

Building a Web Site

What is a web site?

- A collection of files on an Internet server
 - HTML files (.HTM, .HTML)
 - HyperText Markup Language
 - File containing the text content, pointers to images and other pages, and formatting and layout description of the page
 - Controls are specified by “markup tags” enclosed in <> brackets (e.g., a paragraph is delimited like so: <p>some text to display</p>)
 - Image files (.GIF, .JPG, .PNG)
 - Files containing the graphics and images used in the web pages
 - All images are included by referencing them from an HTML file
 - Anything you see that is not text, it's probably based on an image file

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- Other optional web site file content:
 - JavaScript files (.JS)
 - Program language which controls dynamic responses to mouse clicks and keyboard actions in the browser
 - Downloaded and run by the browser itself
 - Cascading Style Sheet files (.CSS)
 - Text files that describe the look and feel, colors, fonts, borders, and layouts of the web pages
 - Other files
 - Downloadable files - PDF, documents, photos, etc.
 - Media files – Adobe “Flash” animations, audio, video

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- Generating HTML files
 - Create and Edit them directly
 - Use any regular text editor
 - Use a format-highlighting editor like Notepad++
 - Disadvantage – requires deep understanding of HTML syntax, function, and standards
 - Use a WYSIWYG editor/development environment
 - Commercial: Dreamweaver, FrontPage/Espression Web
 - Free: Kompozer
 - Similar look and feel to MS Word, but with web-specific function
 - Both approaches generate simple, “flat”, HTML documents
 - Perfectly suitable if that's all your web site requires

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- Generating HTML files (cont.)
 - Generate HTML dynamically
 - By writing “server-side” programs that run on the server and produce HTML as output
 - CGI (Common Gateway Interface), PHP (Hypertext Preprocessor), or Microsoft ASP (Active Server Pages)
 - PHP is the most common and pervasive
 - Well-supported on both Windows and UNIX internet servers
 - HTML pages can be customized dynamically by information stored on the server (in simple files or even in databases)
 - Customized by user, session cookies, user selections, etc.
 - Provide web content that would otherwise require 100s or 1000s of static web pages (e.g., an event calendar)

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- Viewing/testing your web site
 - Upload files to your server
 - Typically using an FTP (File Transfer Protocol) tool (e.g, FileZilla)
 - Methods for file upload may vary by hosting service
 - Disadvantage – updates typically go “live to the world” instantly, before you've had a chance to test them
 - Run a web server on your own PC
 - Test it locally before uploading
 - Address your web pages as “http://localhost/...”
 - Microsoft Server operating system (if you have one)
 - WAMP Server (Apache, MySQL, PHP)
 - XAMPP Server (similar to WAMP, but portable, runs on a USB stick)

Building a Web Site

- Debugging your web site – Browser Side
 - Validate your HTML content
 - Use the W3C Markup Validation service (<http://validator.w3.org/>)
 - Browser's built-in Error Console
 - Shows errors in Javascript, CSS
 - Useful Firefox add-ons
 - Firebug – web page debug tools
 - Web Developer – toolbar with many web developer tools
 - ColorZilla – web page color picker, color analyzer, zoomer
 - Microsoft IE8
 - Now comes with a set of tools similar to above Firefox add-ons

Building a Web Site

- Debugging your web site – Server Side
 - Server logs
 - Dependent upon your hosting service and functions provided
 - PHP/ASP programming techniques
 - Use built-in language features designed to “catch” program exceptions
 - Include logging and tracing statements which save debug information into logs or regular files on the server
 - Include provisions to “roll off” old log file content, to prevent server file system from filling up
 - Include meaningful error messages in HTML output, so users can see and report problems