# **HTML and CSS**

# **Tutorial Two: Developing a Web Site**

# **A Guide to this Instructor’s Manual:**

We have designed this Instructor’s Manual to supplement and enhance your teaching experience through classroom activities and a cohesive chapter summary.

This document is organized chronologically, using the same heading in **blue** that you see in the textbook. Under each heading you will find (in order): Lecture Notes that summarize the section, Figures and Boxes found in the section (if any), Teacher Tips, Classroom Activities, and Lab Activities. Pay special attention to teaching tips, and activities geared towards quizzing your students, enhancing their critical thinking skills, and encouraging experimentation within the software.

In addition to this Instructor’s Manual, our Instructor’s Resources CD also contains PowerPoint Presentations, Test Banks, and other supplements to aid in your teaching experience.

**For your students:**

Our latest online feature, CourseCasts, is a library of weekly podcasts designed to keep your students up to date with the latest in technology news. Direct your students to <http://coursecasts.course.com>, where they can download the most recent CourseCast onto their mp3 player. Ken Baldauf, host of CourseCasts, is a faculty member of the Florida State University Computer Science Department, where he is responsible for teaching technology classes to thousands of FSU students each year. Ken is an expert in the latest technology and sorts through and aggregates the most pertinent news and information for CourseCasts so your students can spend their time enjoying technology, rather than trying to figure it out. Open or close your lecture with a discussion based on the latest CourseCast.

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**Tutorial Objectives**

Students will have mastered the material in Tutorial Two when they can:

Session 2.1

* Explore how to storyboard a Web site
* Create navigation lists
* Create links between documents in a Web site
* Understand absolute and relative folder paths
* Set a base path
* Mark a location with the id attribute
* Create a link to an id

Session 2.2

* Mark an image as a link
* Create an image map
* Understand URLs
* Link to a resource on the Web
* Link to an e-mail address
* Work with hypertext attributes
* Work with metadata

**Exploring Web Site Structures**

LECTURE NOTES

* Discuss the need to have structure in the layout of a Web site.
* Explain the naming convention of the entry page to a Web site, the home page.
* Explain the concept and advantages of prototyping the design of a Web site.
* Describe the structure types used in the design of a Web site:
  + linear
  + hierarchical
  + mixed
* Explain the problems with not having a coherent structure.
* Discuss the reasons behind using a protected structure.

BOXES

* None

FIGURES

* Figure 2-1, Figure 2-2, Figure 2-3, Figure 2-4, Figure 2-5, Figure 2-6, Figure 2-7

TEACHER TIP

Many of the students will not have any previous knowledge of site structures. It is important that they understand that advanced site planning will make the flow of the Web site much easier to implement. Use plenty of diagrams to explain the different layouts.

CLASSROOM ACTIVITIES

* Class Discussion: Discuss with the students what type of information they might want to protect when using a protected structure for their Web site.

LAB ACTIVITY

* Student Lab: Have the students use an editor of their choice and create the HTML file as outlined in “To view Gerry’s Web pages” on page HTML 74 of the text.

**Creating a Navigation List**

LECTURE NOTES

* Define the term Navigation List and its use in a Web site.
* Explain the use of the nav structural element.

BOXES

* Insight: Navigation Lists and Web Accessibility (HTML 81)

FIGURES

* Figure 2-8, Figure 2-9

TEACHER TIP

Search the Internet for examples of both good and bad navigation systems. Then reinforce the importance of a good navigation list. Show examples of how a user can get lost within a Web site because they cannot move about the site in an understandable way.

CLASSROOM ACTIVITIES

* Student Discussion: Lead the class in a discussion of why it is important for students to include some form of navigation list on their Web sites. Also discuss the importance of providing a “go back” menu option as opposed to having the site visitor rely upon the browser’s Back button.

LAB ACTIVITY

* Student Lab: Have the students use an editor of their choice and create the HTML file as outlined in “To create the navigation list “on page HTML 80 of the textbook. .”

**Working with Hypertext Links**

LECTURE NOTES

* Review the function of hyperlinks and the advantages of creating a site map.
* Explain the syntax of the <a> tag.
* Discuss the styles of hyperlinks, including:
  + An unvisited link is underlined and blue.
  + A previously visited link is underlined and purple.
  + A link currently being clicked or activated is underlined and red.
* Discuss the difference in filenames and the relationship to the different operating systems.
* Describe the various attributes associated with the <a> tag. Use Figure 2-13 as a reference.

BOXES

* Tip: Keep your filenames short and descriptive so that users are less apt to make a typing error when accessing your Web site. (HTML 82)
* Reference: Marking a Hypertext Link (HTML 82)
* Insight: Interpreting the < a > Tag in Different Versions of HTML (HTML 84)

FIGURES

Figure 2-10, Figure 2-11, Figure 2-12, Figure 2-13

TEACHER TIP

When discussing the styles and colors of hyperlinks, remind students that it is suggested not to change the default colors of the links. The reason is that it can be confusing to some users of the Web who do not fully understand how the Web functions.

CLASSROOM ACTIVITIES

* Class Discussion: People have been using the Internet and the Web for almost 20 years now‑but not everyone knows and understands the meaning of the three colors of a hyperlink. Have students find the meaning of the hypertext link colors and discuss them. Also discuss the appropriateness of changing the default colors.

LAB ACTIVITY

* Student Lab: Have students use an editor of their choice and create the HTML file as outlined in “To create a hypertext link to a document” on page HTML 82 of the textbook. .”

**Specifying a Folder Path**

LECTURE NOTES

* Define “path.”
* Explain the difference between a filename and the path to the file.
* Use figure 2.14 as an aid to explaining the difference between a relative path and an absolute path.
* Describe the use of the <base href=”path” /> tag.

BOXES

* Tip: To make your Web site easier to maintain, organize your folders to match the organization of the pages on the Web site, and group images and other media files within folders separate from your HTML files. (HTML 87)
* Tip: Because hypertext links cannot contain blank spaces, avoid blank spaces in the names you give to your Web site folders and files. (HTML 87)
* Tip: You can reference the current folder using a single period (.) character. (HTML 88)
* Reference: Using the base Element (HTML 88)
* Proskills: Problem Solving: Managing Your Web Site (HTML 89)

FIGURES

* Figure 2-14, Figure 2-15, Figure 2-16

TEACHER TIP

The concept of a path will be new to some students. Be sure students understand the differences in the path syntax between Microsoft Windows and UNIX/Linux. Be sure to point out that the syntax for the Web page is the same as that for UNIX/Linux And is offset by the directory location of the Web page as it is defined by the configuration of the Web server that is in use.

CLASSROOM ACTIVITIES

* Group Activity: Break students into equal-sized groups and have them find examples of the use of the path syntax in several Web pages.

**Linking to Locations within a Document**

LECTURE NOTES

* Not all links leave the current HTML page. Discuss reasons why it is often convenient to have links within the same web page.
* Explain the use and syntax of the id attribute.
* Discuss the usefulness of adding a link to the top of a page.
* Explain the syntax of linking to an id. Include linking to ids in other documents.

BOXES

* Tip: In general, Web pages should not span more than one or two screen heights. Studies show that busy users often skip long Web pages. (HTML 90)
* Reference: Defining an Element id (HTML 91)
* Insight: Anchors and the name Attribute (HTML 95)
* Reference: Linking to an id (HTML 96)
* Proskills: Written Communication: Creating Effective Hypertext Links. (HTML 99)

FIGURES

* Figure 2-17, Figure 2-18, Figure 2-19, Figure 2-20, Figure 2-21, Figure 2-22, Figure 2-23, Figure 2-24, Figure 2-25, Figure 2-26, Figure 2-27, Figure 2-28

TEACHER TIP

Reference the PROSKILLS block on page HTML 99. Discuss with students the importance of creating links that are representative of the object they are actually linked to.

CLASSROOM ACTIVITIES

* Class Review: Review the question in the Quick Check section on page HTML 99.

LAB ACTIVITY

* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 90 of the textbook, “To create the navigation list.”
* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 91 of the textbook, “To add the id attribute to h2 headings.”
* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 92 of the textbook, “To mark the top of the page.”
* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 93 of the textbook, “To change the list of letters to hypertext links.”
* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 96 of the textbook, “To mark the glossary entries.”
* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 97 of the textbook, “To create links to the glossary entries.”

**Working with Linked Images and Image Maps**

LECTURE NOTES

* Explain the use and syntax of the <img> tag within a set of <a> tags.
* Describe the use of thumbnail images and their advantages.
* Describe the use of image maps and hotspots within an image.
* Discuss the differences between a client-side and a server-side image map.
* Explain the syntax for client-side image maps and hotspots.
* Explain the use of the usemap attribute.

BOXES

* Tip: Always include alternate text for your linked images to allow non-graphical browsers to display a text link in place of the linked image. (HTML 102)
* Insight: Removing Image Borders (HTML 103)
* Tip: For XHTML documents, use the id attribute in place of the name attribute to identify an image map. (HTML 104)
* Reference: Creating a Client-Side Image Map (HTML 106)
* Insight: Server-Side Image Maps (HTML-109)

FIGURES

* Figure 2-29, Figure 2-30, Figure 2-31, Figure 2-32, Figure 2-33, Figure 2-34, Figure 2-35

TEACHER TIP

The creation of image maps can be a daunting and tedious task to do manually. Research some of the free Web utilities that will automate the process and demonstrate these to the class.

CLASSROOM ACTIVITIES

* Class Discussion: Have students search the Internet for several Web sites that use image maps. Then they should evaluate and critique the maps; explaining what it is they like or dislike about the maps. Ask students to pay particular attention to the quality and accuracy of the hotspots within each map.

LAB ACTIVITY

* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 102 of the textbook, “To link the Photo of the Month image.”
* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 107 of the textbook, “To create an image map.”
* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 108 of the textbook, “To apply the logomap image map.”
* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 108 of the textbook, “To add image maps to the other Web pages.”

**Linking to Resources on the Internet**

LECTURE NOTES

* Define the term Uniform Resource Locator (URL) and give multiple examples.
* Explain what a protocol is and then discuss the Hypertext Transfer Protocol (HTTP).
* Discuss the protocols listed in Figure 2-36.
* Explain the makeup and syntax of a URL, as diagramed in Figure 2-37.
* Explain the use and function of FTP sites/servers.
* Discuss the syntax of a link to a FTP site.
* Reference Figure 2-41 and explain the differences between the ways a FTP site will be displayed in a Web browser.
* Describe the syntax for linking to a file located on the users local computer system.
* Describe the syntax for linking to an e-mail address.

BOXES

* Insight: Understanding Domain Names (HTML 111)
* Reference: Linking to Internet resources (HTML 112)
* Tip: To link to more than one e-mail address, add the addresses to the mailto link in a comma-separated list. (HTML 115)
* Proskills: Problem Solving: E-Mail Links and Spam (HTML 117)

FIGURES

* Figure 2-36, Figure 2-37, Figure 2-38, Figure 2-39, Figure 2-40, Figure 2-41, Figure 2-42,

TEACHER TIP

Spend time reviewing the Problem Solving box on page 117 with students. Creating e-mail links on your Web site may open the Web site owner up to receiving large quantities of spam.

CLASSROOM ACTIVITIES

* Class Discussion: Discuss the prevalence of spam and how spammers collect e-mail addresses. It may be necessary to disguise the way an e-mail address appears on the web page. Students can search the Web for different methods used to prevent e-mail addresses from being harvested off of their Web sites.

LAB ACTIVITY

* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 112 of the textbook, “To create links to sites on the Web.”
* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 116 of the textbook, “To link to an e-mail address in Gerry’s home page.”

**Working with Hypertext Attributes**

LECTURE NOTES

* Explain the behavior of a Web page when a link is activated.
* Discuss why a new window or tab may be preferred over having the new link replace the original Web page.
* Explain the syntax for the target attribute.
* Reference Figure 2-43 and discuss the options for the target attribute.
* Discuss the purpose and use of tooltips.
* Explain the syntax for the title attribute.
* Discuss the use of the rel attribute and its syntax.
* Explain the use of a semantic link.
* Reference Figure 2-46 for the values proposed for the rel attribute.
* Explain the use, function, and syntax of the link element.

BOXES

* Tip: All of the hypertext attributes associated with the <a> tag can also be applied to the <area> tags within your image maps. (HTML 117)
* Reference: Opening a Link in a New Window or Tab (HTML 118)
* Tip: To force all hypertext links in your page to open in the same target, add the target attribute to a base element located in the document’s header. (HTML 119)

FIGURES

* Figure 2-43, Figure 2-44, Figure 2-45, Figure 2-46

TEACHER TIP

Creating hypertext links may seem a simple thing for the inexperienced Web coder, but with a large number of attributes it can become very complex and often confusing. Remind students to take their time and select the attributes that are necessary. More attributes are not always better.

CLASSROOM ACTIVITIES

* Class Discussion: Discuss with students the over use o f tooltips. Tooltips can become annoying if they cover up the information the user is looking for. Have students consider if they are really necessary and if is it possible for the user to turn them off.

LAB ACTIVITY

* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 118 of the textbook, “To specify a link target.”

**Working with Metadata**

LECTURE NOTES

* Discuss the need to get a Web site into a search engine and the reason why ranking is important.
* Discuss methods that can be used to get a Web site recognized by search engines.
* Explain search engine optimization (SEO).
* Describe what metadata is and how it is used.
* Explain the syntax of the meta element.
* Discuss the example of the use of the meta element as defined in Figure 2-47.
* Explain the refresh attribute of the meta tag.

BOXES

* Tip: Avoid generic and vague descriptions of your Web site. Instead, to attract a specific target audience to your site, use descriptions and keywords that show how your Web site is different from others. (HTML 122)
* Reference: Working with Metadata (HTML 123)
* Tip: When redirecting a Web site to a new URL, avoid confusion by always including text notifying users that the page is being redirected, and provide users several seconds to read the text. (HTML 124)

FIGURES

* Figure 2-47, Figure 2-48

TEACHER TIP

Search engine optimization can be a very frustrating process. It should not be undertaken lightly and results are not achieved overnight. Also, some search engines will lower your ranking if they determine that you are attempting to manipulate the results of the search engine.

CLASSROOM ACTIVITIES

* Class Review: Review the question in the Quick Check section on page HTML 124.

LAB ACTIVITY

* Student Lab: Have students use an editor of their choice and create the HTML file as outlined on page HTML 123 of the textbook, “To add metadata to Gerry’s document.”
* Practice: Have students use an editor of their choice and create the HTML file as outlined on page HTML 125 of the textbook, “Review Assignments.”

**End of Tutorial Material**

* **Review Assignments:** Review Assignments provide students with additional practice of the skills they learned in the tutorial using the same tutorial case, with which they are already familiar.
* **Case Problems:** A typical NP tutorial has four Case Problems following the Review Assignments. Short tutorials can have fewer Case Problems (or none at all); other tutorials may have five Case Problems. The Case Problems provide further hands-on assessment of the skills and topics presented in the tutorial, but with new case scenarios. There are four types of Case Problems:
* **Apply**. In this type of Case Problem, students apply the skills that they have learned in the tutorial to solve a problem.
* **Create**. In a Create Case Problem, students are either shown the end result, such as a finished Web site, and asked to create the document based on the figure provided, or students are asked to create something from scratch in a more free-form manner.
* **Challenge**. A Challenge Case Problem involves three or more Explore steps. These steps challenge students by having them go beyond what was covered in the tutorial, either with guidance in the step or by using online Help as directed.
* **Research**. In this type of Case Problem, students need to go to the Web to find information that they will incorporate somehow in their work for the Case Problem.
* **ProSkills Exercises:** This feature is new for Office 2010 and Windows 7. ProSkills exercises integrate the technology skills students learn with one or more of the following soft skills: decision making, problem solving, teamwork, verbal communication, and written communication. The goal of these exercises is to enhance students’ understanding of the soft skills and how to apply them appropriately in real-world, professional situations that also involve software application skills. ProSkills exercises are offered at various points throughout a text, encompassing the concepts and skills presented in a standalone tutorial or a group of related tutorials.

**Glossary of Key Terms**

* absolute path (HTML 87)
* anchor (HTML 95)
* augmented linear structure (HTML 75)
* child folder (HTML 87)
* client-side image map (HTML 104)
* descendent folders (HTML 88)
* domain name (HTML 111)
* e-mail harvesters (HTML 117)
* extension (HTML 111)
* File transfer protocol (FTP) (HTML 114)
* FTP client (HTML 115)
* Ftp servers (HTML 114)
* href attribute (HTML 72)
* hierarchical structure (HTML 76)
* home page (HTML 75)
* hotspots (HTML 103)
* Hypertext Transfer Protocol (HTTP)  
  (HTML 109)
* image map (HTML 104)
* linear structure (HTML 75)
* metadata (HTML 121)
* navigation list (HTML 79)
* parent folder (HTML 88)
* path (HTML 87)
* pixels (HTML 104)
* Protocol (HTML109)
* relative path (HTML 87)
* search engine optimization (SEO) (HTML 121)
* semantic link (HTML 120)
* server-side image map (HTML 104)
* sibling folder (HTML 88)
* site index (HTML 77)
* Spam (HTML 117)
* storyboard (HTML 72)
* tag (HTML 72)
* title attribute (HTML 100)
* thumbnail images (HTML 102)
* tooltip (HTML 119)
* Uniform Resource Locator (URL) (HTML 109)

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