NEW PERSPECTIVES

Unit 4
The Web

Computer Concepts 2016
ENHANCED EDITION

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4 Unit Contents

- ➤ Section A: Web Basics
- ➤ Section B: Browsers
- ➤ Section C: HTML
- ➤ Section D: HTTP
- ➤ Section E: Search Engines

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4 Section A: Web Basics

- ➤ Web Overview
- ➤ Evolution
- ➤ Web Sites
- ➤ Hypertext Links
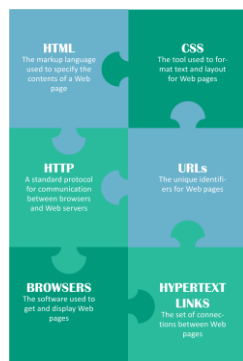- ➤ URLs

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4 Web Overview

- ➤ The Web is not the Internet
- ➤ The Internet is a global data communications network
- ➤ The Web is just one of the many technologies that use the Internet to distribute data

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4 Web Overview

➤ The **World Wide Web** (usually referred to simply as *the Web*) is a collection of HTML documents, images, videos, and sound files that can be linked to each other and accessed over the Internet using a protocol called HTTP

HTML
The markup language used to specify the contents of a Web page

CSS
The tool used to format text and layout for Web pages

HTTP
A standard protocol for communication between browsers and Web servers

URLs
The unique identifiers for Web pages

BROWSERS
The software used to get and display Web pages

HYPERTEXT LINKS
The set of connections between Web pages

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4 Evolution

- ➤ In 1993 there were a total of 130 Web sites; by 1996 there were 100,000 Web sites
- ➤ Today, there are more than a billion Web sites and new sites appear every day

➤ Ted Nelson coined the term **hypertext** to describe a computer system that could store literary documents; link them in logical relationships; and allow users to comment on what they read

4 Evolution

DOCUMENTS contain a series of POINTERS into the changing web of data.

LINKS are connections between documents which the user may follow.

FIGURE 4-2: TED NELSON'S SKETCH OF PROJECT XANADU

Expanding Tissue of Text, Data, and Graphics

Ted Nelson sketched his vision for project Xanadu in the 1960s. Notice his use of the terms *web* and *links*, which are now familiar to everyone who uses the World Wide Web.

4 Evolution

FIGURE 4-3: THE FIRST WEB BROWSER

Tim Berners-Lee created the first browser, called WorldWideWeb, in 1990.

> In 1990 British scientist Tim Berners-Lee developed specifications for URLs, HTML, and HTTP – the foundation technologies of today's Web
> Berners-Lee created the Web browser software Nexus
> In 1993 Marc Andreessen at the University of Illinois created the Web browser Mosaic which led to the development of the popular browser Netscape

FIGURE 4-4: THE BROWSER THAT POPULARIZED THE WEB

Netscape Navigator was the first browser in widespread use. Can you recognize elements of the Netscape window that are similar to elements of the browser you use today?

4 Web Sites

> A **Web site** typically contains a collection of related information organized and formatted so it can be accessed using a browser
> A **Web server** is an Internet-based computer that stores Web site content and accepts requests from browsers
> A **Web page** is based on an HTML source document that is stored as a file on a Web server

4 Hypertext Links

> Web pages are connected by hypertext links (commonly referred to simply as *links*)
> Links are typically indicated by the following: underlined or colored text, a photo, button, tab, or object

FIGURE 4-6: FINDING THE LINKS

4 Hypertext Links

FIGURE 4-7: UNIDIRECTIONAL AND BIDIRECTIONAL LINKS

> Web pages have **unidirectional links**; Document A links to Document B, but not vise versa
> **Bidirectional links** connect two documents using a two-way link that can be followed from either document

Document A contains a link to Document B. When reading Document A, you can easily follow the link to the related material in Document B.

But the link from Document A to Document B is unidirectional. When you are reading Document B, there is no link to Document, A and you may never find that related material.

Bidirectional links would establish links from A to B and from B to A. Regardless of which document you viewed first, a link would exist to the other document.

4 URLs

> Every Web page has a unique address called a **URL** (Uniform Resource Locator, pronounced "you are ELL")
> Most URLs begin with http:// to indicate the Web's standard communications protocol
> The file name of a specific Web page always appears last in the URL

FIGURE 4-8: URL COMPONENTS

http://www.cnn.com/showbiz/movies.htm

| Web protocol | Web server name | Folder name | File name and extension |

4
URLs

Links aren't URLs, but a link contains the URL that "links" to another Web page

FIGURE 4-10: LOOK BEFORE YOU CLICK

- **Rules for correctly typing a URL:**
  - A URL *never* contains spaces
  - The *http://* can be omitted
  - Always use a forward slash (/)
  - Duplicate the URL's capitalization *exactly* – some Web servers are case sensitive

URL for the link under the hand-shaped link pointer.
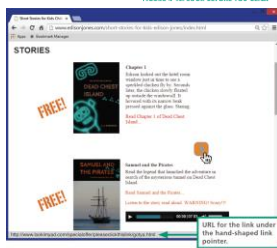
When using a mouse, hovering over a link displays a link preview that indicates where the link leads. This feature is not available when using a touchscreen, because there is no way for the screen to sense when your finger is hovering over a link but is not touching the screen.

4
URLs

1 Copy and paste the full URL into the box provided by a short URL service such as Goo.gl.

2 The service produces a short URL.

3 The short URL is stored on the server along with the full URL.

4 Links to the short URL are directed to the server, which forwards the link to the full URL.

- Many URLs are long and complex; this can be a problem
- Several services, such as Bitly and Goo.gl, create **short URLs**

Paste your long URL here:

http://www.edisonjones.com/short-stories-for-kids-edison-jo

Shorten URL

http://goo.gl/EegwZ2

Short URL

I'll forward you to the full URL.

Short URL service server

FIGURE 4-12: SHORTEN THAT URL

4
Section B: Browsers

- Browser Basics
- Customization
- Browser Cache
- Plugins and Extensions

4
Browser Basics

Refresh and Home buttons

Settings menu

Navigation buttons for moving back and forth between pages

Address box for entering URLs or search queries

Tabs for multiple open Web pages

Web page display area

- **The essential elements of a browser include:**
  - An entry area for URLs and searches
  - Navigation controls
  - A refresh button
  - A home button
  - A settings menu
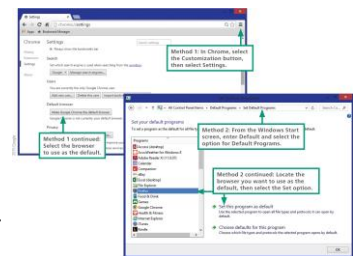 - And a display area

Refresh and home buttons accessed from the Settings menu

FIGURE 4-14: ESSENTIAL BROWSER ELEMENTS
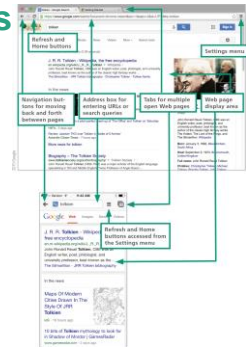
4
Browser Basics

- **Today's most popular browsers are:**
  - Apple
  - Safari
  - Google Chrome
  - Microsoft Internet Explorer (IE)
  - Mozilla Firefox

FIGURE 4-15: POPULAR BROWSERS

4
Browser Basics

- You can designate a default browser so that it is automatically used when you click a link in an email message or PDF file

Method 3: In Chrome, select the Customization button, then select Settings.

Method 1 continued: Select the browser to use as the default.

Method 2: From the Windows Start screen, enter Default and select the option for Default Programs.

Method 2 continued: Locate the browser you want to use as the default, then select the Set option.

FIGURE 4-16: WHAT'S YOUR DEFAULT BROWSER?

4 Customization

- You can customize your browser by doing the following:
  - change your home page
  - customize bookmarks and favorites
  - control tab behavior
  - select predictive services
  - adjust password settings
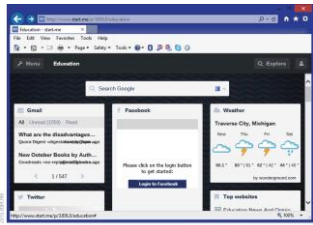
Using a service such as Start.me, you can create a customized home page that helps you easily access the sites you use most frequently and the information you want at your fingertips.

FIGURE 4-17: CREATE YOUR OWN HOME PAGE

4 Customization

- Customizable options:
  - **Predictive services** look ahead and anticipate what you might do when searching the Web; they also fill in form data based on entries you've made before, such as your email address and phone number
  - **Bookmarks** (or Favorites, as they are called in IE) link to pages that you use frequently
  - **Browser tabs** allow your browser to queue up multiple Web pages so that you can easily switch between them

4 Browser Cache

- Browsers pull HTML documents, images, and other Web page elements to your local device; ads are pulled down too
- When your browser fetches pages and graphics to form a Web page, it stores that material on your device in temporary files referred to as a **browser cache**, Web cache, or browser history
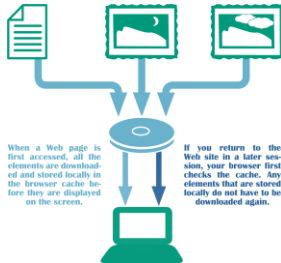

When a Web page is first accessed, all the elements are download-ed and stored locally in the browser cache be-fore they are displayed on the screen.

If you return to the Web site in a later ses-sion, your browser first checks the cache. Any elements that are stored locally do not have to be downloaded again.

FIGURE 4-21: YOUR BROWSER CACHE IN ACTION

4 Browser Cache

- Browsers include settings for limiting the time cached files remain on your device, limiting the amount of space they can use on the hard disk and deleting all the cached files
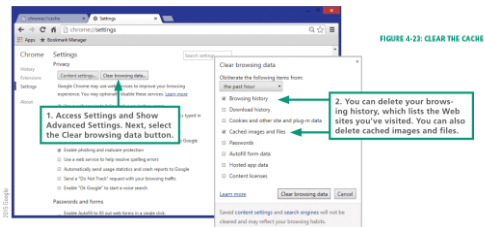

FIGURE 4-23: CLEAR THE CACHE

1. Access Settings and Show Advanced Settings. Next, select the Clear browsing data button.

2. You can delete your brows-ing history, which lists the Web sites you've visited. You can also delete cached images and files.

4 Browser Cache

- In addition to the cache your browser maintains a **History list** of sites that you've visited; you can delete the History list, usually using a process similar to clearing a browser cache
- Today's browsers also offer **private browsing** modes, in which traces of your activity are not maintained in the History list or browser cache; use it when you prefer not to leave a trail that can be seen by others who gain access to a device you have recently used

From the Customization menu, select New incog-nito window.

Google Chrome displays the incognito home screen.

As long as the incog-nito icon appears in the upper-left corner of the browser window, incog-nito mode remains in effect. When you close the incognito tabs, all traces of the sites you visited will be deleted.

FIGURE 4-24: GO INCOGNITO!

4 Plugins and Extensions

- A plugin is a program that extends a browser's ability to work with file formats
- Popular plugins include:
  - Adobe Reader for PDF files
  - Adobe Flash Player
  - QuickTime Player
  - Microsoft Silverlight for playing animations
  - Java

Google Chrome: Enter **Chrome://plugins/** in the address bar.

Apple Safari: Select **Safari Preferences**, then select the icon.

Microsoft Internet Explorer: Open the Control Panel and select the icon for **Programs and Features**.

Mozilla Firefox: Enter **www.mozilla.org/en-US/plugincheck/** in the Firefox address bar.

FIGURE 4-25: FIND YOUR BROWSER'S PLUGINS

4 Plugins and Extensions

➤ A browser extension adds features to a browser
➤ Browser extensions give the browser more features and functionality
➤ A popular extension called AdBlock removes advertisements from Web pages
➤ Google's toolbar is an example of a browser extension

4 Section C: HTML

➤ HTML Basics
➤ HTML Editing Tools
➤ CSS
➤ Dynamic Web Pages
➤ Site Creation

4 HTML Basics

➤ HTML is the foundation for professionally designed corporate Web sites
➤ The current version, **HTML5**, was introduced in 2010
➤ HTML is called a **markup language** because authors mark up documents by inserting special instructions called **HTML tags** that specify how the document should appear when displayed in a browser window

4 HTML Basics

➤ HTML is a member of a family of markup languages

DHTML (Dynamic HTML) A collection of technologies used with HTML to create interactive Web sites

HTML (Hypertext Markup Language) The standard markup language for specifying how browsers display Web pages

XML (Extensible Markup Language) A language designed to describe data; for example, think of the data in a phone book with each entry marked up to indicate <person> Joe Smith <phone> 236-1123

XHTML (Extensible HTML) A markup language that is very similar to HTML but is stricter about punctuation and other details of the coding; most Web site designers actually use XHTML, but everyone just calls it HTML

SGML (Standard Generalized Markup Language) A standard or template for markup languages; a language for writing markup languages
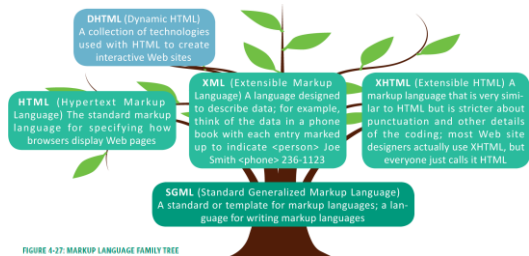
FIGURE 4-27: MARKUP LANGUAGE FAMILY TREE

4 HTML Basics

➤ HTML tags are incorporated into an **HTML document**, which is similar to a word processing file but has an .htm or .html extension
➤ Tags, such as <h1> and <p>, are enclosed in angle brackets embedded in the document
  ➤ <h1> indicates a heading
  ➤ <p> indicates a new paragraph

Most tags are inserted as pairs. The start tag and end tag enclose the content like this:

<h1> THE GLOBAL CHEF </h1>

This is how it would look in a browser: THE GLOBAL CHEF

4 HTML Basics

➤ An HTML document is sometimes referred to as a **source document** because it is the source of the HTML tags used to construct a Web page

FIGURE 4-28: HTML SOURCE DOCUMENT

4 HTML Editing Tools

- Tools for creating Web pages
  - **HTML conversion utility** – creates an HTML document from a conventional document, spreadsheet or other text-based file
  - **Online HTML editor** – a template-like tool provided by most Web hosting companies
  - **Locally installed HTML editor** – offers professional features for managing extensive corporate Web sites; others are geared toward creating smaller personal Web sites
  - **Text editor** – with these tools, you start from scratch, with a blank page, and enter HTML codes along with the text that you want for your Web page

4 HTML Editing Tools

- The framework for an HTML document consists of two sections: the head and the body

FIGURE 4-30: HTML DOCUMENT TEMPLATE

```
<!DOCTYPE html> ①
<html>

<head> ②
<title> The Global Chef Home Page </title>
</head>

<body> ③
<p> <h1> THE GLOBAL CHEF </h1> </p> ④

<img src="London.jpg" style="left:5px;top:150px;height:
232px;width:174px;"> </img> ⑤

<img src="Paris.jpg" style="left:300px;top:150px;height:
232px;width:309px;"> </img>

<img src="Tokyo.jpg" style="left:576px;top:150px;height:
232px;width:174px;"> </img>

<p> <a href="choose-the-course.html"> Enter </a> </p> ⑥
</body>
</html>
```

①	An HTML document begins with the DOCTYPE and html declarations.	④	Headings are formatted with the <h1> tag and can be set off with the <p> tag.
②	The <head> tag contains the page title.	⑤	Images are linked to pages with the <img> tag.
③	The Body section contains text and links to images.	⑥	Links to other Web pages are coded using the <a href> tag.

4 HTML Editing Tools

- You can use tags to mark sections of text that should appear in different styles, specify images you want to appear, and create clickable links to other Web pages

FIGURE 4-31: BASIC HTML TAGS

HTML TAG	USE	EXAMPLE
 <i>	Bold or italicize text	 Hello
<h1> <h2> ... <h6>	Change font size; h1 is largest	Chapter 1
<h1 style="color: ">	Change font color	Fir Trees
	Include a horizontal line (no end tag)	Section 2
 	Line break (no end tag)	This is line one. This is line two.
<p>	Paragraph break	It was the best of times, it...of comparison only.
	Numbered list ; bulleted list ; list items	- First item - Second item
<a href="URL">	Link to another Web page	 Click here
<img src="File">	Include an image	<img src="Photo.jpg">
<table>, <tr>, <td>	Create tables, table rows, and cells	<table>

4 CSS

- **CSS** stands for Cascading Style Sheets and is a set of detailed style specifications for an HTML document
- These specifications are called style rules, which include settings for font colors, font sizes, background colors, borders, text alignment, link formats, and margins
- Three types of style sheets are:
  - **Inline** – style sheets can be intermixed with an HTML doc; the use of inline CSS is avoided by professional designers
  - **Internal** – included with the header of an HTML doc; places formatting elements where they can be edited
  - **External** – style rules are placed in a separate file with a .css extension; for Web sites with more than one page, an external CSS is the recommended approach

4 CSS

FIGURE 4-33: USE A CSS TO SET FONT COLORS

- A style rule:

```
body
{
font-family: arial; } ①
h1 {
    color: purple; text-align: center;} ②
a:link {
    color: purple; } ③
a:visited {
    color: blue; } ④
```

| ① | Set the font to Arial for the entire Web page. | ③ | Set the font color of text links to purple. |
| ② | Set the Heading 1 font color to purple and the alignment to centered. | ④ | Set the font color of visited text links to blue. |

4 Dynamic Web Pages

- Using HTML and CSS, Web designers can create a **static Web page** that displays the same information, regardless of who accesses it
- A **dynamic Web page** displays customized content in response to keyboard or mouse actions, or based on information supplied directly or indirectly by the person viewing the page
- Dynamic elements can be incorporated in Web pages with the addition of instructions, called scripts, written with scripting languages, such as JavaScript

4 Dynamic Web Pages

➢ Client-side scripts are embedded in an HTML document and run locally when a Web page is displayed in a browser; they are used to customize aspects of the user interface and for simple interactions
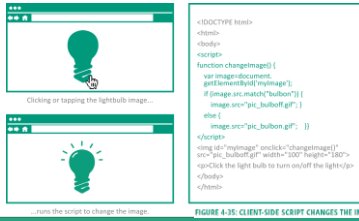
FIGURE 4-35: CLIENT-SIDE SCRIPT CHANGES THE IMAGE WHEN CLICKED

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4 Dynamic Web Pages

➢ Server-side scripts run on Web servers rather than on your local drive; they typically access information from a database and use that information to create customized Web pages on the fly
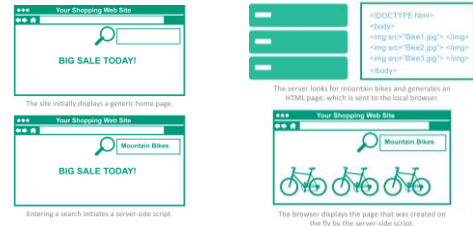
FIGURE 4-36: SERVER-SIDE SCRIPTS CAN CREATE WEB PAGES ON THE FLY

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4 Site Creation

➢ The steps for establishing a Web site include:
  ➢ Selecting a hosting service
  ➢ Choosing a domain
  ➢ Posting Web pages
  ➢ Testing pages in various browsers

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4 Site Creation

FIGURE 4-37: PLAN OPTIONS FROM A TYPICAL HOSTING SERVICE

Starter
1 GB storage space
Site management tools
Supported by ads selected by the hosting service
FREE

Standard
Your own domain
100 MB Web space
Site management tools
Ads
$5.95/month

Enhanced
Your own domain
No ads
1 GB Web space
Site management tools
$10.95/month

Ecommerce
Merchandise database
Credit card processing
Secure connection
Site management tools
$19.95/month

➢ A Web hosting service is a company that provides space on a server to house Web pages; hosting services, such as GoDaddy, offer a variety of hosting plans

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4 Section D: HTTP

➢ HTTP Basics
➢ Cookies
➢ HTTPS

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4 HTTP Basics

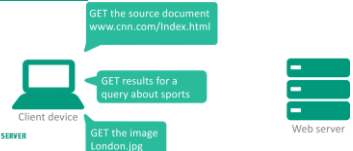| METHOD	FUNCTION
GET	Requests data from a specified source
POST	Submits data to a specified source
HEAD	Requests the HTTP header only for requested data
PUT	Uploads data to a specific Web address
DELETE	Removes a specified resource
OPTIONS	Fetches a list of methods supported by the server

FIGURE 4-40: HTTP METHODS

➢ **HTTP** is a communication protocol that works with TCP/IP to get the elements for Web pages to a local browser
➢ A set of commands called **HTTP methods** help your browser communicate with Web servers

GET the source document www.cnn.com/index.html
GET results for a query about sports
Client device
GET the image London.jpg
Web server

FIGURE 4-39: HOW GET REQUESTS DATA FROM A WEB SERVER

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4 HTTP Basics

- An **HTTP session** is a sequence of transactions most commonly used to request data from a Web server and return the files needed to display a Web page in a browser window
- Because the server does not "remember" its state from one session to the next, HTTP is called a **stateless protocol**
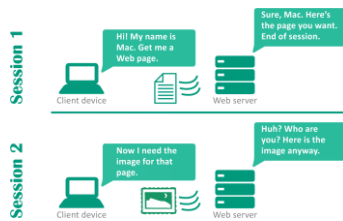

FIGURE 4-41: HTTP SESSIONS

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4 HTTP Basics

- A Web server's response to a browser's request includes an HTTP status code that indicates whether the browser's request could be fulfilled; the status code 200 means that the request was fulfilled
- A "404 Not Found" message is displayed when a Web server sends a 404 status code indicating a source doesn't exist

FIGURE 4-42: AN HTTP 404 STATUS CODE

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4 Cookies

- A **cookie** (technically an HTTP cookie) is a small chunk of data generated by a Web server and stored as a text file in memory or on disk
- Web sites use cookies to:
  - Monitor your path through a site
  - Gather information
  - Collect personal information
  - Verify that you have logged into a site using a valid ID

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4 Cookies

- There are two kinds of cookies: session cookies and persistent cookies
  - **Session cookies** – cookies stored in memory and deleted when the browser is closed
  - **Persistent cookies** – cookies that are stored on a device after a session ends; some are programmed to time out after a designated date

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4 Cookies

- A **first-party cookie** is set by the domain that hosts a Web page
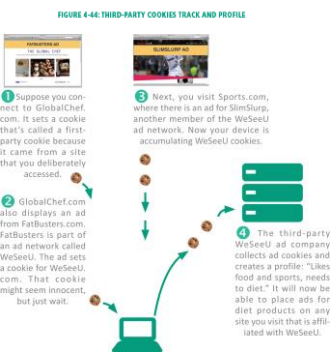- A **third-party cookie** is set by a site other than the one you connected to

FIGURE 4-44: THIRD-PARTY COOKIES TRACK AND PROFILE

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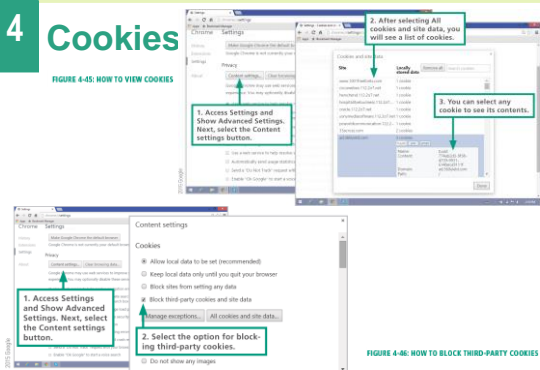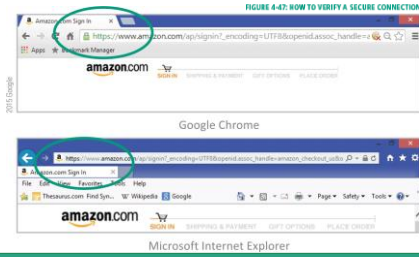
4 Cookies

FIGURE 4-45: HOW TO VIEW COOKIES

FIGURE 4-46: HOW TO BLOCK THIRD-PARTY COOKIES

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4 HTTPs

➢ The data that you transmit to a Web server can be secured if it is sent over an **HTTP Secure** connection, which encrypts the data stream between client devices and servers

FIGURE 4-47: HOW TO VERIFY A SECURE CONNECTION

Google Chrome

Microsoft Internet Explorer

4 HTTPs

➢ Sites that use HTTP Secure are required to present an SSL certificate to the browser; this helps the browser verify that the site is not pretending to be another site
➢ Look for these certificate icons when you want secure browsing:

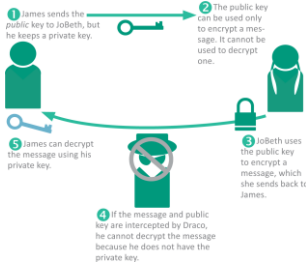| ICON	WHAT IT MEANS
	The site's certificate is valid and its identity has been verified by a trusted third-party authority.
	The site has not provided the browser with a certificate. This is normal for a regular HTTP site (look for the ⬚ icon in the address bar), because certificates are usually provided only if the site uses SSL.
	Google Chrome has detected problems with the site's certificate. You should proceed with caution because the site may be pretending to be another site in order to trick you into sharing personal or other sensitive information with them.

FIGURE 4-48: SSL CERTIFICATE ICONS

2015 Google

4 HTTPs

FIGURE 4-49: PUBLIC KEY ENCRYPTION

1 James sends the public key to JoBeth, but he keeps a private key.
2 The public key can be used only to encrypt a message. It cannot be used to decrypt one.
3 JoBeth uses the public key to encrypt a message, which she sends back to James.
4 If the message and public key are intercepted by Draco, he cannot decrypt the message because he does not have the private key.
5 James can decrypt the message using his private key.

➢ HTTP Secure is based on HTTP and a public key encryption technology called SSL/TLS
➢ Public key encryption is a very clever process that requires one key to encrypt data, but a different key to decrypt it; the encryption key can't be used to decrypt the message

4 Section E: Search Engines

➢ Search Engine Basics
➢ Formulating Searches
➢ Search Privacy
➢ Using Web-based Source Material

4 Search Engine Basics

➢ A **Web search engine** (commonly referred to simply as a search engine) is a computer program designed to help people locate information on the Web by formulating simple queries consisting of one or more words called keywords or search terms
➢ A search engine contains four components:
  ➢ **Web crawler** – combs the Web to gather data that's representative of the contents of Web pages
  ➢ **Indexer** – processes the information gathered by the crawler into a list of keywords and URLs stored in a database
  ➢ **Database** – stores billions of index references to Web pages
  ➢ **Query processor** – allows you to access the database by entering search terms, and then produces a list of Web pages that contain content relevant to your query

4 Search Engine Basics

➢ A **Web crawler** (also referred to as a Web spider) is a computer program that is automated to methodically visit Web sites
➢ Web crawlers download Web pages and submit them to an indexing utility for processing
➢ Web crawlers use a search algorithm to traverse the Web and can run multiple processes in parallel; sophisticated algorithms keep processes from overlapping or getting stuck in loops
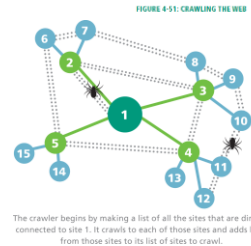

FIGURE 4-51: CRAWLING THE WEB

The crawler begins by making a list of all the sites that are directly connected to site 1. It crawls to each of those sites and adds links from those sites to its list of sites to crawl.

4 Search Engine Basics

- Web crawlers generally do not gather material from the **invisible Web**, which encompasses pages that require password-protected logins and pages that are dynamically generated with server-side scripts
- The potential volume of dynamically generated pages, such as all the possible pages that Amazon.com could generate from its inventory database, is just too great to feasibly index
- To access information related to online merchandise or library catalogs, you might have to go directly to the merchant's or library's Web site and use its local search tools
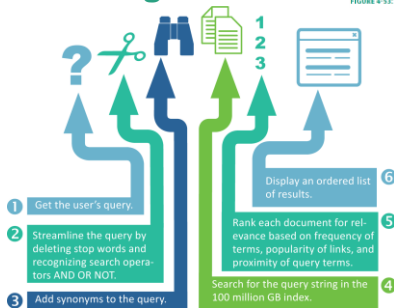
4 Search Engine Basics

- A **search engine indexer** is software that pulls keywords from a Web page and stores them in an index database; its purpose is to make pages easy to find based on their contents
- A search engine's **query processor** looks for your search terms in the search engine's indexed database and returns a list of relevant Web sites; Google's query processor handles more than 45,000 queries per second – on some days the total number of queries exceeds 6 billion!

4 Search Engine Basics

FIGURE 4-53: QUERY PROCESSING

1. Get the user's query.
2. Streamline the query by deleting stop words and recognizing search operators AND OR NOT.
3. Add synonyms to the query.
4. Search for the query string in the 100 million GB index.
5. Rank each document for relevance based on frequency of terms, popularity of links, and proximity of query terms.
6. Display an ordered list of results.

4 Search Engine Basics

- Query processors find millions of pages of results matching the query; the order in which they are listed depends on the search engine's ranking algorithm
- Google keeps this algorithm a closely guarded secret so that the Web site developers can't manipulate pages to get better placement
- **Link popularity** is a measure of the quality and quantity of the links from one Web page to others

4 Search Engine Basics

- A series of techniques called **search engine optimization** (SEO) can affect the ranking and visibility of Web pages
- Search engine companies, Google, Yahoo!, and Bing, provide guidelines for optimizing Web sites and the pages they contain
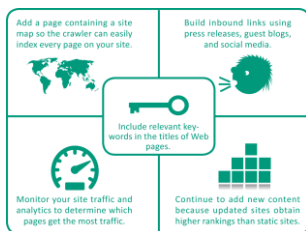

Add a page containing a site map so the crawler can easily index every page on your site.

Build inbound links using press releases, guest blogs, and social media.

Include relevant keywords in the titles of Web pages.

Monitor your site traffic and analytics to determine which pages get the most traffic.

Continue to add new content because updated sites obtain higher rankings than static sites.

FIGURE 4-55: SEO TECHNIQUES

4 Search Engine Basics

- Some search engines accept paid ads called sponsored links, which are bumped to the top positions on the results list; other search engines also accept paid ads but place them in a clearly marked area
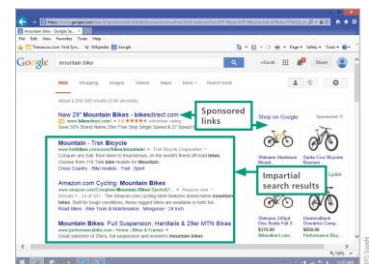

FIGURE 4-56: SPONSORED LINKS

4 Formulating Searches

> Most search engines work with keyword queries in which you enter one or more words, called **search terms**, related to the information you want to find

FIGURE 4-58: TIPS FOR EFFECTIVE QUERIES

Case. Most search engines are not case sensitive, so you don't have to use the Shift key when entering proper nouns.

Stop words. Search engines generally ignore common "stop" words, such as *and*, *a*, and *the*, so don't bother to include them in your query.

Stemming. The top search engines use stemming technology that automatically looks for plurals and other variations of the search terms you enter. For example, if you enter *diet*, the search engine also looks for pages with terms such as *diets*, *dietary*, and *dietician*.

Order. A search for *time machine* produces different results than a search for *machine time*.

Location. If your search engine is able to determine your location, your results might be affected. Most search engines give you an option to change your location or hide it.

Context. Search engines build on your previous searches. If you formulate several Batman-related searches and then search for *dark night*, your search engine might assume that you are looking for information about the Batman movie *The Dark Knight* instead of astronomy information. Google uses this predictive technology unless you clear your Web history.

4 Formulating Searches

> Narrowing a search can reduce the number of results and produce a more targeted list
> A search operator is a word or symbol that describes a relationship between search terms and thereby helps you create a more focused query

AND	When two search terms are joined by AND, both terms must appear on a Web page before it can be included in the search results. *Batman AND movies* Result: Pages about Batman movies
OR	When two search terms are joined by OR, either one or both of the search words could appear on a page. *Batman OR movies* Result: Pages about Batman and pages about Catwoman
NOT	The search term following NOT must not appear on any of the pages found by the search engine. *Batman NOT Catwoman* Result: Pages about Batman, but no pages about Catwoman
" "	To search for an exact phrase, enter it in quotes. *"Dynamic Duo"* Result: Pages that contain the exact phrase Dynamic Duo
*	The asterisk (*) is sometimes referred to as a wildcard character. It allows a search engine to find pages with any derivation of a basic word. *Bat** Result: Pages about bats, batters, Batman, batteries, etc.
..	Google lets you use two dots to specify a range of numbers, dates, episodes, or prices. *Batman episodes 5..8* Result: Pages about Batman episodes 5, 6, 7, and 8

FIGURE 4-59: SEARCH OPERATORS

4 Formulating Searches

> Many search engines provide ways to make your searches more precise and obtain more useful results; Google Advanced search is one example

FIGURE 4-61: GOOGLE ADVANCED SEARCH

4 Search Privacy

> Your search history contains a list of queries that you've made in a specific search engine
> Your search history is not the same as your browser history, which is a list of Web sites you've visited and is maintained by your browser
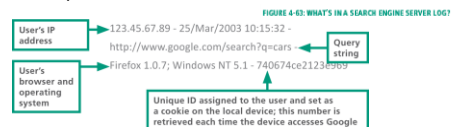> Search history is stored in server logs on the search engines' computers

FIGURE 4-63: WHAT'S IN A SEARCH ENGINE SERVER LOG?

User's IP address — 123.45.67.89 - 25/Mar/2003 10:15:32 - http://www.google.com/search?q=cars — Query string

User's browser and operating system — Firefox 1.0.7; Windows NT 5.1 - 740674ce2123e569

Unique ID assigned to the user and set as a cookie on the local device; this number is retrieved each time the device accesses Google

4 Using Web-based Source Material

> Most browsers provide Copy and Save commands that allow you to obtain text and images from a Web page
> To keep track of the source for each text section, you can highlight the Web page's URL in the Address box, use the Copy command, and then paste the URL into your document

You can copy the Web site URL and paste it into your word processor to use as a citation.

No One Knows You're a Dog

To highlight a passage of text, hold down the mouse button while dragging the I-beam pointer from the beginning of the passage to the end of it.

FIGURE 4-64: COPY THE URL ALONG WITH SOURCE MATERIAL

4 Using Web-based Source Material

> Presenting someone else's work as your own is plagiarism
> If you copy text, pictures, or other works from a Web page, be sure to credit the original author
> Information that identifies the source of an excerpted work is called a citation
> Written documents, such as reports and projects, generally include footnotes, endnotes, or inline citations formatted according to a standard style, such as MLA, APA, or Chicago
> In the United States, the Fair Use Doctrine allows limited use of copyrighted material for scholarship and review without obtaining permission

Unit 4 Complete

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