1 ☐ **INTRO TO WEB DEVELOPMENT**

HTML5 and CSS3

2 ☐ **THE WORLD WIDE WEB (WWW)**

- An information space on the Internet where documents and other web resources are identified by URLs (<u>u</u>niform <u>r</u>esource <u>l</u>ocators), e.g., web addresses
  - http://www.profstruck.net
  - http://www.profstruck.net/CST161/CST161_f23.htm

3 ☐ **COMPONENTS OF A URL**

- *protocol://domainName/path/filename*
  - *protocol*: http://   (or https:// for a "secure" connection)
    - Hypertext transfer protocol (meaning a web page)
  - *domainName*: www.profstruck.net (really "www.profstruck.net/<u>index.html</u>")
    - The name of the website
  - *path*: CST161
  - *filename*: CST161_f23.htm

4 ☐ **STATIC WEB PAGES**

- A static web page is delivered to the user exactly as it stored
- Written using HTML and CSS languages
- Displays the same information for all users all the time
- The opposite of *dynamic* web pages

5 ☐ **DYNAMIC WEB PAGES**

- A dynamic web page is a web page whose construction is controlled by an application *script*
- Each time a dynamic web page is reloaded there is the potential for *change* to some of its content often due to interaction with the user
- Part or all of the variable information may come from a database
- The opposite of *static* web pages

6 ☐ **COMMON WEB BROWSERS**

- Web browsers are software that reads code from web languages (HTML, CSS, scripting languages like JavaScript, etc.) and renders a web page
- Common web browsers include Microsoft Edge (replaced Internet Explorer), Mozilla Firefox, Google Chrome, Apple Safari and Opera
  - A developer should use more than one browser for "testing" to see how pages will render based upon the web code and compatibility

7 ☐ **SCRIPTING LANGUAGES**
(PAGE 1)

- Scripting languages are used to render "dynamic" part of a web page
- Client-side scripting languages run inside the *browser* application on the client, e.g.

JavaScript
- A client is the user computer where the browser is stored and runs

8 ☐ **SCRIPTING LANGUAGES**
(PAGE 2)

- Server-side scripting languages run on the *server* and generate dynamic HTML and CSS code, e.g. ASP.NET, JSP, PHP, ColdFusion, Ruby, Perl, Python, etc.
  - A server machine is the computer that "delivers" code that makes up the web pages to the browser on the client

9 ☐ **JAVASCRIPT**

- JavaScript is a client-side scripting language that is run by the JavaScript "engine" of a web browser
- Controls dynamic operation of the browser
- Common tasks include data validation, image swaps and rollovers, slide shows, etc.
- Example of a page written with JavaScript: http://www.landsend.com

10 ☐ **HTML**
(PAGE 1)

- HTML (hypertext markup language) defines the content and structure of a web page
- Actually, HTML is only text even though images and other multimedia can be included in the web document
- HTML along with CSS and JavaScript form the "triad" of technologies for World Wide Web development

11 ☐ **HTML**
(PAGE 2)

- Browsers always provide a command to view the HTML "source code"
- http://www.profstruck.net
- HTML5 is the current version

12 ☐ **CSS**

- CSS (cascading style sheets) is a language mostly for describing the presentation and visual formatting of an HTML document
- http://www.profstruck.net/cbs_styles.css
- CSS3 is the current version

13 ☐ **WEB DEVELOPMENT TOOLS**
(PAGE 1)

- Web development tools are *editors* for creating web page code
- Free "bare bones" text editors include:
  - Notepad (installed with Windows) and Notepad++ for Windows
  - BBEdit for Macintosh

14 ☐ **WEB DEVELOPMENT TOOLS**

(PAGE 2)

- Popular more "feature rich" web development tools and suites:
  - Adobe Dreamweaver and Adobe Creative Suite for both Windows and Macintosh (rather costly)
  - Microsoft Expression Web (free) and Microsoft Expression Studio (free versions) for Windows only
  - Microsoft Visual Studio (free "Community" version download) designed for coding in many different languages so could be a little over-powering

15 ☐ FTP PROGRAMS
(PAGE 1)

- FTP (file transfer protocol) programs are software used to transfer computer files between a client and server on a network
- Web developers create web pages on a local workstation after which the documents must be uploaded to a server for distribution on the Internet

16 ☐ FTP PROGRAMS
(PAGE 2)

- Popular FTP programs include:
  - FileZilla (free for Windows, Macintosh and Linux)
  - FTP Voyager (Windows)
  - CuteFTP (Windows and Macintosh)
  - Fetch (Macintosh)

17 ☐ CROSS-BROWSER COMPATIBILITY
(PAGE 1)

- Cross-browser compatibility relates to what degree all HTML5 and CSS3 features will "work" in each browser without "workarounds"
- Developer should test on several if not all five major platforms:
  - Google Chrome, Mozilla Foxfile, Apple Safari, Opera, Microsoft Edge

18 ☐ CROSS-BROWSER COMPATIBILITY
(PAGE 2)

- The HTML5 test ratings for the following browsers as of August 2022 are (higher values are better):
  - Google Chrome 66—528
  - Mozilla Foxfire 59—491
  - Apple Safari 11.1—471
  - Opera 45—518
  - Microsoft Edge 17—492
  - Internet Explorer 11 (last version)—312

19 ☐ USER ACCESSIBILITY

- User accessibility refers to qualities that make web site accessible to all users,

especially those with disabilities
- Types of disabilities: visual, hearing, motor and cognitive (mental processing)
- Developer should be aware of accessibility laws

20 SEARCH ENGINE OPTIMIZATION

- Search engine optimization (SEO) is the process of maximizing the number of visitors to a particular website by ensuring that the site appears high on the list of results
- There are some common coding techniques that will help a developer's web pages do better in search engines
  - E.g., try searching "Prof Struck" in Google
- Most popular search engines are Google, Yahoo and Bing