID YOU LISTEN?

QUIZ # 1 - 16 QUESTIONS

CLASS PROJECT

Your Very First Web Page

Your First Web Page

- Use notepad
- Write html tags to show the following
- Your name in a header tag
- Two paragraphs stating who you are
- A hyperlink to one of your favorite web sites
- A comment stating the reason for the assignment
- Save with file name as follows
- First initial and lastname_1.htm
- Tags you PROPERLY MUST USE
- Html, head, title, body, h1, p, a href, comment