Web Forms

Receiving feedback from the audience

What are web forms

- ❖ Input devices for web sites
- ❖ Created within a webpage
- ❖ Processed by the server
  - ➢ Each server has different ways of processing the form
  - ➢ Servers also change their processing procedure from time to time so you may need to update your forms.
  - ➢ Check with your web server for the information needed.

Form Uses

- ❖ Facilitate information retrieval from user.
  - ➢ Example form to contact the instructor
- ❖ Integrate database functions
  - ➢ Example query to retrieve information from Library database
- ❖ Create interactive pages
  - ➢ Quiz Example: HTML Quiz
- ❖ Drop down or jump navigation
  - ➢ (Provide alternate way of accessing pages to make accessible)

Forms Elements

- ❖ Text Fields
  - ➢ Short text field
- ❖ Radio Buttons
  - ➢ Mutually exclusive choices
- ❖ Check boxes
  - ➢ More than one choice allowed
- ❖ Select list
  - ➢ List of items
- ❖ Text Area
  - ➢ Longer text field
- ❖ Action Buttons
  - ➢ Submit
  - ➢ Reset
- ❖ Hidden fields
  - ➢ Used for information needed to process form

Form Tag Options

- ❖ <FORM method=POST action="*/cgi-bin/program*" enctype="text/plain" name="*myform*">
  - ➢ method (Two options - web server may determine which one can be used)
    - ="get"
    - ="post"
  - ➢ ACTION="*location of program*"
    - This is determined by your web server which should provide the infromation on processing the form
  - ➢ ENCTYPE="text/plain"
    - Required, just says it's text.
  - ➢ name="*whatever*"
    - Name the form what ever you want

Processing of Form Information

- ❖ Once the user inputs information into the form it must be processed
  - ➢ Validation
    - Javascript
  - ➢ Recording information
    - Javascript
    - Program on server
      - possible security problems on server
    - Database integration
    - Email response
  - ➢ Completion page – lets user know form was sent

How is Form Processed

- ❖ Most web servers provide code for forms processing.
  - ➢Code will need to be added to the webpage code as part of the form definition and customized
- ❖ Email response – most common type
  - ➢An email is sent to you when a form is submitted
  - ➢Usually required for processing
    - Email format file matching form field names

Forms Usability

- ❖ Use style sheets to change formatting
- ❖ Mark required fields with special formatting
- ❖ Use validation to check contents of fields
  - ➢Specify appropriate error messages
- ❖ For accessibility it's a good idea to use the label tag to identify form parts.
- ❖ More information on usability
  - ➢Reset and Cancel Buttons
  - ➢WebAim forms accessibility.

Working with Tables

Organizing data

About HTML Tables

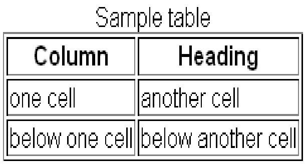
- ❖ Tables were originally designed to present **data** in a meaningful manner and increase readability of data.
- ❖ HTML tables were not intended for layout
  - ➢ Loss of accessibility
  - ➢ Browsers interpreted differently causing loss page integrity
- ❖ CSS now makes much of the layout function of tables possible without tables
  - ➢ Eases redesign
- ❖ NEVER USE TABLES FOR LAYOUT! Use CSS

Tables in HTML

- ❖ In HTML tables consist of cells within rows.
  - ➢ Columns are formed by cells within rows, but do not have a separate tag
- ❖ Basic Table codes
  - ➢ <table></table> delimitates the entire table.
  - ➢ <tr></tr> delimitates each row
  - ➢ <td></td> delimitates each cell or table data
  - ➢ <th></th> used in place of table data (td) tags to specify heading cells
  - ➢ <caption></caption>adds accessibility by specifying a table caption or heading which appears above the table

Example of a table coding

```
<table>
<caption>Sample table</caption>
<tr>
<th>Column</th>
<th>Heading</th>
</tr>
<tr>
<td>one cell</td>
<td> another cell</td>
</tr>
<tr>
<td>below one cell</td>
<td>below another cell</td>
</tr>
</table>
```



Sample table

Column	Heading
one cell	another cell
below one cell	below another cell

Table properties

- ❖ HTML 5 has one property

<table border="1" >

- ➢*border* – whether there is a border
  - Use 1 for borders
  - Use 0 for no border
- ❖ Previous versions had other properties
  - ➢Width, cellpadding, cell spacing, align & valign
  - ➢These are considered styling so use CSS instead.

Cell properties

- ❖ Type of cell
  - ➢ <td> Data
  - ➢ <th> header
- ❖ Colspan – specify if cell is to span more than one column
- ❖ Rowspan- specify if cell is to span more than one row

Sizing it up

- ❖ All cells within the same column will have the same width
- ❖ All cells within the same row will have the same height.
- ❖ Graphics placed within a cell may override any column or row specifications if the graphic is larger than the specifications
- ❖ Unless you have an overriding reason - use percentages instead of pixels.
  - ➢ allows page to expand gracefully as resolution increases
  - ➢ helps with meet accessibility standards

Merging cells

- ❖ Cells can be merged horizontally or vertically
  - ➢HTML parameter for horizontal merge. Specify the number of columns

  <td colspan="2">

  - ➢HTML parameter for vertical merge. Specify the number of rows

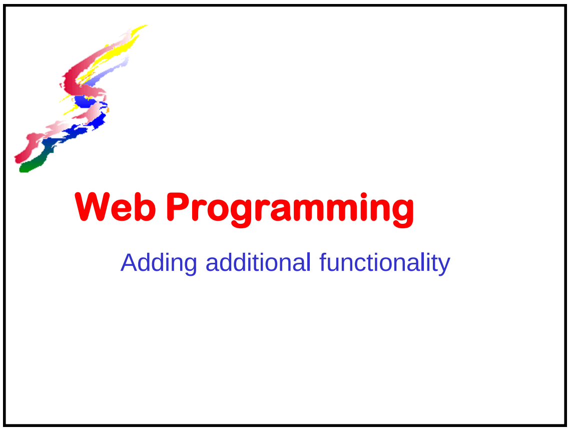
  <td rowspan="2">

Converting data to tables

- ❖ Data can be converted to a table.
  - ➢Data should be in a text file and separated by a comma or a tab.
  - ➢Each row should be a separate line
- ❖ Dreamweaver is easy
  - ➢File - Import Tabular Data
  - ➢Select the file
  - ➢Indicate the separator character

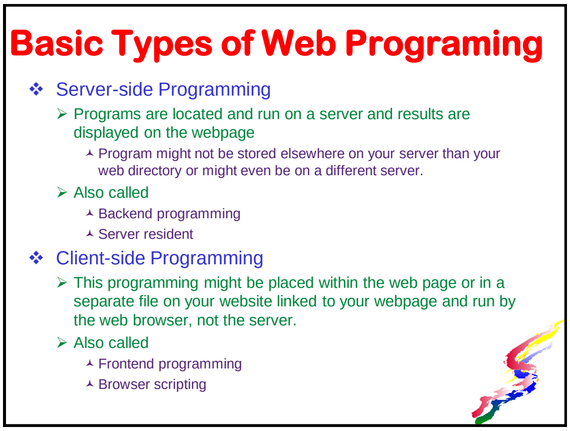
Tables are NOT for Page Layout

- ❖ Do NOT use tables for page layout
- ❖ If you are maintaining an older site which used tables for layout and you don't have time to redesign with CSS Keep in mind these tips:
  - ➢Do not use table headings - table headings are for data tables only
  - ➢Ensure that an auditory web browser will read information in the correct order
- ❖ Redesign the page as soon as you can. Convert the table elements to divisions.



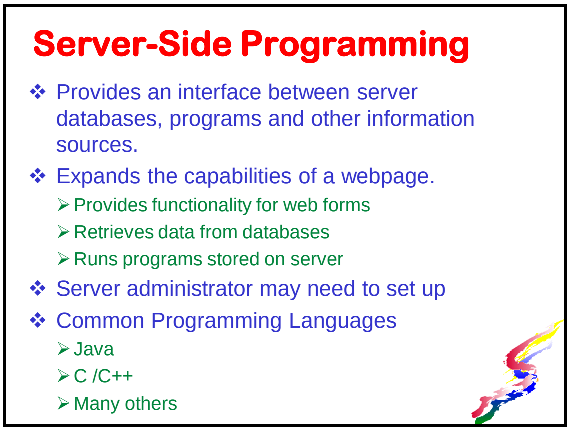
Web Programming

Adding additional functionality



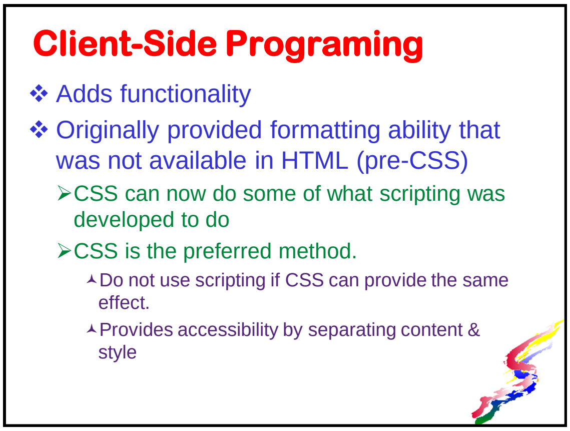
Basic Types of Web Programing

- Server-side Programming
  - Programs are located and run on a server and results are displayed on the webpage
    - Program might not be stored elsewhere on your server than your web directory or might even be on a different server.
  - Also called
    - Backend programming
    - Server resident
- Client-side Programming
  - This programming might be placed within the web page or in a separate file on your website linked to your webpage and run by the web browser, not the server.
  - Also called
    - Frontend programming
    - Browser scripting



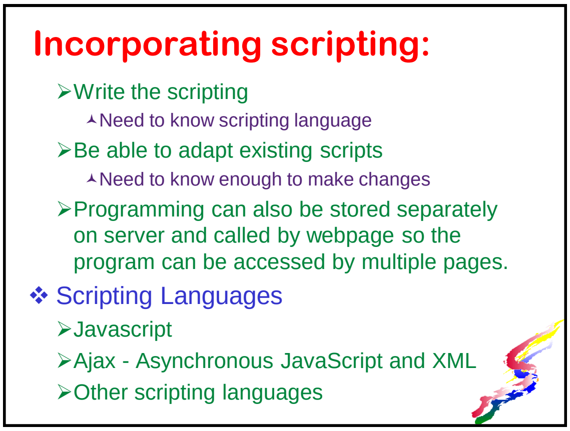
Server-Side Programming

- Provides an interface between server databases, programs and other information sources.
- Expands the capabilities of a webpage.
  - Provides functionality for web forms
  - Retrieves data from databases
  - Runs programs stored on server
- Server administrator may need to set up
- Common Programming Languages
  - Java
  - C /C++
  - Many others



Client-Side Programing

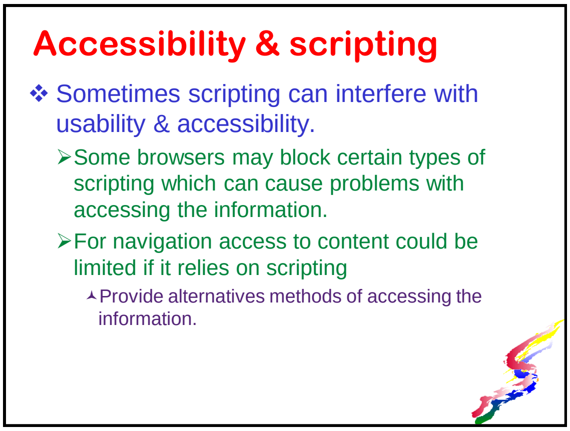
- Adds functionality
- Originally provided formatting ability that was not available in HTML (pre-CSS)
  - CSS can now do some of what scripting was developed to do
  - CSS is the preferred method.
    - Do not use scripting if CSS can provide the same effect.
    - Provides accessibility by separating content & style



Incorporating scripting:

- Write the scripting
  - Need to know scripting language
- Be able to adapt existing scripts
  - Need to know enough to make changes
- Programming can also be stored separately on server and called by webpage so the program can be accessed by multiple pages.

- Scripting Languages
  - Javascript
  - Ajax - Asynchronous JavaScript and XML
  - Other scripting languages



Accessibility & scripting

- Sometimes scripting can interfere with usability & accessibility.
  - Some browsers may block certain types of scripting which can cause problems with accessing the information.
  - For navigation access to content could be limited if it relies on scripting
    - Provide alternatives methods of accessing the information.

Program Interface

- Another way to integrate progamming into pages is through Application Program Interfaces (better known as APIs)
- Allows integration of programs that exist on servers elsewhere
  - We've actually used APIs previously when we integrated video into a webpage and implemented a Google form
- Examples:
  - Google Maps API allows you to integrate a map with a specified location within your wbsite.
  - Google Calendar allows incorporating a calendar

Programming - More Info

- We won't be learning how to program in this class, but if you want to learn more about Javascript on your own, see these sites:
  - W3Schools-JavaScript
  - Web Teacher: Javascript Tutorial
- Programming libraries exist - the programming is already done, you just need to add in your own values for the various parameters.
  - Many libraries are hosted on Google

Editing Coding

CSS& HTML

Editing Code

- No matter which program you are using to create a website, sometimes the most efficient way to makes changes is to edit the code.
- It's important to be able to recognize codes and know how to make changes. We can also use features such as find & replace to make global changes to the document.
- Many of the high end web development jobs require coding.

Updating CSS

- One of the time saving features of CSS is being able to update the look of a website, by merely updating the CSS file. If all your site styles are contained in one CSS file, then you can update your site by uploading one file - the CSS file.
  - Image how much easier it is to update the visual appeal of a 100 page website. Instead of editing and uploading 100 files, edit & upload only ONE CSS file. And the entire site is updated. Amazing!

Media Queries

- We can add in media queries to target particular types of devices so that the CSS changes according to the device.Styles for different devices can be contained with one style sheet with media query sections
  - For instance to add styles for a printer, use:
    @media print {
    list the styles for print
    }
- If necessary a separate style sheet can be developed for some devices and indicate the media within the code to link the style sheet in the head section.
  - For instance to link a stylesheet just for printers, use:
    <link href="*filename*" rel="stylesheet" type="text/css" media="print">
    - filename is the location & name of the stylesheet file.

Testing Websites

Assuring usability & accessibility

Testing

- Types of testing
  - User testing
    - Can your site can be used?
  - Technical testing
    - Does everything work - HTML, CSS, Scripting
    - How does various systems effect your web site?
- When to test
  - Technical testing is normally ongoing throughout the develop of the site.
  - Both a final technical test and user testing should occur offline before uploading.
  - Test again once the site is uploaded to be sure everything is working online

User Testing

- User testing is having people, who are not involved in the development of the web site, test the site for usability.
  - Be open minded and grateful to any and all input.
  - Set your ego aside!

How to do user testing

- Create a list of tasks that samples using the site
- Select 5 people who are similar to the average readers of the site
- Have them complete the list of tasks
  - Observe how long it takes them to find the given information
  - Make note of what problems and difficulties are encountered
  - Ask for opinions, comments and suggestions

Usability Questions

- Questions to ask yourself
  - Does the navigation work the way it should?
  - Is there an alternative to accessing information if the navigation is reliant on graphics, scripting, Flash or non-text means?
  - Do multimedia elements work?
    - Are they embedded correctly?
  - Is text readable?

Technical Testing

- Test on various setups
  - Browsers
    - Different browsers: Internet Explorer, Firefox, Safari, Chrome, Opera, etc.
    - Text sizes: Increase & decrease **(not zoom)**
      - Preferably text size should increase and decrease
      - Exception - fixed fonts used to maintain an artistic appeal
    - Maximized & not-maximized
  - Monitor
    - Resolutions , Sizes, Orientation
  - Operating Systems
    - Different systems: MacOS, Windows, Linux
  - Mobile Devices

Accessibility Testing

- Part of technical testing and can be user testing as well
- Test web sites on various screen resolutions, text sizes, and if possible on various devices including screen readers
- Check accessibility through web sites which check for accessibility
  - Access Keys http://www.accesskeys.org
  - WebAim: http://wave.webaim.org/
  - Webnauts: http://www.webnauts.net/check.html

Testing Font Sizes

- People who have difficulties reading small text sizes may need to increase the font size of their browser, but not increase the graphics.
  - Pages need to be checked with a larger font to see the effects on your page
    - **Note:** Zoom options can be used to magnify the page, but this increases the whole page including graphics and often requires left and right scrolling, which is not desirable.
  - Pages with fixed font will not change
    - Good if the layout needs to be rigid
    - Bad for accessibility

Finishing Touches & More on HTML 5

Favicon

- Icons that show on the location line and in bookmarks
- Icon file format (.ico)
  - 16 by 16 pixels
  - *Irfanview* (Windows) can save in this format
- Save in the main web folder

- **Note:** Favicon does **not** work with UH Server.

Favicon Coding

- In the head section of your webpage, add in the following code where *filename* is the actual name of your file

<link rel="shortcut icon" ref="*filename*.ico" />

- Automatic favorite icon. If the filename is *favicon.ico*, the link in the head section is not necessary, though it is still a good idea.

Meta Tags for Search Engines

- Meta tags are in the head section of the web page and are not displayed on the page.
  - **Author** – author of page
  - **Keywords** – words which search engines can use to catalog page
  - **Description** – description of the site which will be displayed in a search engine results (if this is not present the search engine will display the first words encountered on the page)
  - **Publisher** – publisher of site
  - **Copyright** – copyright information

Meta Tag Syntax

<meta name="tagname" contents="Whatever the tag is suppose to be">

Example:
<meta name="description" contents="Meta tags for search engines is presented with explain of author, keywords, description, publisher, copyright">

More meta tag

- Don’t want your web site or a particular page placed in a search engine?
  - <meta name="robots" content="noindex, nofollow">
    - noindex – don’t place in search engine
    - nofollow – don’t follow any links on this page
  - Not all search engines observe this

Custom 404 Pages

- 404 – “Page not found” error returns a generic error page
  - Example
- Customize to be friendly
  - Create a page and give friendly advice on finding the information needed and a link to your main site
  - Example
- Different servers have different requirements. Check with your server for the correct methodology

More on 404 pages

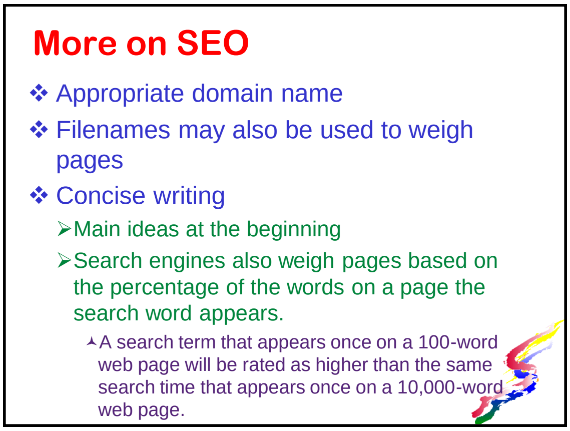
- How to Create a Custom 404 page
- Do it Yourself - 404
- HTML Goodies: Server Response Codes

Search Capability

- Google provides free search capability for web sites
  - Sign up for an account
  - Code is provided to place within site
    - Preferably place in the template so it is available on all pages.
  - http://www.google.com/coop/cse/
- Other services may provide additional capability.

Search Engine Optimization

- Much of what we learned throughout the semester increases search engine optimization
  - title
    - unique for each page in site
    - accurately describes page
  - headings
    - correct levels are used
      - headings act as outline for your page
    - accurate heading for what is beneath it
  - images and other media
    - alt text describes image accurately related to context
    - long descriptions provided if needed
  - accessibility standards followed

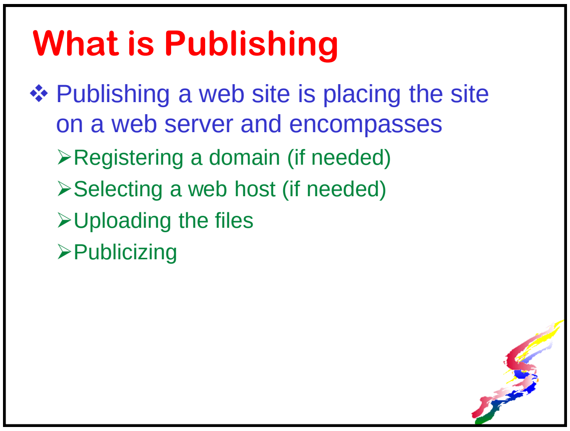


More on SEO

- ❖ Appropriate domain name
- ❖ Filenames may also be used to weigh pages
- ❖ Concise writing
  - ➢Main ideas at the beginning
  - ➢Search engines also weigh pages based on the percentage of the words on a page the search word appears.
    - A search term that appears once on a 100-word web page will be rated as higher than the same search time that appears once on a 10,000-word web page.

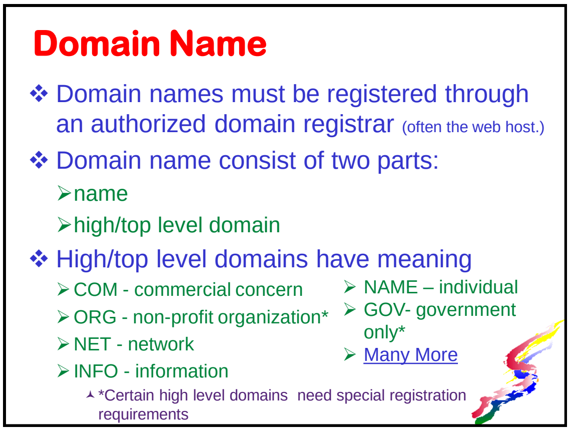
Publishing a site

Posting & Publicizing



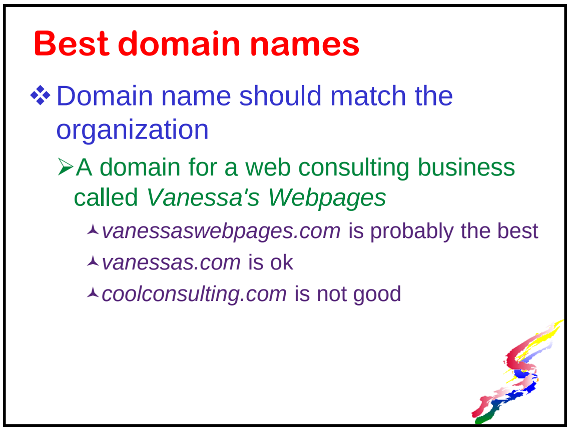
What is Publishing

- ❖ Publishing a web site is placing the site on a web server and encompasses
  - ➢Registering a domain (if needed)
  - ➢Selecting a web host (if needed)
  - ➢Uploading the files
  - ➢Publicizing



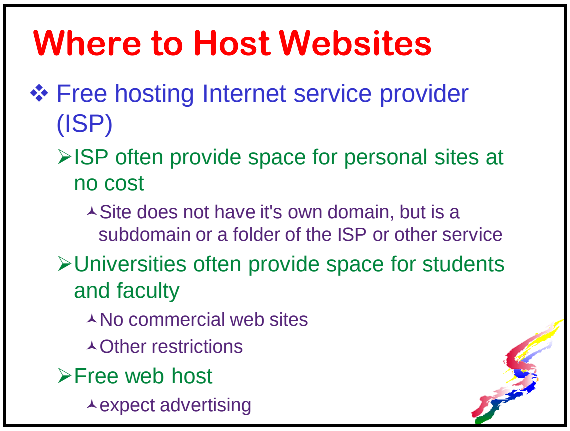
Domain Name

- ❖ Domain names must be registered through an authorized domain registrar (often the web host.)
- ❖ Domain name consist of two parts:
  - ➢name
  - ➢high/top level domain
- ❖ High/top level domains have meaning
  - ➢ COM - commercial concern
  - ➢ ORG - non-profit organization*
  - ➢ NET - network
  - ➢ INFO - information
  - ➢ NAME – individual
  - ➢ GOV- government only*
  - ➢ Many More
    - *Certain high level domains need special registration requirements



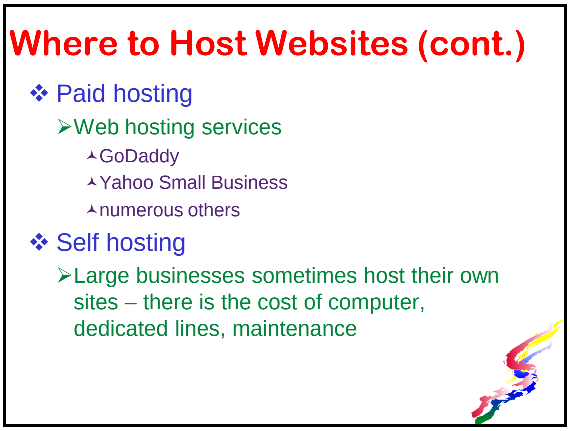
Best domain names

- ❖ Domain name should match the organization
  - ➢A domain for a web consulting business called *Vanessa's Webpages*
    - *vanessaswebpages.com* is probably the best
    - *vanessas.com* is ok
    - *coolconsulting.com* is not good



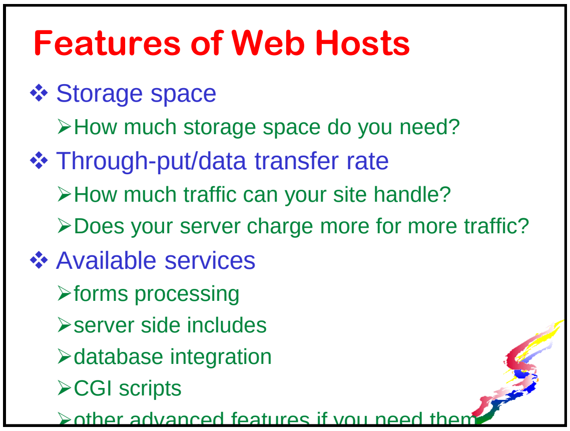
Where to Host Websites

- ❖ Free hosting Internet service provider (ISP)
  - ➢ISP often provide space for personal sites at no cost
    - Site does not have it's own domain, but is a subdomain or a folder of the ISP or other service
  - ➢Universities often provide space for students and faculty
    - No commercial web sites
    - Other restrictions
  - ➢Free web host
    - expect advertising



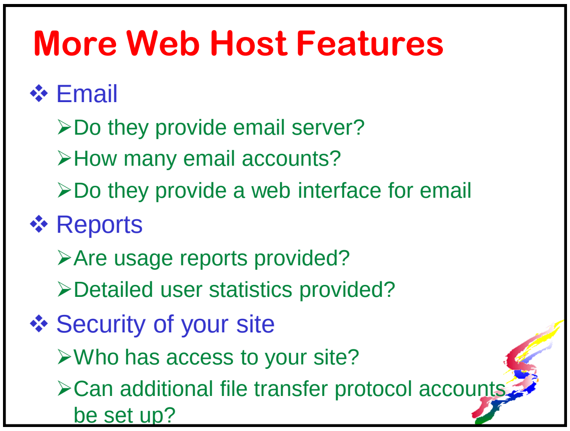
Where to Host Websites (cont.)

- Paid hosting
  - Web hosting services
    - GoDaddy
    - Yahoo Small Business
    - numerous others
- Self hosting
  - Large businesses sometimes host their own sites – there is the cost of computer, dedicated lines, maintenance



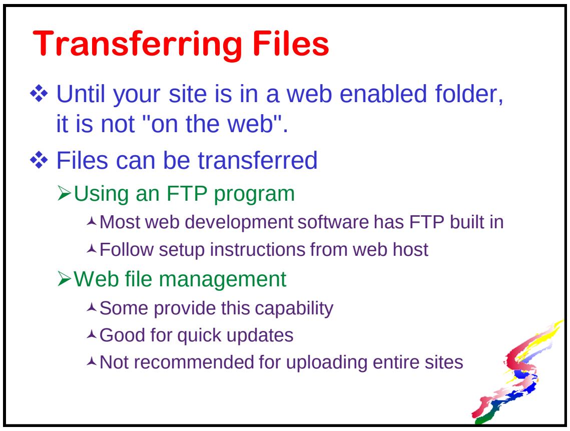
Features of Web Hosts

- Storage space
  - How much storage space do you need?
- Through-put/data transfer rate
  - How much traffic can your site handle?
  - Does your server charge more for more traffic?
- Available services
  - forms processing
  - server side includes
  - database integration
  - CGI scripts
  - other advanced features if you need them



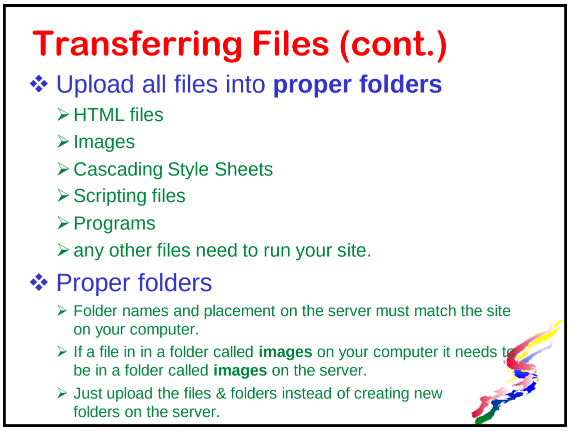
More Web Host Features

- Email
  - Do they provide email server?
  - How many email accounts?
  - Do they provide a web interface for email
- Reports
  - Are usage reports provided?
  - Detailed user statistics provided?
- Security of your site
  - Who has access to your site?
  - Can additional file transfer protocol accounts be set up?



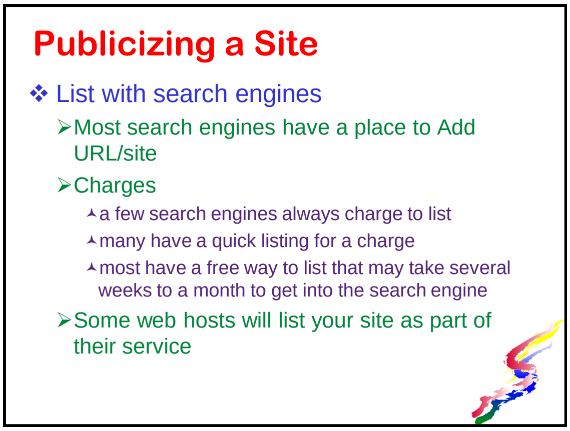
Transferring Files

- Until your site is in a web enabled folder, it is not "on the web".
- Files can be transferred
  - Using an FTP program
    - Most web development software has FTP built in
    - Follow setup instructions from web host
  - Web file management
    - Some provide this capability
    - Good for quick updates
    - Not recommended for uploading entire sites



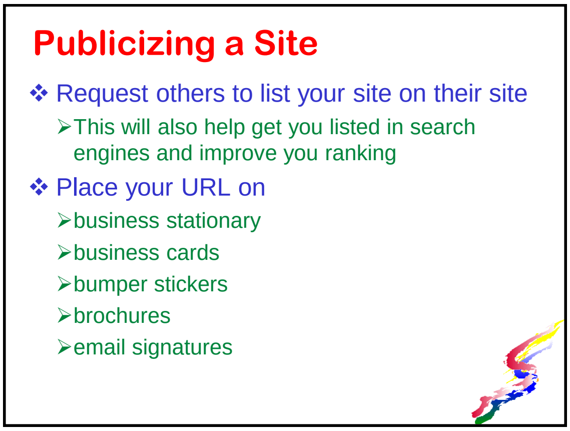
Transferring Files (cont.)

- Upload all files into **proper folders**
  - HTML files
  - Images
  - Cascading Style Sheets
  - Scripting files
  - Programs
  - any other files need to run your site.
- Proper folders
  - Folder names and placement on the server must match the site on your computer.
  - If a file in in a folder called **images** on your computer it needs to be in a folder called **images** on the server.
  - Just upload the files & folders instead of creating new folders on the server.



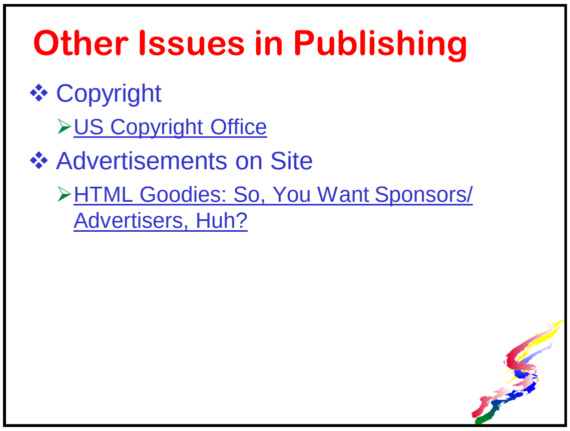
Publicizing a Site

- List with search engines
  - Most search engines have a place to Add URL/site
  - Charges
    - a few search engines always charge to list
    - many have a quick listing for a charge
    - most have a free way to list that may take several weeks to a month to get into the search engine
  - Some web hosts will list your site as part of their service



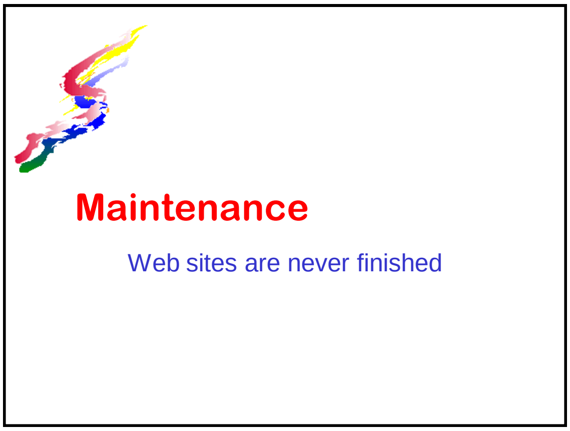
Publicizing a Site

- ❖ Request others to list your site on their site
  - ➢This will also help get you listed in search engines and improve you ranking
- ❖ Place your URL on
  - ➢business stationary
  - ➢business cards
  - ➢bumper stickers
  - ➢brochures
  - ➢email signatures



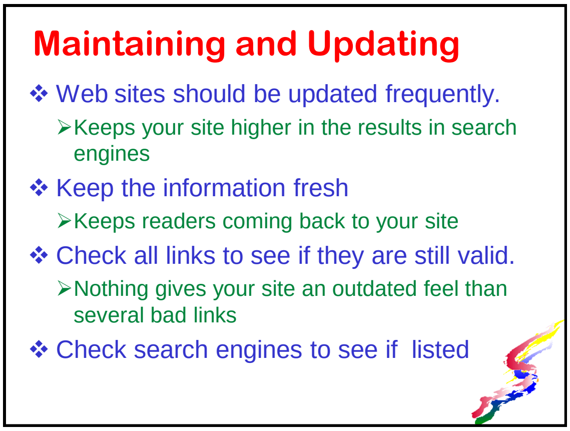
Other Issues in Publishing

- ❖ Copyright
  - ➢US Copyright Office
- ❖ Advertisements on Site
  - ➢HTML Goodies: So, You Want Sponsors/ Advertisers, Huh?



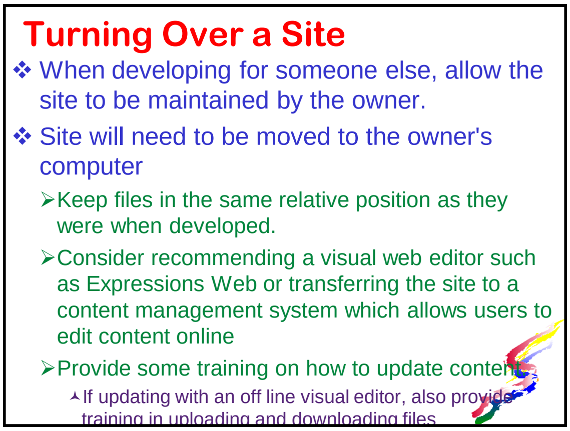
Maintenance

Web sites are never finished



Maintaining and Updating

- ❖ Web sites should be updated frequently.
  - ➢Keeps your site higher in the results in search engines
- ❖ Keep the information fresh
  - ➢Keeps readers coming back to your site
- ❖ Check all links to see if they are still valid.
  - ➢Nothing gives your site an outdated feel than several bad links
- ❖ Check search engines to see if listed



Turning Over a Site

- ❖ When developing for someone else, allow the site to be maintained by the owner.
- ❖ Site will need to be moved to the owner's computer
  - ➢Keep files in the same relative position as they were when developed.
  - ➢Consider recommending a visual web editor such as Expressions Web or transferring the site to a content management system which allows users to edit content online
  - ➢Provide some training on how to update content
    - ⅄If updating with an off line visual editor, also provide training in uploading and downloading files