Lesson 1: Overview of Web Design Concepts

Objectives

By the end of this lesson, you will be able to:

✧ 1.2.1: Balance customer needs and usability with site design principles and aesthetics (includes distinguishing site design customer from site audience).

✧ 2.2.1: Identify Web site characteristics and strategies to enable them, including interactivity, navigation, database integration.

✧ 2.2.5: Identify purpose and usefulness of multimedia.

✧ 3.1.2: Write X/HTML code to create a static Web page with text and images.

✧ 4.1.1: Identify multimedia Web design principles, and choose appropriate multimedia technologies for a site based on usability criteria.

Pre-Assessment Questions

1. By its nature, the Internet is:

    a. transactional.
    b. linear.
    c. passive.
    d. self-reflective.

2. Aside from customer or design requirements, you should only consider using multimedia on a site:

    a. when it makes the site look more impressive to other developers.
    b. when it increases download time only for certain pages.
    c. when it is Adobe Flash or a related SWF technology.
    d. when it has either no effect or a positive effect on the usability of the site.

3. What does the acronym GUI stand for, and what does it mean?

    _____

    _____

    _____

    _____

Web Technology

In a relatively short period of time, the World Wide Web has become an indispensable tool for both work and leisure. Many people now turn to the Web in their daily lives to find information, rather than using the telephone or other traditional means. The Web allows information to be disseminated with speed, accuracy and detail. Web addresses are now included in most businesses' radio, television and print advertisements, offering customers a more personalized and specific method of information access to assist in learning and decision making.

However, today's Web is more than just an information dissemination tool. Increasingly, people are regularly using Web-based software applications to perform their job tasks, as well as to manage aspects of their personal lives. The ability to connect directly with other people and organizations through an easy-to-use and widespread computer network technology has the potential to improve business productivity and to positively influence our lives by streamlining many processes that were formerly very complex.

It is the Web designer's responsibility to ensure that a Web site or Web-based application conveys the appropriate message and is usable by the intended audience. Thus, the concepts of design are as important in a Web site as the content and functionality.

Web designers are not the only people who need to be educated about design. To be competitive, people in both technical and non-technical positions (and those who support them) must be familiar with Web design concepts. Everyone in the modern office environment will contribute to the development of the information infrastructure.

Tools and technologies abound to make Web page design easier. In addition to understanding design and being able to create usable Web sites, designers must be familiar enough with the technical aspect of Web design to be able to choose the tools that will give them the competitive edge for their organizations.

The Nature of the Web

Most Web site designers approach development from a self-reflective point of view. They are interested in presenting themselves to a mass audience with the known metaphors of mass advertising. However, the Internet offers an alternative: the capability for one-to-one relationships. Users of Web sites respond better to information and product offerings that are tailored to their specific needs.

Later in this course, you will examine the tools of the Web designer. You should understand that by its nature, the Internet is a medium that enables the user to choose which information to access and when to access it. This fact makes the Internet a one-to-one medium as opposed to a broadcast medium. Thus, the concepts and applications of mass media are not necessarily valid for the Internet.

Mass media is mostly passive. Its goal is to create in the viewer or reader enough interest that eventually he or she will translate that interest to a desired transaction (such as buying an advertised product). An interruption exists between the act of reading or viewing and the act of transaction. That is, the customer does not interact directly with a television or newspaper. Thus, creating information for mass media requires a different strategy than creating information for the Internet.

By its nature, the Internet is transactional. The entire Internet experience, from logging on to Web browsing, is predicated on user requests and server responses — in other words, transactions and interactivity. Furthermore, by its nature the Internet is non-

linear. The user constantly makes transactional decisions, first leading to and arriving at the site, then navigating within the site, performing searches (often within the site's integrated databases), conducting e-commerce, and finally deciding to return to the site. However, users can switch to another site — and another business — any time they choose.

You can see that characteristics such as interactivity, navigation and database integration set Web sites apart from other media that do not implement these strategies.

Current Web development direction

Web services
A group of XML-based technologies and open standards that enable computers with various platforms and software to exchange data and share functionality over the Web.

The most recent trends in Web content have been toward increasingly up-to-date information and ease of collaboration. An example of such technology that is currently revolutionizing Web development is **Web services**. Web services technology is a group of XML-based technologies that enable computers using different operating systems and software to easily exchange information and share functionality over the Web using a standard language. Development platforms currently supporting Web services include Microsoft's .NET and Sun's Sun One.

The benefit of Web services to a Web developer is that the developer can use third-party services on his or her own site or Web application without needing to know the details of any service's functionality. The developer needs to know only necessary information for connecting with the service. For example, a search engine may publish its Web services, allowing subscribers to use its search technology. The search engine service does not explain its search technology or functionality to users — only the required information for accessing it.

blog
A collection of personal thoughts posted on a public Web site. Blogging is the act of adding entries to a blog.

Another example of recent Web content trends is Web logs, or **blogs**. A blog is a chronologically organized personal Web journal. Many free or low-cost Web-based tools enable people with very little technical ability to publish blogs. The result is that everyone from teenagers to CEOs can — and do — use blogs to self-publish their thoughts on the Web.

One of the greatest aspects of emerging technologies and trends such as XML, Web services and blogs is that the World Wide Web community has agreed on them and has enthusiastically adopted them. The result is that communication and collaboration on the Web is currently moving forward as never before.

Tools and technology

graphical user interface (GUI)
A program that provides graphical navigation with menus and screen icons.

For years, there has been much debate about whether or not to use specialized tools to assist in the Web development process. Today's **graphical user interface (GUI)** Web page-editing tools are good enough that the majority of Web designers see them as useful, and even necessary, for Web development. When using tools to automate development tasks, Web developers still need to understand the underlying technologies (including Hypertext Markup Language [HTML]), but developers should still use the tools available to help them do their jobs efficiently.

NOTE:
The acronym GUI is pronounced "gooey."

Tech Note

GUI site-development tools use a display format in which the file being edited appears on the screen just as it will appear to the end user. These applications are sometimes also called WYSIWYG (pronounced "whiz-ee-wig") tools, which is an acronym for What You See Is What You Get.

This course will introduce you to two GUI Web development tools: Adobe Dreamweaver and Microsoft Expression Web. In future lessons, you will explore these two tools and consider the features that will maximize your organization's HTML development efficiency. You will learn about the design options in both programs, as well as the

push technology
A Web delivery format that allows Web page content to automatically download to a computer at user-defined intervals.

OBJECTIVE
4.1.1: Multimedia Web design principles

OBJECTIVE
2.2.5: Multimedia purpose

interactivity
The ability for software to respond differently to the user's actions; the system's response is directly communicated to the user.

OBJECTIVE
1.2.1: Needs and usability vs. design and aesthetics

important features for site management and search engine optimization (SEO). Expression Web and Dreamweaver are not the only GUI development tools available, and they are not necessarily the best tools for every job. However, both are widely used, and together they cover most of the spectrum of features available in the latest generation of Web development tools.

This course sometimes refers to X/HTML to signify an interchangeable reference to HTML and/or Extensible HTML (XHTML), the most current HTML standard.

Generally, many tools are used in unison for Web development; this course focuses on the collaborative application aspect of Web design. For more advanced topics such as images and animation, other applications will be used to facilitate rapid development. Adobe Flash is another product that is increasing in popularity and functionality, and it is also profiled in this course. Flash enables media-rich content to be delivered while also conserving bandwidth, which is a valuable commodity to the Web designer.

Web Design Concepts

Web design has many similarities with print design. The Web, like printed media, was originally designed for distributing text to be read widely by people.

As multimedia was introduced on the Web, many people began to make comparisons between the Web and television. **Push technology**, in which information is sent to the user automatically, was introduced as a way of making the Web more of a passive medium. However, the comparison between the Web and television is still not accurate.

Multimedia

One of the most common misconceptions about Web design is that a good site must dazzle the user with a multimedia experience, and that the content of the site is of secondary importance.

As a Web designer, you want your site users to have a satisfying experience, but dazzling them is not necessarily your goal. The primary goal in Web design is to give users what they want, not what you think they want. This goal can be achieved with a complex balance of well-planned design, high-quality content, and proper use of available media. If multimedia makes sense and enhances the usability of a site, you should use it. If multimedia does not enhance the user experience, or if it degrades the user experience by creating an unnecessarily long download, then you should not use it.

Interactivity

Web design actually has much more in common with software interface design than either print design or television.

The key difference between Web design and design for traditional media such as print or television is **interactivity**. Web designers must be aware of the way that information is presented on the screen, and also of the ease with which site visitors can use the site's navigation and other interactive elements.

Ultimately, if you do not satisfy your Web users' needs or desires, they will find other sites that will. The Web designer who thinks only from his or her own perspective, and not from the users' perspective, will certainly find dissatisfied Web visitors, clients and customers.

New Technologies

Soon after you learn the different tools available for designing Web sites, you will need to evaluate those tools for their abilities to function at the next level. Both Microsoft Expression Web and Adobe Dreamweaver implement Dynamic HTML (DHTML) functions that will take advantage of available technology.

This course will discuss other recent technologies as well, such as new and alternative browsers, Cascading Style Sheets (CSS), Extensible Markup Language (XML), and the use of JavaScript in your Web design for additional functionality. You will also learn about the World Wide Web Consortium (W3C) advancement of the newest standards, and the ways in which browser manufacturers contribute to development of new technologies.

Remember that you will use several tools to develop Web sites in this course. The goal of this course is not to make you an expert user of these tools, but to give you enough information about the key components of each tool that you can make educated decisions about which tools will most benefit your organization's needs.

Evaluating Your XHTML Skills

In the following lab, you will test and evaluate your Extensible HTML (XHTML) skills by creating a basic Web page similar to the example given. Suppose a prospective employer wants to know about your XHTML coding skills. The site development job for which she is hiring would require you to compare and use Web development tools. Although XHTML knowledge is not required for this job, the employer feels that these skills could be helpful. By creating a basic page such as this one, you can demonstrate to the employer that you have the XHTML knowledge to more effectively evaluate and use Web development tools.

Lab 1-1: Creating a basic Web page

In this lab, you will create a basic Web page to evaluate your XHTML skills. Solution code for the example page is given at the end of the lab and included with the supplemental files.

1. Verify that you have created the **C:\CIW\Web_Dsgn_Spec\LabFiles** directory on your computer, and that the **LabFiles** folder contains subfolders and files for lessons in this course. If this directory does not exist, access the supplemental files now, and extract the files for the **Web Design Specialist** course.

    Note: Instructions for using the supplemental files are provided in the front matter section of this book.

2. **Editor:** Open a text editor such as Notepad, and write the XHTML code to create a Web page document. In addition to the four basic structure tags and the <!DOCTYPE> tag, use XHTML tags to create or modify the following elements on a basic Web page:

    *   Table

    *   Font

NOTE:
You can see how some Web developers apply concepts of Web design in **Activity 1-1: Evaluating Web design**.

NOTE:
Knowledge of X/HTML is a prerequisite for this course. However, if you do not have solid HTML skills and you find Lab 1-1 too difficult, you can begin by reviewing the basic XHTML tags in **Optional Lab 1-1: Practicing your XHTML skills**. Note that the résumé file you create in Optional Lab 1-1 can be used in later labs and optional labs in this course.

OBJECTIVE
3.1.2: Basic X/HTML code

NOTE:
Try to create this entire XHTML page before you look at the solution code. You will learn more by guessing, comparing and correcting mistakes than you will by copying code.

- Hyperlink (using HTTP as the protocol)

- Image

3. Open **Windows Explorer** and navigate to the directory **C:\CIW\Web_Dsgn_Spec \LabFiles\Lesson01\Lab_1-1**. To re-create the page shown, the following images are provided with the supplemental files in the Lab_1-1 folder:

- ciw-logo.gif

- arrow.gif

The following colors were used to create the sample Web page:

- Blue (#164470)

- White (#FFFFFF)

4. Use your creativity to modify your page. Your page's basic structure should resemble Figure 1-1. Try to re-create the page without looking at the code in the following step. Refer to that code only as necessary. Save your file as **CIWskills.htm** to the **C:\CIW\ Web_Dsgn_Spec\LabFiles\Lesson01\Lab_1-1** folder.
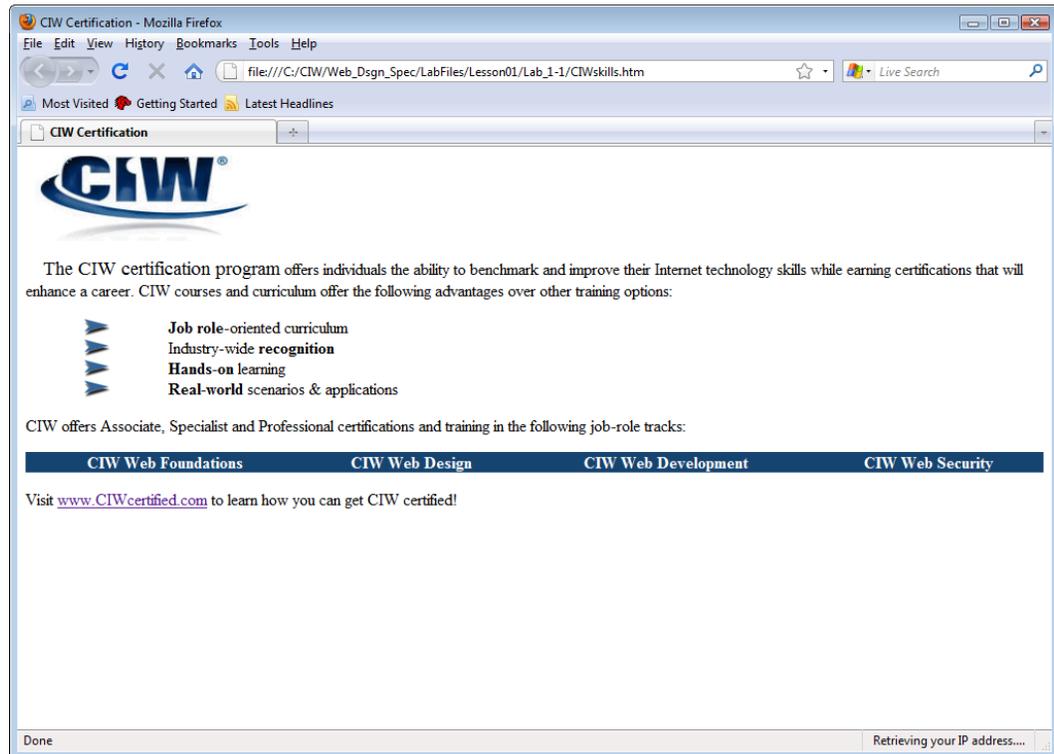

Figure 1-1: Basic Web page structure

5. **Notepad:** To compare your work, open the file **CIWskills(completed).htm** from the **C:\CIW\Web_Dsgn_Spec\LabFiles\Lesson01\Lab_1-1** folder of the supplemental files. Compare the code in this file to the code you wrote on your own. This file includes the following XHTML code, which was used to create the page shown in the preceding figure.

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">
```

```
<head>
<title> CIW Certification </title>
</head>

<body bgcolor="#ffffff">

<a href="http://www.ciwcertified.com"><img src="ciw-logo.gif" alt="CIW logo"
width="231" height="84" border="0"/></a>
<p>
   <span style="font-size:14pt">
The CIW certification program</span>
offers individuals the ability to benchmark and improve their Internet
technology skills while earning certifications that will enhance a career. CIW
courses and curriculum offer the following advantages over other training
options:
</p>

<table width="70%" border="0" cellspacing="0" cellpadding="0">
  <tr>
    <td width="20%" align="center"><img src="arrow.gif" alt="arrow"/></td>
    <td width="80%"><b>Job role</b>-oriented curriculum</td>
  </tr>
  <tr>
    <td width="20%" align="center"><img src="arrow.gif" alt="arrow"/></td>
    <td width="80%">Industry-wide <b>recognition</b></td>
  </tr>
  <tr>
    <td width="20%" align="center"><img src="arrow.gif" alt="arrow"/></td>
    <td width="80%"><b>Hands-on</b> learning </td>
  </tr>
  <tr>
    <td width="20%" align="center"><img src="arrow.gif" alt="arrow"/></td>
    <td width="80%"><b>Real-world</b> scenarios &amp; applications</td>
  </tr>
</table>
<p>
CIW offers Associate, Specialist and Professional certifications and training
in the following job-role tracks:
</p>
<table width="100%"
border="0" cellspacing="0" cellpadding="0" align="center">
  <tr bgcolor="#164470" align="center">
    <td><b><span style="color:#ffffff">
    CIW Web Foundations
    </span></b></td>
    <td><b><span style="color:#ffffff">
    CIW Web Designer
    </span></b></td>
    <td><b><span style="color:#ffffff">
    CIW Web Development
    </span></b></td>
    <td><b><span style="color:#ffffff">
    CIW Web Security
   </span></b></td>
  </tr>
</table>
<p>
Visit <a href="http://www.ciwcertified.com">www.CIWcertified.com</a> to learn
how you can get CIW certified!
</p>
</body>
</html>
```

6. **Browser:** Open this file in your browser. It should resemble the page shown in the preceding figure. How does it compare to the page for which you wrote your own code?

Case Study

Taming of the Shoe

Jose works as a contract Web site developer. He accepted a job developing an informational site for a small, independent shoe-repair business. His employer provided the written content he wanted on the site and a few photos of the store, and left the rest of the design up to Jose.

As he was developing the site, Jose worried that his design would be very bland because he had so little content to work with. So he enhanced the site with a lot of multimedia, flashy effects, artistic enhancements of the photos, customer surveys, and humorous captions and quotations. Jose was pleased with the design because he felt it would dazzle the site users, increase interactivity, and make the shoe-repair business seem more interesting.

However, Jose's employer was not happy with the design. He asked Jose to redesign the site; otherwise, he said, he would not pay the contract.

*　　　*　　　*

Consider this scenario and answer the following questions.

- What problems do you see with Jose's design for this site?

- Why do think Jose's employer did not like Jose's design for the site?

- How do you think the site's intended audience would respond to the site Jose designed?

- Are there any aspects of the design that Jose, as a Web development professional, should try to persuade the employer to keep?

Lesson Summary

Application project

This lesson defined the primary goal in Web design as giving users what they want. Consider a Web site that you enjoy using. How does this site give you what you want? For what purpose do you visit the site? What aspects of the site make you return?

Skills review

In this lesson, you were introduced to the concepts of Web technology and the tools used to implement it. You also briefly considered new technologies and strategies involved in Web design. Finally, you evaluated your XHTML skills by creating a basic Web page.

Now that you have completed this lesson, you should be able to:

✓ 1.2.1: Balance customer needs and usability with site design principles and aesthetics (includes distinguishing site design customer from site audience).

✓ 2.2.1: Identify Web site characteristics and strategies to enable them, including interactivity, navigation, database integration.

✓ 2.2.5: Identify purpose and usefulness of multimedia.

✓ 3.1.2: Write X/HTML code to create a static Web page with text and images.

✓ 4.1.1: Identify multimedia Web design principles, and choose appropriate multimedia technologies for a site based on usability criteria.

Lesson 1 Review

1. In relation to Web site design, what is the purpose of tools and technologies?

   _____

2. Describe briefly why the Internet is transactional in nature, as opposed to media such as magazines or television.

   _____

   _____

   _____

   _____

3. The Web site designer should design to provide users with a satisfying experience when they visit the site. What is the primary goal of this focus?

   _____

4. What is the key difference between Web design and print or television design?

   _____

5. Why is it important for Web designers to know XHTML?

   _____