Web Design Specialist
Lesson 1: Overview of Web Design Concepts
Objectives

• Balance customer needs and usability with site design principles and aesthetics
• Identify Web site characteristics and strategies to enable them, including interactivity, navigation, database integration
• Identify purpose and usefulness of multimedia
• Write X/HTML code to create a static Web page with text and images
• Identify multimedia Web design principles, and choose appropriate multimedia technologies for a site based on usability criteria
The Nature of the Web

- Current Web development direction
- Tools and technology
  - Graphical user interface (GUI)
  - What You See Is What You Get (WYSIWYG)
Web Design Concepts

- Push technology
- Multimedia
- Interactivity
Newer Technologies

- Dynamic HTML (DHTML)
- Alternative browsers
- Cascading Style Sheets (CSS)
- Extensible Markup Language (XML)
- JavaScript
Summary

✓ Balance customer needs and usability with site design principles and aesthetics
✓ Identify Web site characteristics and strategies to enable them, including interactivity, navigation, database integration
✓ Identify purpose and usefulness of multimedia
✓ Write X/HTML code to create a static Web page with text and images
✓ Identify multimedia Web design principles, and choose appropriate multimedia technologies for a site based on usability criteria
Lesson 2:
Web Development Teams
Objectives

- Identify job responsibilities and tasks of a Web designer or Web development team member
- Develop and update your Web design portfolio with demonstration pages and sites
- Define the collaborative nature of a Web development project
- Identify Web site characteristics and the project resources they require
- Identify elements of a successful Web marketing campaign
Web Teams and Tasks

- Nature of Web teams
- Composition of Web teams
  - Project management
  - Information architecture
  - Graphic design
  - Information technology
  - Marketing
  - Writing and editing
Skills Contributing to Web Design Teams

- Creative
- Management
- Technical

Web Design Team
Web Project Collaboration

- Intranets
- Wiki sites
- Online conferencing
- Instant messaging (IM)
Your Web Design Portfolio

• Web portfolio contents
• Updating your portfolio
Your Web Design Business

- Business sense
- The good, the bad and the ugly
- Writing
- Keeping your skills up to date
Summary

- Identify job responsibilities and tasks of a Web designer or Web development team member
- Develop and update your Web design portfolio with demonstration pages and sites
- Define the collaborative nature of a Web development project
- Identify Web site characteristics and the project resources they require
- Identify elements of a successful Web marketing campaign
Lesson 3: Web Project Management Fundamentals
Objectives

- Determine site project implementation factors
- Create a Web project plan
- Document customer expectations and feedback
- Communicate plans and progress regularly to ensure that completed project meets stakeholder/customer expectations
- Identify and manage changes in project scope
- Document changes in development plan
- Create a project tracking report
- Conduct a project evaluation
Web Project Management Phases

• Initiating phase
  – Scope
  – Needs analysis
  – Goals, assumptions and restraints
  – Statement of Work (SOW)

• Planning phase
  – Project schedule
Web Project Management Phases (cont’d)

- Executing and controlling phases
  - Conceptualization
  - Structure
  - Design and analysis
  - Production and testing
  - Evolution
- Closing phase
Project Documentation and Communication

- Scope creep
- Adjusting the project plan
- Paper trail
- Project tracking report
  - Issues log
Summary

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- Create a Web project plan
- Document customer expectations and feedback
- Communicate plans and progress regularly to ensure that completed project meets stakeholder/customer expectations
- Identify and manage changes in project scope
- Document changes in development plan
- Create a project tracking report
- Conduct a project evaluation
Lesson 4:
Web Site Development Process
Objectives

- Determine the audience for the site
- Develop a Web site vision statement
- Develop a site strategy and identify strategy implementation tactics
- Use the mindmapping process to structure a Web site
- Set design goals appropriate for the business/organization represented by the site and the site’s intended audience
- Create a site metaphor
- Develop site design and architecture specifications
- Use flowcharts and Web wireframes to determine page layout
- Create Web page and site templates that fulfill design specifications
- Identify challenges involved in designing Web pages for PDA-based versus traditional browsers
Understanding the Business Process

- Sites that deliver products intrinsically dependent on the Internet
- Sites that deliver existing products and services to a global market via the Internet
Defining a Web Site Vision

- Vision statement
  - Value
  - Measurable goal
From Vision to Strategy

- Defining the Web site strategy
- Defining the Web site tactics
Web Site Specifications

- Functionality
- Content
- Architecture
- Design
The Metaphor

- A Web site can be presented as a particular object or experience
  - Metaphor guidelines
  - Metaphor examples
Mystery Meat Navigation

- Makes it difficult for the user to determine the destination of hyperlinks or to find hyperlinks on the page
- Makes your site less accessible
- Makes your site less useful
The Mindmapping Process

- Allows you to structure ideas on paper in the order your brain follows, rather than the linear process normally used when documenting ideas
Mindmapping a Web Site
Web Site Wireframe

• A skeletal view of a Web site’s architecture
  – Hierarchical format describes the relationship between the pages

• A finalized representation of the site

• Used to:
  – Set customer expectations for site
  – Describe the need for specific programming
Web Page Wireframe

- Focuses on the flow of content on an individual Web page
- Can help you think through each element
Summary

- Determine the audience for the site
- Develop a Web site vision statement
- Develop a site strategy and identify strategy implementation tactics
- Use the mindmapping process to structure a Web site
- Set design goals appropriate for the business/organization represented by the site and the site’s intended audience
- Create a site metaphor
- Develop site design and architecture specifications
- Use flowcharts and Web wireframes to determine page layout
- Create Web page and site templates that fulfill design specifications
- Identify challenges involved in designing Web pages for PDA-based versus traditional browsers
Lesson 5:
Web Page Layout and Elements
Objectives

- Apply branding to a Web site
- Define and use common Web page design and layout elements
- Determine ways that design helps and hinders audience participation
- Manipulate space and content to create a visually balanced page/site
- Use color and contrast
- Use design strategies to control a user’s focus on a page
- Apply strategies and tools for visual consistency to Web pages and site
Objectives (cont’d)

- Convey a site’s message, culture and tone
- Eliminate unnecessary elements
- Design for typographical issues in printable content
- Design for screen resolution issues
- Identify Web site characteristics and strategies to enable them
- Identify audience and end-user capabilities
- Use hexadecimal values to specify colors in X/HTML
- Evaluate image colors
Web Users and Site Design

- Design restrictions
- Site characteristics
  - Navigation
  - Interactivity
  - Database integration
Effective Web Page Layout

- Web page layout elements
- Common layout formats
- Visual consistency
- White space
- Visual balance
- Speed and scrolling
- Screen resolution
Color and Web Design

• Cultural perceptions
• Additive color display
• Color formats
  – RGB
  – Hexadecimal
Color and Web Design (cont’d)

- Color on computer monitors
Color and Web Design (cont’d)

- Browser-safe colors
  - Dithering
- Color combinations
- Color transitions
Fonts and Web Design

• Limitations
• Typography
  – Serif fonts
  – Sans-serif fonts
Fonts and Web Design (cont’d)

– Font size
– TrueType
– Anti-aliasing
– Horizontal line length
– Typographical issues in printable content
Summary

✔ Apply branding to a Web site
✔ Define and use common Web page design and layout elements
✔ Determine ways that design helps and hinders audience participation
✔ Manipulate space and content to create a visually balanced page/site
✔ Use color and contrast
✔ Use design strategies to control a user’s focus on a page
✔ Apply strategies and tools for visual consistency to Web pages and site
Summary (cont’d)

✓ Convey a site’s message, culture and tone
✓ Eliminate unnecessary elements
✓ Design for typographical issues in printable content
✓ Design for screen resolution issues
✓ Identify Web site characteristics and strategies to enable them
✓ Identify audience and end-user capabilities
✓ Use hexadecimal values to specify colors in X/HTML
✓ Evaluate image colors
Lesson 6: Web Site Usability and Accessibility
Objectives

- Determine the audience for the site
- Conduct audience usability tests
- Identify and apply user-accessibility standards and laws
- Identify common user-accessibility challenges and solutions
- Perform site testing
Audience Usability and Accessibility

• Know your audience
  – Demographics
  – Technology capabilities
  – Disabilities
Defining Usability

- Elements of usability
- Software technology
Web Usability Testing

- Before the test
- Who should test usability?
- Usability tasks
- Results
- Applying the results
Web Page Accessibility

- WAI conformance
- Section 508 of the Rehabilitation Act
Summary

- Determine the audience for the site
- Conduct audience usability tests
- Identify and apply user-accessibility standards and laws
- Identify common user-accessibility challenges and solutions
- Perform site testing
Lesson 7: Browsers
Objectives

• Identify challenges involved in designing Web pages for PDA-based versus traditional browsers
• Identify site strategies and technologies to avoid, including pop-up windows, single-browser sites, spam
• Perform site testing
• Identify accessibility issues and solutions related to Web images and animation
• Identify the functionality of pop-up/pop-under windows
• Define CAPTCHA and create a CAPTCHA for a Web site
• Explain how the TinyURL service works
Browsers and Navigation

• Components of browser functionality
  – Internet access layer
  – Navigation layer
  – Presentation layer
Browsers and Design Considerations

• Designs / technologies to avoid
  – Single-browser technologies
  – Reliance on browser navigation
  – Pop-up and pop-under windows
  – Spam
    • Blacklist
Major, Minor and Alternative Browsers

- Mozilla Firefox
- Microsoft Internet Explorer
- Opera
- Apple Safari
- Google Chrome
TinyURL

- Free Web service that provides aliases for long URLs
  - Short URLs are useful because they are easy to remember and easy to type
  - However, they are subject to linkrot
- Visit http://tinyurl.com/
CAPTCHA

- Automatically generated graphic presented to a user
- Ensures that a user is a real person and not a computer
- Typical application is to protect Web site registration
Summary

- Identify challenges involved in designing Web pages for PDA-based versus traditional browsers
- Identify site strategies and technologies to avoid, including pop-up windows, single-browser sites, spam
- Perform site testing
- Identify accessibility issues and solutions related to Web images and animation
- Identify the functionality of pop-up/pop-under windows
- Define CAPTCHA and create a CAPTCHA for a Web site
- Explain how the TinyURL service works
Lesson 8: Navigation Concepts
Objectives

- Identify Web site hierarchy/architecture concepts
- Identify common navigation conventions
- Develop and apply a navigation action plan
Primary and Secondary Navigation

• Primary
  – Navigation elements are accessible from most locations within site

• Secondary
  – Navigation elements allow user to navigate within specific location
Navigation Hierarchy

- Positional awareness
- Navigation depth, icons and controls
- Beyond the browser
Site Structure, URLs and File Names

• Site structure
  – Describes how Web site is stored on Web server

• URLs
  – Can be used to determine location and depth

• File names
  – Helpful as directory names
Familiar Navigation Conventions

• Labels
• Corporate logos
• Branding images
Navigation Action Plan

- Determine users’ goals and needs
- Learn from navigation that works
- Go deeper than the home page
- Provide quick links
- Design for various user preferences
Summary

✓ Identify Web site hierarchy/architecture concepts
✓ Identify common navigation conventions
✓ Develop and apply a navigation action plan
Lesson 9:
Web Graphics
Objectives

- Distinguish between vector and raster graphic types
- Identify and choose appropriate image file formats, including browser-compatibility issues and lowest common denominator in audience usability
- Insert metadata into images to ensure accessibility and to ensure higher page ranking in search engine result pages
Objectives (cont’d)

• Identify the benefits and drawbacks of using stock photography when developing a site
• Identify accessibility issues and solutions related to Web images and animation
• Identify Scalable Vector Graphics (SVG) characteristics
Web Site Images

- Stock photography
- Photosharing
- Adding metadata to images
Digital Imaging Concepts

- Pixels
- Color depth
- Image resolution
- Palettes
  - Dithering
Raster vs. Vector Graphics

• Raster graphics
  – Also known as bitmap graphics
  – Use small dots to create images and colors
  – Best for photographs and realistic graphics

• Vector graphics
  – Store information about image in mathematical instructions that are interpreted and displayed
  – Best for line art, shapes and illustrations
Graphics Applications

- Vector-based drawing programs
- Paint programs
# Image File Formats

<table>
<thead>
<tr>
<th>File Name Extension</th>
<th>File Format</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>.jpg, .jpeg, .jpeg</td>
<td>Joint Photographic Experts Group (JPEG)</td>
<td>Joint Photographic Experts Group</td>
</tr>
<tr>
<td>.gif</td>
<td>Graphics Interchange Format (GIF)</td>
<td>CompuServe Inc.</td>
</tr>
<tr>
<td>.tif</td>
<td>Tagged Image File Format (TIFF)</td>
<td>Aldus Corporation</td>
</tr>
<tr>
<td>.bmp</td>
<td>Bitmap (BMP)</td>
<td>Microsoft Corporation</td>
</tr>
<tr>
<td>.wpg</td>
<td>WordPerfect Graphic</td>
<td>WordPerfect Corporation (Novell)</td>
</tr>
<tr>
<td>.png</td>
<td>Portable Network Graphics</td>
<td>Codelab Inc.</td>
</tr>
<tr>
<td>.pcx</td>
<td>Bitmap (BMP)</td>
<td>ZSoft Corporation</td>
</tr>
</tbody>
</table>
Creating and Optimizing Images

- Web images and accessibility
- Image optimization
- Image slicing and splicing
Essential Graphic Design Concepts

- Composition
- Grid-based layout
- Typography
Summary

✓ Distinguish between vector and raster graphic types
✓ Identify and choose appropriate image file formats, including browser-compatibility issues and lowest common denominator in audience usability
✓ Insert metadata into images to ensure accessibility and to ensure higher page ranking in search engine result pages
Summary (cont’d)

- Identify the benefits and drawbacks of using stock photography when developing a site
- Identify accessibility issues and solutions related to Web images and animation
- Identify Scalable Vector Graphics (SVG) characteristics
Lesson 10: Multimedia and the Web
Objectives

- Use Web content properly, including original content, misleading/inaccurate information, copyrighted content, licensing, avoiding infringement
- Identify purpose and usefulness of multimedia
- Identify audience and end-user capabilities
- Identify multimedia Web design principles, and choose appropriate multimedia technologies for a site based on usability criteria
- Identify accessibility issues and solutions related to Web images and animation
Current Multimedia Capabilities

• Limitations
  – Bandwidth
  – Browser support technology
• Time factor
Multimedia Types

- Animation
- Audio
- Video
Animation and the Web

- Animated GIFs
- Rollovers
- Flash files
- Microsoft Silverlight
- Animation to avoid
  - Scrolling text
Audio and the Web

- Downloaded audio
- Audio file types
  - AIFF
  - AU
  - MID
  - MOV
  - MP3
  - SWF
  - WAV
- Streaming audio
Video and the Web

- Downloaded or streamed
- Internet TV
Goals of a Multimedia Site

- Audience
- Message
- Interface
- Elements
Multimedia Site Design Basics

• Scene and setting
User Interaction

• “Spiral” concept
  – Interest
  – Activity
  – Resolution
Selecting Multimedia Elements

- Function and purpose
- Multimedia authoring
- Copyright infringement
- Java vs. plug-in
- Visualize and understand the user
- Performance
Summary

- Use Web content properly, including original content, misleading/inaccurate information, copyrighted content, licensing, avoiding infringement
- Identify purpose and usefulness of multimedia
- Identify audience and end-user capabilities
- Identify multimedia Web design principles, and choose appropriate multimedia technologies for a site based on usability criteria
- Identify accessibility issues and solutions related to Web images and animation
Lesson 11: Ethical and Legal Issues in Web Development
Objectives

- Define ethics, and distinguish between legal and ethical issues
- Use Web content properly, including original content, misleading/inaccurate information, copyrighted content, licensing, avoiding infringement
- Use strategies to avoid violating end-user privacy and trust
- Develop privacy disclaimers appropriate to site purpose and audience
- Identify international legal issues, including fair use, trademarks, contracts
Ethical Issues and the Web

- Spam
- Privacy and trust
Legal Issues and the Web

- Spam and the law
- Intellectual property
  - Copyright
  - Trademarks
  - Trade secrets
- Licensing content for your site
  - Public domain
- International legal issues
Summary

✓ Define ethics, and distinguish between legal and ethical issues
✓ Use Web content properly, including original content, misleading/inaccurate information, copyrighted content, licensing, avoiding infringement
✓ Use strategies to avoid violating end-user privacy and trust
✓ Develop privacy disclaimers appropriate to site purpose and audience
✓ Identify international legal issues, including fair use, trademarks, contracts
Lesson 12: HTML and the Evolution of Markup
Objectives

• Explain the origins of HTML and XHTML, define the X/HTML standards, and distinguish among X/HTML versions
• Use X/HTML to apply design principles and layout elements
• Identify non-standard X/HTML code and the ways that proprietary code affects Web development
Function of Markup Languages

- Tags
- Presentational / procedural markup
  - Describes appearance
- Logical / structural markup
  - Describes context
SGML

- Standard Generalized Markup Language (SGML)
- A metalanguage
  - Language used for creating other languages
What Is HTML?

- Hypertext Markup Language (HTML)
- HTML as a markup language
- HTML tags
- HTML interpreters
The HTML Standard

• Who controls HTML?
  – World Wide Web Consortium (W3C)
HTML 4.0 and 4.01

- HTML 4.0 Transitional
- HTML 4.0 Strict
- HTML 4.0 Frameset
- HTML 4.01
- Extensions to HTML
Separating Format from Structure in HTML

- CSS2
- Deprecated tags
XHTML

- Extensible HTML (HTML)
- Reformulation of HTML 4.01
Reference Sites for Web Developers

- World Wide Web Consortium (www.w3.org)
- W3Schools (www.w3schools.com)
- SitePoint (www.sitepoint.com)
- WebReference (www.webreference.com)
- Open Web Design (www.openwebdesign.org)
Summary

✓ Explain the origins of HTML and XHTML, define the X/HTML standards, and distinguish among X/HTML versions

✓ Use X/HTML to apply design principles and layout elements

✓ Identify non-standard X/HTML code and the ways that proprietary code affects Web development
Lesson 13:
XML and XHTML
Objectives

• Explain the importance of applying a single CSS and HTML standard consistently throughout a site
• Explain the origins of HTML and XHTML, define the X/HTML standards, and distinguish among X/HTML versions
• Define Extensible Markup Language (XML), and distinguish XML from HTML and XHTML
• Define and create a “well-formed” XML document
What Is XML?

- XML: A subset of SGML
- XML: Addressing HTML limitations
XML Goals

• Ten goals of the XML Recommendation
What Is an XML Document?

- HTML: The lazy developer’s dream
- XML: The lazy developer’s nightmare
Rules for Well-Formed XML

• Tags must be explicit
• Empty tags must be closed
• Attribute values need quotation marks
• Root element is required
• Tags must be properly nested
• Tags are letter case-sensitive
HTML Transition to XML

- Uses of XML beyond the Web
- What can I do with XML today?
- Will XML replace HTML?
What Is XHTML?

- XHTML combines HTML and XML
- XHTML flavors and <!DOCTYPE> declarations
  - XHTML Transitional
  - XHTML Strict
  - XHTML Frameset
- Creating XHTML-compliant Web pages
Applying a Single Standard Consistently

- Select one standard and apply it consistently throughout your Web site
Summary

✓ Explain the importance of applying a single CSS and HTML standard consistently throughout a site
✓ Explain the origins of HTML and XHTML, define the X/HTML standards, and distinguish among X/HTML versions
✓ Define Extensible Markup Language (XML), and distinguish XML from HTML and XHTML
✓ Define and create a “well-formed” XML document
Lesson 14: Web Page Structure – Tables and Framesets
Objectives

• Identify common user-accessibility challenges and solutions
• Design and develop X/HTML tables to appropriately format data
• Develop X/HTML framesets, and target frames correctly
Creating Structure with X/HTML Tables

- Page layout and tables
- Tabular format for content
Diagramming a Basic X/HTML Table
Borderless Web Page Structure

- Web page margins
- Table tag <table>
- Table row tag <tr>
- Table data tag <td>
X/HTML Frames and Framesets

- Using frames
  - Static and dynamic information can be combined on a page
The X/HTML `<frameset>` Tag

- Relative sizing
  - Percentage
- Absolute sizing
  - Pixels
The X/HTML `<frame>` Tag

- Placement of `<frameset>` tags
- Creating a navigation frame
Targeting Hyperlinks in X/HTML

- Frame relationships
- Adding a frameset to a frameset
The X/HTML `<noframes>` Tag

- Alternative text appears to users whose browsers cannot support frames
Summary

✓ Identify common user-accessibility challenges and solutions
✓ Design and develop X/HTML tables to appropriately format data
✓ Develop X/HTML framesets, and target frames correctly
Lesson 15: Cascading Style Sheets
Objectives

- Apply strategies and tools for visual consistency to Web pages and site
- Identify ways to apply Web page formatting with Cascading Style Sheets using various methods, and use style sheets to simplify Web design
- Create an external style sheet and link it to an X/HTML document
Style Sheets

- Typographical control elements
- Defines style instructions for one or more X/HTML documents
Cascading Style Sheets

- Multiple style definitions in a single document
- Inheritance of style definitions
Defining and Using Styles

• Linking to style sheets from an X/HTML file
• Importing style information
• Embedding style information
• Using an inline style
Changeable Style Attributes

- Color
- Background
- Font
- Font family
- Font size
- Font style
- Font weight

- Text decoration
- Line height
- Text indent
- Margin left
- Margin top
- Text align
Other Style Issues

- Style inheritance
- CSS selector types
  - Tag selectors
  - Class selectors
  - ID selectors
  - Descendant selectors
Style Guides

- Establishes a set of conventions for publishing
  - Editorial style
  - Usage
  - Typography
  - Styles
- Tool for ensuring a site’s visual consistency
Page Layout with CSS

- CSS box model

Frank, see me in my office. Now, I have important things I need to talk to you about. I think Joe has been switching the coffee with decaf. Lorum ipsum. help.
Page Layout with CSS (cont’d)

- Block and inline boxes
- Positioning schemes
Document Flow and Positioning

- Normal flow
- Static positioning
- Relative positioning
- Absolute positioning
- Fixed positioning
- Float
- Z-index
Summary

✓ Apply strategies and tools for visual consistency to Web pages and site
✓ Identify ways to apply Web page formatting with Cascading Style Sheets using various methods, and use style sheets to simplify Web design
✓ Create an external style sheet and link it to an X/HTML document
Lesson 16: Site Content and Metadata
Objectives

• Consider nature and purpose of site content
• Develop or obtain written content that conveys the site’s message, including clear and concise writing, professional editing, style guides, consistency, jargon, voice and tone
• Add metadata tags and content to X/HTML documents to influence search engine placement
• Discuss organic and non-organic strategies for improving hit rates and search engine ranking
Objectives (cont’d)

- Define common search engine optimization (SEO) terms
- Identify common valid SEO techniques
- Define Web analytics, including discussing key events to review on a Web server
- Identify ways that search engines generate revenue by processing search entries from users
- Create a blog-writing strategy to support a brand, including key elements of a successful blog entry
Written Web Site Content

• Developing content for the Web
• Professional writing and editing
• Nature and purpose of site content
  – Audience and site message
• Content to retain and content to exclude
• Presenting content in various formats
Internet Marketing and Search Engine Optimization (SEO)

- Search engine optimization (SEO)
  - Common SEO terms
  - Common SEO techniques

- Choosing keywords
  - Keyword stuffing
  - Writing high-quality Web copy

- SEO vs. pay per click (PPC)
Internet Marketing and Search Engine Optimization (SEO) [cont’d]

• Web analytics
  – On-site
  – Off-site
• Blogging
• How search engines generate revenue
• Complete Internet marketing
Metadata

- Data about data
- The <!DOCTYPE> tag
- The <meta> tag
The <meta> Tag and Document Identification

- The `name` attribute
- The `http-equiv` attribute
- The `content` attribute
- Using `<meta>` tags
The `<meta>` Tag and Search Engines

- Keywords
- Description
- Robots
- Search engines vs. information portals
- Which search engine or directory?
- Ranking and relevance
  - Keyword development and placement
The `<meta>` Tag and Delayed File Change

- Refreshes a page automatically
- Dublin Core metadata initiative
Summary

✓ Consider nature and purpose of site content
✓ Develop or obtain written content that conveys the site’s message, including clear and concise writing, professional editing, style guides, consistency, jargon, voice and tone
✓ Add metadata tags and content to X/HTML documents to influence search engine placement
✓ Discuss organic and non-organic strategies for improving hit rates and search engine ranking
Summary (cont’d)

- Define common search engine optimization (SEO) terms
- Identify common valid SEO techniques
- Define Web analytics, including discussing key events to review on a Web server
- Identify ways that search engines generate revenue by processing search entries from users
- Create a blog-writing strategy to support a brand, including key elements of a successful blog entry
Lesson 17:
Site Development with Microsoft Expression Web 3 – Introduction
Objectives

- Compare site development using X/HTML text editors to using GUI site management applications
- Configure site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional
- View and validate source code using GUI site development applications
- Use GUI site development applications to enforce compliance with accessibility standards
The Transition from FrontPage

- Expression Web generates XHTML 1.0 Transitional code by default
- Used for designing CSS Web sites
- Dynamic content through ASP.Net 2.0
- No Preview pane
- No Navigation view
- No DHTML toolbar
- Expression Web relies on the Microsoft .NET Framework Version 2.0 Redistributable Package
- No components that require proprietary sever extensions
Microsoft Expression Web 3

- Site management
- Page layout and design
- Data connection
Expression Web Views

- Page view
  - Design view
  - Split view
  - Code view
- Folders view
- Publishing view
- Reports view
- Hyperlinks view
Expression Web Menu Bar and Common Toolbar
Opening Web Sites and Files in Expression Web

- Increased universality as an X/HTML editor
- Can be opened locally or remotely over a network
Developing W3C-Compliant Code with Expression Web

• Default settings
• Validating source code
• Accessibility standards
Summary

 ✓ Compare site development using X/HTML text editors to using GUI site management applications
 ✓ Configure site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional
 ✓ View and validate source code using GUI site development applications
 ✓ Use GUI site development applications to enforce compliance with accessibility standards
Lesson 18:
Site Development with Expression Web 3
– Basic Features
Objectives

• Create Web page and site templates that fulfill design specifications
• Add images to Web pages and create image maps using GUI site development applications
• Add text, tables and hyperlinks to Web pages using GUI site development applications
• Create page and site templates using GUI site development applications
• Apply page and site templates to new pages using GUI site development applications
Page Layout Options in Expression Web

- CSS positioning
- X/HTML tables
- X/HTML framesets
Creating a New Site Using Expression Web

- Use the Site | New Site command
  - Empty Web site
  - One page Web site
- Home page automatically named default.html
- Can import image folders using File | Import | File command
Page Layout with CSS

- CSS positioning accomplished using `<div>` tags that will contain content
  - Position property: absolute, fixed, relative, static, inherent
  - It is preferable to use relative positioning
  - In Expression Web, a layer is a `<div>` with an absolute, fixed or relative position
Page Layout with CSS (cont’d)

• Statically positioned divisions
  – Are part of the normal flow and allow for flexible page layouts
  – Have no set properties when added to a page
  – Can be nested to create complex layouts, and a child division inherits properties from its parent division
  – Setting the `margin-left` and `margin-right` properties to auto will center a division within its containing division or within the browser window
Inserting Images with Expression Web

• Insert images located:
  – On Internet
  – On your computer
  – Already used in site

• Use the **Insert Picture From File** button

• Provide alternative text to adhere to accessibility standards
Creating Hyperlinks with Expression Web

• Requires:
  – Content from which to link
  – Destination for link to point

• Use the Insert Hyperlink button
Creating Image Maps with Expression Web

- Specify a portion of an image to act as hyperlink
- Use the Pictures toolbar
- Choose a hotspot shape
  - Rectangle
  - Circle
  - Polygon
Creating Navigation Bars Using CSS

- Navigation bars in CSS
  - Are based on an unordered list
  - List can be styled
  - List elements can be styled
  - Links can be styled
Expression Web’s Dynamic Web Templates

- Specify default settings or attributes
- Reduce development time
- Adhere consistently to site design specifications
Using Dynamic Web Templates

- Save a page as a dynamic Web template
- Define editable regions in the template
- Attach the dynamic Web template to existing pages or create new pages from the template
- Detach a page from a template to access all regions of the page
Pasting Content into Expression Web

• You can paste ready-made content
  – Word documents
  – XHTML documents

• Use the **Edit** | **Paste** command

• You can specify to match destination formatting, keep source formatting, remove formatting, keep HTML only or keep text only
Summary

✓ Create Web page and site templates that fulfill design specifications
✓ Add images to Web pages and create image maps using GUI site development applications
✓ Add text, tables and hyperlinks to Web pages using GUI site development applications
✓ Create page and site templates using GUI site development applications
✓ Apply page and site templates to new pages using GUI site development applications
Lesson 19:
Site Development with Expression Web 3 – Advanced Features
Objectives

• Create Web forms using GUI site development applications
• Apply CSS to page and site templates using GUI site development applications
• Connect a Web page to a database using various methods
Expression Web Styles

• Three ways to apply styles in Expression Web
  – Linked (external style sheet)
  – Embedded (internal style sheet)
  – Inline

• Three types of styles
  – Class-based
  – Element-based
  – ID-based
Expression Web Styles (cont’d)

- Style precedence
- Generated cascading style sheets
- Using external styles
- Using internal styles
- Using inline styles
- Attaching multiple style sheets
Adding Interactivity to Web Pages

- Expression Web behaviors add interactivity and increased functionality to Web page elements
- A behavior is a combination of an event and an action
  - An event is a condition that causes a browser to trigger a script
  - An action is an instruction that executes when an event occurs
- When you add a behavior to an element in a Web page, Expression Web writes JavaScript code to manage the behavior
Creating Web Forms with Expression Web

• Use the Form controls in the Toolbox to add form elements to a Web page
• To create a user-input form, add a Form control onto a page and drag the specific elements you want from the Toolbox into the form
• Forms data must be processed in some way
• Expression Web can write code for form handling if you specify that you are using FrontPage Server Extensions
Connecting to Databases

- Use ASP.NET pages to integrate data from a database
- Drag ASP.NET controls from Toolbox onto the page
  - Data source controls connect to data source
  - Data-bound controls display data
- Set properties to control the appearance and behavior of retrieved data
Expression Web Reports

- Expression Web offers a series of reports that you can run and monitor through Reports view
- The Reports view also offers an automated link checker
- Reports view is used mostly for site management
Options for Replacing Old Webbots

- Web Search component
- Themes and shared borders
- Link bars
Summary

✓ Create Web forms using GUI site development applications
✓ Apply CSS to page and site templates using GUI site development applications
✓ Connect a Web page to a database using various methods
Lesson 20: Site Development with Adobe Dreamweaver CS5 – Introduction
Objectives

• Configure site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional
• Add text, tables and hyperlinks to Web pages using GUI site development applications
• Apply CSS to page and site templates using GUI site development applications
Adobe Dreamweaver CS5

• GUI Web page development application
• Creates advanced Web page layout designs
• Allows you to import X/HTML content without reformatting code
• Workspaces:
  – App Developer and App Developer Plus
  – Classic
  – Coder and Coder Plus
  – Designer and Designer Compact
Dreamweaver Layout Options

- AP elements (called “layers” in previous versions of Dreamweaver)
  - Absolute positioning
- X/HTML tables
- Converting AP elements into tables
- Converting tables into AP elements
Summary

- Configure site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional
- Add text, tables and hyperlinks to Web pages using GUI site development applications
- Apply CSS to page and site templates using GUI site development applications
Lesson 21: Site Development with Dreamweaver CS5 – Basic Features
Objectives

• Create Web page and site templates that fulfill design specifications
• Add images to Web pages and create image maps using GUI site development applications
• Add text, tables and hyperlinks to Web pages using GUI site development applications
• Create page and site templates using GUI site development applications
• Apply page and site templates to new pages using GUI site development applications
Page Layout in Dreamweaver

- The ability to manually position elements simplifies page layout
- AP elements were called “layers” in previous versions of Dreamweaver
Creating Image Maps in Dreamweaver

- Three shapes for image map hotspots
  - Rectangle
  - Circle
  - Polygon
Creating Templates in Dreamweaver

- Locked template areas
- Editable and non-editable regions
Importing Content in Dreamweaver

- X/HTML
- Word document
- RTF
Summary

✓ Create Web page and site templates that fulfill design specifications
✓ Add images to Web pages and create image maps using GUI site development applications
✓ Add text, tables and hyperlinks to Web pages using GUI site development applications
✓ Create page and site templates using GUI site development applications
✓ Apply page and site templates to new pages using GUI site development applications
Lesson 22: Site Development with Dreamweaver CS5 – Advanced Features
Objectives

- Create Web forms using GUI site development applications
- Create rollover images on a Web page using scripting technology
- Add search capability to a Web site
Rollover Images in Dreamweaver

- Use the **Insert | Image Objects | Rollover Image** command for rollover creation
- Dreamweaver writes DHTML code to create the rollover function
Dreamweaver Web Forms

• Create forms without knowing X/HTML
  – You must implement server-side script to process the form data online
Dreamweaver Behaviors

• Applying behaviors to AP elements in Dreamweaver
• Dragging AP elements in Dreamweaver
Dreamweaver Assets and Library

• Tools to store objects and files that will be used repeatedly during development
Editing X/HTML in Dreamweaver

- GUI
- HTML Code view
Jump Menus in Dreamweaver

- Drop-down menu that automatically links to a specified URL when the user makes a selection
Site Search Forms in Dreamweaver

- Add search form by using a server-side scripting language such as ColdFusion, ASP, JSP, PHP or Perl
- Tools on the World Wide Web
  - Google’s Custom Search Engine (CSE)
  - Wrensoft’s Zoom Search Engine
Adobe Exchange

• Provides Dreamweaver developers with a place to download and submit Dreamweaver extensions
• Visit www.adobe.com/cfusion/exchange/
Summary

✓ Create Web forms using GUI site development applications
✓ Create rollover images on a Web page using scripting technology
✓ Add search capability to a Web site
Lesson 23: Creating Web Pages Using Open-Source Tools
Objectives

• Write X/HTML code to create a static Web page with text and images
• Insert image files in Web pages using X/HTML
• Compare site development using X/HTML text editors to using GUI site management applications
• Configure site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional
Open-Source GUI Editors

• Common features
• Drawbacks of open-source applications
  – Limited features
  – Lack of group editing support
  – Developer issues
  – Transient support
GUI HTML Editors vs. Text Editors

- KompoZer
- OpenWebSuite
- Firefox add-ons
  - Firebug
  - Web Developer
Open-Source Text Editors

- jEdit
- Notepad++
Creating a Static Web Page

- Choosing a version of HTML
- Using images in an acceptable way
- Conforming to customer expectations
- Using comments
Using Templates

- Basic template – little more than a raw XHTML code file
- More sophisticated templates can be found on the Web:
  - Open Web Design (www.openwebdesign.org)
  - OpenDesigns (www.opendesigns.org)
  - Themebot (http://themebot.com)
- Make sure template comes from a trusted source
Checking Spelling

• A well-constructed page is composed of:
  – Properly validated code
  – Concise narrative that is written clearly, and which quickly conveys a central message
  – Pages that use clear, descriptive titles
  – Narrative that uses proper grammar and spelling
Summary

- Write X/HTML code to create a static Web page with text and images
- Insert image files in Web pages using X/HTML
- Compare site development using X/HTML text editors to using GUI site management applications
- Configure site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional
Lesson 24:
Image Editing with Adobe Fireworks CS5
Objectives

- Use image-editing software to create functional images that complement your page/site
- Perform common image manipulation functions
- Create transparent and animated images, including GIF, PNG
- Create image layers using image-editing software
Adobe Fireworks CS5

- Fireworks interface
- Creating an image document
- Adding text to images
- Cropping images
Adobe Fireworks CS5 (cont’d)

- Image layers in Fireworks
- Image states in Fireworks
  - Creates animation
- Transparent images in Fireworks
- Image slices in Fireworks
  - Speeds perceived download time for larger images
Summary

- Use image-editing software to create functional images that complement your page/site
- Perform common image manipulation functions
- Create transparent and animated images, including GIF, PNG
- Create image layers using image-editing software
Lesson 25: Multimedia with Adobe Flash Professional CS5
Objectives

• Identify multimedia Web design principles, and choose appropriate multimedia technologies for a site based on usability criteria
• Identify Shockwave-Flash (SWF) technology features and authoring software
• Add SWF animation files and SVG files to X/HTML pages
The History of Flash

• Influential media type
• Media-rich content and fast download times
• Three Flash applications in the new Adobe Creative Suite 5 (CS5)
  – Adobe Flash Catalyst CS5
  – Adobe Flash Builder 4 Standard
  – Adobe Flash Professional CS5
Flash Technology Features

- Vector graphics
- Streaming capability
- Timeline
- Layers
- Flash and browsers
- Flash and X/HTML
Developing with Flash

- Flash application is both development tool and testing tool
- Total Flash?
  - Creating Flash movies can be time-consuming
  - Common uses for Flash generally serve the purpose of rich multimedia design
  - Flash can also provide effective navigation elements that offer an enhanced experience while users are navigating the site
Flash Shapes

- Lines
- Ovals/circles
- Squares/rectangles
Flash Drawing Modes

- Merge drawing mode (default)
- Object drawing mode
Color and Fills in Flash

- Fills
  - Solid colors
  - Gradients
  - Patterns
Summary

✓ Identify multimedia Web design principles, and choose appropriate multimedia technologies for a site based on usability criteria
✓ Identify Shockwave-Flash (SWF) technology features and authoring software
✓ Add SWF animation files and SVG files to X/HTML pages
Lesson 26: Multimedia with Flash Professional CS5 – Timeline, Layers, Symbols and Buttons
Objectives

• Identify Shockwave-Flash (SWF) technology features and authoring software
• Use SWF-authoring software to create animations, add buttons, perform “tweening,” create movie clips, apply masks
• Add SWF animation files and SVG files to X/HTML pages
• Define and contrast client-side and server-side technologies used to create dynamic content for Web pages
Flash Timeline

- Flash frame types
  - (Normal) frame
  - Keyframe
  - Blank keyframe
Flash Layers

- Used to run multiple timelines independently
Saving and Publishing Flash Movies

- Publish a saved file when it is complete and ready to display on the Web
- When a file is published, three files are created:
  - FLA file: the Flash file you created that opens in the Flash application
  - SWF file: the movie that will open in the Web page
  - HTML file: the page automatically generated to load the file in the browser
Flash Symbols and Buttons

- Symbols are graphics, buttons or movie clips that are stored in a Flash movie’s library
- Buttons are triggered by mouse events
Customizing the Flash Library

- Library allows you to customize and organize your stored items into folders
Summary

- Identify Shockwave-Flash (SWF) technology features and authoring software
- Use SWF-authoring software to create animations, add buttons, perform “tweening,” create movie clips, apply masks
- Add SWF animation files and SVG files to X/HTML pages
- Define and contrast client-side and server-side technologies used to create dynamic content for Web pages
Lesson 27: Multimedia with Flash Professional CS5 – Tweens
Objectives

• Identify Shockwave-Flash (SWF) technology features and authoring software
• Use SWF-authoring software to create animations, add buttons, perform “tweening,” create movie clips, apply masks
Flash Tweens

- Motion tweens
- Shape tweens
  - Morphing
Flash Tweens (cont’d)

• Tweening rules
  – Only one tween can exist in a layer at a time
  – Motion tweens require symbols
  – Shape tweens cannot use symbols

• Tweening and layers
  – A movie with many tweens necessarily consists of many layers
Motion Tweens in Flash

• Classic tween
  – Keyframe-based: consists of a group of individually selectable frames in the timeline

• Motion tween
  – Object-based: consists of one target object over the entire tween span
About Tweened Animation

The properties of an object that can be tweened include:

- 2-D X and Y position
- 3-D Z position (*movie clips only*)
- 2-D rotation (*around Z-axis*)
- 3-D X, Y and Z rotation (*movie clips only*)
- Skew X and Y
- Scale X and Y
- Color effects
- Filter properties
Modifying the Motion Path

• You can modify a motion path by dragging points along the path, or adjusting curves of the path
• Flash includes the Motion Editor, which offers more granular animation control
Shape Tweens in Flash

- You can use a shape tween to transform one shape into another shape
- You cannot use symbols when creating shape tweens
Tweening Text in Flash

• Text is a tweenable object type
• You can tween text that has not been converted to a symbol
• You can also tween text that has been converted to a symbol (motion tween only)
Summary

- Identify Shockwave-Flash (SWF) technology features and authoring software
- Use SWF-authoring software to create animations, add buttons, perform “tweening,” create movie clips, apply masks
Lesson 28: Multimedia with Flash Professional CS5 – Movie Clips
Objectives

- Configure site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional
- Use SWF-authoring software to create animations, add buttons, perform “tweening,” create movie clips, apply masks
- Add SWF animation files and SVG files to X/HTML pages
- Apply plug-in/viewer technology to Web pages to support various file types
- Use JavaScript to detect browsers, redirect pages, preload pages and confirm user choices
Flash Movie Clips

- Animation that is embedded into a Flash movie yet runs independently of the movie
Adding Sound to Flash Files

- Flash supports
  - AIFF files (Macintosh)
  - WAV files (PC)
  - MP3 files (all systems)
- Event sounds
- Streamed sounds
Adding Flash Movies to X/HTML Files

• Flash can create the required HTML code, which can be inserted into the X/HTML page
Testing for the Flash Player Plug-In

• Use JavaScript to test the user’s browser for the Flash Player plug-in
Summary

- Configure site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional
- Use SWF-authoring software to create animations, add buttons, perform “tweening,” create movie clips, apply masks
- Add SWF animation files and SVG files to X/HTML pages
- Apply plug-in/viewer technology to Web pages to support various file types
- Use JavaScript to detect browsers, redirect pages, preload pages and confirm user choices
Lesson 29: Multimedia with Flash Professional CS5 – ActionScript, Masks and Practical Uses
Objectives

- Identify accessibility issues and solutions related to images and animation
- Use SWF-authoring software to create animations, add buttons, perform “tweening,” create movie clips, apply masks
- Add SWF animation files and SVG files to X/HTML pages
- Identify strategies and benefits of using SWF and SVG technologies in training industry/instructional design to facilitate learning
Flash ActionScript

- Language used to write actions in Flash
- Flash ActionScript and basic programming concepts
Mask Layers in Flash

- Mask – special type of layer that covers an area of the stage, allowing a part you specify to show through
- Effect similar to a searching light moving over text, highlighting some text in passing
Using SWF and SVG Files on the Web

• Embedding SWF and SVG files in X/HTML pages
• Instructional design with SWF and SVG
  – Benefits of using SWF and SVG for e-learning
Flash and Accessibility

- Flash is a widely supported format for vector animation and rich Web content
- Advise your site users that your site uses Flash content
- Check your users’ browsers for the correct version of the Flash Player plug-in
- Provide a link for users to easily download and install the correct plug-in
Summary

- Identify accessibility issues and solutions related to images and animation
- Use SWF-authoring software to create animations, add buttons, perform “tweening,” create movie clips, apply masks
- Add SWF animation files and SVG files to X/HTML pages
- Identify strategies and benefits of using SWF and SVG technologies in training industry/instructional design to facilitate learning
Lesson 30:
JavaScript and DHTML Fundamentals
Objectives

- Define and contrast client-side and server-side technologies used to create dynamic content for Web pages
- Identify common JavaScript objects, properties and methods
- Use JavaScript to detect browsers, redirect pages, preload pages and confirm user choices
- Use JavaScript dot notation to access X/HTML objects
- Create rollover images on a Web page using scripting technology
- Define Dynamic HTML (DHTML) and the technologies it requires, and write browser-specific DHTML code for use with Firefox, Internet Explorer and other browsers
- Identify the functionality of pop-up/pop-under windows
JavaScript and Common Programming Concepts

- **Scripting languages**
  - Subsets of larger languages
- **Objects**
  - Encapsulate predetermined attributes or behaviors
- **Properties**
  - Represent various attributes of the object
- **Methods**
  - Actions an object can be made to perform
What Is JavaScript?

- Scripting language
- Object-based, not object-oriented
- Event-driven
- Strengths of JavaScript
  - Quick development
  - Easy to learn
  - Platform independence
JavaScript vs. Other Languages

- JavaScript vs. Java
- JavaScript vs. VBScript
- JavaScript vs. JScript
  - ECMA Script
Embedding JavaScript into X/HTML

- The `<script>` tag
- Document `<head>` or `<body>` section
- Dot notation
Using JavaScript to Communicate with the User

- The `alert()` method
- The `prompt()` method
  - Concatenation
- The `open()` method
JavaScript Functions

- JavaScript uses functions to call multiple commands
- A function is like a container that allows you to give a common name to a series of commands so that they can be executed as a single unit
- The commands are enclosed within curly braces `{ }`, which group them to the function name declared prior to the opening curly brace
Using JavaScript for Browser Detection

- The `navigator` object
- Sniffers and redirections
- Image preloading
Dynamic HTML (DHTML)

- DHTML and the Document Object Model (DOM)
- DHTML limitations
- CSS and DHTML
- Scripting languages and DHTML
- DHTML implementation
- Cross-browser DHTML
Summary

- Define and contrast client-side and server-side technologies used to create dynamic content for Web pages
- Identify common JavaScript objects, properties and methods
- Use JavaScript to detect browsers, redirect pages, preload pages and confirm user choices
- Use JavaScript dot notation to access X/HTML objects
- Create rollover images on a Web page using scripting technology
- Define Dynamic HTML (DHTML) and the technologies it requires, and write browser-specific DHTML code for use with Firefox, Internet Explorer and other browsers
- Identify the functionality of pop-up/pop-under windows
Lesson 31:
Plug-Ins and Java Applets
Objectives

- Apply plug-in/viewer technology to Web pages to support various file types
- Create an X/HTML link to a downloadable file
- Create rich media streaming ads and compare them to conventional online ads
- Define Java applet functionality, and create an animated applet for display on a Web site
Plug-In Technology

• What are plug-ins?
• How do plug-ins work?
• How do plug-ins affect a Web developer?
Plug-In Installation

- Online installation
- Offline installation
- Pre-installation
Adobe Shockwave and Flash Players

- Plug-ins that display and play multimedia content
- SWF files (Shockwave-Flash)
Adobe Reader

- Portable Document Format (PDF) files
  - Can be transferred across platforms and retain formatting
RealNetworks RealPlayer

- Streaming audio
- Streaming video
Rich Media Content

- Creating rich media ads
- Rich media ads vs. conventional ads
Creating a Downloadable File

• Why files download
• Linking to files
• Providing links to plug-ins
• Identifying downloads to users
Introduction to Java

• Strengths of Java
  – Programming language
  – Platform-neutral
  – Mini-applications called applets
Java Applets

• Small in file size
• Secure
• Fast
• Cross-platform compatible
• Multi-threaded
• Client-side programs
Applets and Animation

• Many forms of animation can be executed with Java
Applet Authoring Tools and Resources

- Java applet tools make it possible for more developers to create Java applets and add them to Web pages

- Applet resources
  - Sun Developer Network — Applets page (http://java.sun.com/applets)
  - Java Boutique (www.javaboutique.internet.com)
  - Gamelan.com (www.developer.com/java/)
Summary

- Apply plug-in/viewer technology to Web pages to support various file types
- Create an X/HTML link to a downloadable file
- Create rich media streaming ads and compare them to conventional online ads
- Define Java applet functionality, and create an animated applet for display on a Web site
Lesson 32:
HTTP Servers and Web Applications
Objectives

• Create and configure Domain Name System (DNS) entries
• Define and contrast client-side and server-side technologies used to create dynamic content for Web pages
• Define Secure XML
• Use Common Gateway Interface (CGI) to process Web forms
• Use cookies to enhance Web site functionality
• Define syndication
• Use RSS and Atom to create a news feed
• Describe the purpose of an aggregator in a feed
• Identify the benefit of RSS to e-mail conversion, including push-based and pull-based technologies
What Is an HTTP Server?

- Microsoft Internet Information Services (IIS)
  - Personal Web Server
- Apache server
Accessing Servers and Services

• Domain Name System (DNS)
  – Translates word-based domain names into numerical IP addresses

• Creating DNS entries

• Ports
Basic HTTP Server Administration

- Administration through browser interface
- Administration using applications that run on the server
Server-Side Technologies

- JavaServer Pages (JSP)
- Active Server Pages (ASP)
- Common Gateway Interface (CGI)
Web Servers and Cookies

- Small text files sent from Web site to user’s browsers
- State maintenance with cookies
- Cookie facts and myths
Enabling, Disabling and Deleting Cookies

- Choose which cookies to accept
- Delete cookies from your system manually
- New technology
Setting Cookie Files

- Using JavaScript to set cookies on a visitor’s system
XML and Web Applications

• Secure XML
Syndicated Feeds

- Benefits of syndication
- Feed formats
  - RSS 2.0
  - Atom
- Feed-burning services
  - RSS in e-mail conversion
Summary

- Create and configure Domain Name System (DNS) entries
- Define and contrast client-side and server-side technologies used to create dynamic content for Web pages
- Define Secure XML
- Use Common Gateway Interface (CGI) to process Web forms
- Use cookies to enhance Web site functionality
- Define syndication
- Use RSS and Atom to create a news feed
- Describe the purpose of an aggregator in a feed
- Identify the benefit of RSS to e-mail conversion, including push-based and pull-based technologies
Lesson 33:
Databases
Objectives

• Define elements of a database and their functionality
• Identify general database query types
• Define the three Database Management System (DBMS) types
• Identify information types that can be contained in a database, including X/HTML, images, XML, inventories
• Connect a Web page to a database using various methods
Web Design and Databases

- Databases provide information storage
- Traditional databases store and organize information in fields, records and files
- Hypertext databases store information as objects
Database Anatomy

- Schema
- Table
  - Field (column)
  - Record (row)
  - File
Database Anatomy (cont’d)

Field Name

<table>
<thead>
<tr>
<th>Name</th>
<th>E-Mail</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeff Brown</td>
<td><a href="mailto:jeff@company.com">jeff@company.com</a></td>
<td>(213) 555-3359</td>
</tr>
<tr>
<td>Salma Lopez</td>
<td><a href="mailto:salma@company.com">salma@company.com</a></td>
<td>(512) 555-1431</td>
</tr>
<tr>
<td>Martina Hel提起</td>
<td><a href="mailto:martina@company.com">martina@company.com</a></td>
<td>(909) 555-2743</td>
</tr>
<tr>
<td>Korin Svenet</td>
<td><a href="mailto:korin@company.com">korin@company.com</a></td>
<td>(904) 555-9969</td>
</tr>
</tbody>
</table>

Record

Field
Database Queries

- Menu query
- Query by example
- Query language
  - Structured Query Language (SQL)
Database Management System (DBMS)

- Flat-file DBMS
- Relational DBMS (RDBMS)
- Multidimensional DBMS
DBMS Technologies

- ODBC
- JDBC
- COLD
- BLOB
- VSAM
- ISAM
- OLAP
- RPG
- ADO
Connecting Web Pages to Databases

• Data-driven Web sites use a server-side program to combine data from a database with page templates to generate the X/HTML pages that a Web site visitor sees.

• Data-driven Web sites typically use SQL queries to manipulate a database.
### Database Tools, Products and Programs

<table>
<thead>
<tr>
<th>Database Tools</th>
<th>Products and Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle</td>
<td>CGI/Perl</td>
</tr>
<tr>
<td>DB2</td>
<td>ASP.NET</td>
</tr>
<tr>
<td>Microsoft SQL Server</td>
<td>ColdFusion</td>
</tr>
<tr>
<td>FileMaker Pro</td>
<td>Dreamweaver</td>
</tr>
<tr>
<td>Lotus Domino</td>
<td>Primasoft DB-HTML Converter Pro</td>
</tr>
<tr>
<td>Microsoft Visual FoxPro</td>
<td>Sybase PowerBuilder</td>
</tr>
<tr>
<td>Microsoft Visual InterDev</td>
<td>Sybase SQL Anywhere</td>
</tr>
</tbody>
</table>
Summary

✓ Define elements of a database and their functionality
✓ Identify general database query types
✓ Define the three Database Management System (DBMS) types
✓ Identify information types that can be contained in a database, including X/HTML, images, XML, inventories
✓ Connect a Web page to a database using various methods
Lesson 34: Web Site Publishing and Maintenance
Objectives

- Use a staging/mockup server to test a site
- Perform site testing
- Compare in-house Web site hosting to hosting with an Internet Service Provider (ISP) or Application Service Provider (ASP)
- Publish a Web site using an FTP client
- Identify site security issues, including attacks and ways to thwart them
- Secure a server
- Maintain the Web site
- Document changes to the site
Web Site Testing

- Staging server
  - Staging server vs. production or “live” server
  - Developing and testing on staging server
  - Staging server elements
- Final testing
Web Site Publishing

- The final step in Web site development is to publish your site to the World Wide Web
- Use File Transfer Protocol (FTP) to transfer files over the Internet
Web Site Hosting

• Hosting in-house
• Hosting by Internet Service Provider (ISP) or Application Service Provider (ASP)
• Advantages and disadvantages of hosting
  – Cost
  – Speed
  – Reliability
Web Publishing with an FTP Client

- WS_FTP Professional client
  - Generic FTP client
  - Not associated with a site-authoring tool
Web Publishing with Expression Web

• Easy publishing of sites created with Expression Web
• Uses FTP or HTTP
  – HTTP to publish to Web server that has FrontPage Server Extensions installed
• Offers the ability to work on a remote staging server and publish your changes to a remote production Web server or to work directly on a remote production Web server
• Designed to simplify task of publishing Web site
Web Publishing with Dreamweaver

- Easy publishing of sites created with Dreamweaver
- Uses FTP to publish Web site files
Comparing Web Publishing Tools

• Choosing the tool with which to publish Web site pages depends on the tools or methods used to develop your site.

• If you used a GUI site development tool to create your site, use the same tool to publish your site.

• If you manually coded your Web pages, you need only an FTP client for publishing.
Maintaining Web Sites

• User feedback
  – Direct (e-mails, survey forms)
  – Indirect (server logs)

• Revising site features

• Link checking
  – Manual
  – Automatic

• Documenting Web site changes
Web Server and Web Site Security

- Security principles
  - Use strong passwords
  - Disable unnecessary services
  - Apply patches
  - Restrict access
Web Server and Web Site Security (cont’d)

• Common Web site security issues
  – Social engineering
  – Denial-of-service (DOS) attacks
  – Brute-force attacks
Summary

- Use a staging/mockup server to test a site
- Perform site testing
- Compare in-house Web site hosting to hosting with an Internet Service Provider (ISP) or Application Service Provider (ASP)
- Publish a Web site using an FTP client
- Identify site security issues, including attacks and ways to thwart them
- Secure a server
- Maintain the Web site
- Document changes to the site
Web Design Specialist

- For information about the CIW Web Design Specialist exam and CIW certifications, visit www.CIWcertified.com