جامعة المستقبل
AL MUSTAQBAL UNIVERSITY

# College of Sciences
# Intelligent Medical System Department

## Lecture 1

# Introduction to Web Programming

**Subject: Web Programming**

**Level: Third**

**Lecturer: Asst. Lect. Ali Saleem Haleem**

# Introduction

A brief description of the Web, which is short for World Wide Web. Most people say "Web" instead of "World Wide Web," and we'll follow that convention. The Web is a collection of documents, called web pages, that are shared (for the most part) by computer users throughout the world. Different types of web pages do different things, but at a minimum, they all display content on computer screens. By "content," we mean text, pictures, and user input mechanisms like text boxes and buttons. FIGURE 1 shows a typical web page. Note the web page's text, pictures, text boxes, and buttons. Also note the web page's address shown in the figure's address bar. The web page address is the location where the web page resides on the Internet. Speaking of the Internet, what is it? It's a collection of several billion computers connected throughout the world. Each web page is stored on one of those computers. Figure 1 shows the "TED Talks" website. To visit it, open a browser (e.g., Google Chrome, Microsoft Edge, and FireFox) and enter the web page address shown in the figure's address bar.

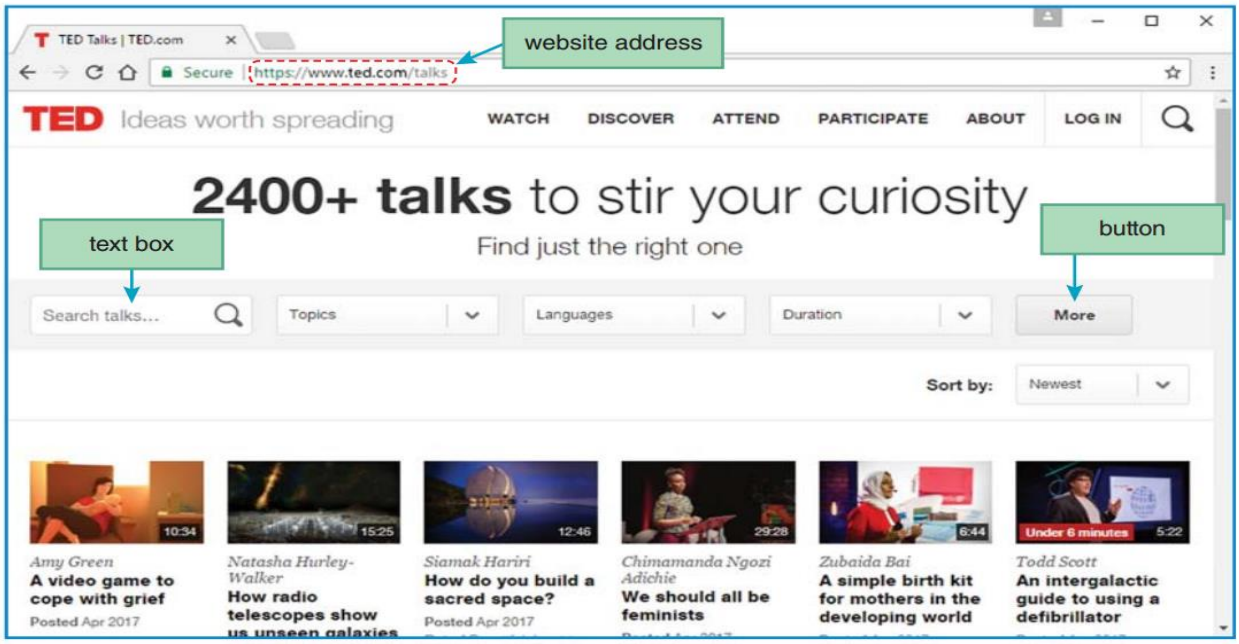


*Figure 1:A typical web page*

# Creating a Website

A website is a collection of related web pages that are normally stored on a single web server computer. A web server is a computer system that enables users to access web pages stored on the web server's computer. The term "web server" can refer to the web page-accessing software that runs on the computer, or it can refer to the computer itself. To create a website, you'll need these things: (1) a text editor, (2) an upload/publishing tool, (3) a web hosting service, and (4) a browser.

## Text Editors

There are many different text editors, with varying degrees of functionality. Microsoft's Notepad is free and provides no special web functionality. To use it, the web developer simply enters text, and the text appears as is. Although it's possible to use a plain text editor such as Notepad, most web developers use a fancier type of text editor—a web authoring tool (see figure 2). To use it, the web developer simply enters text, and the text appears as is. Although it's possible to use a plain text editor such as Notepad, most web developers use a fancier type of text editor—a web authoring tool. Different web authoring tools have different features that are intended to make the web development process easier.

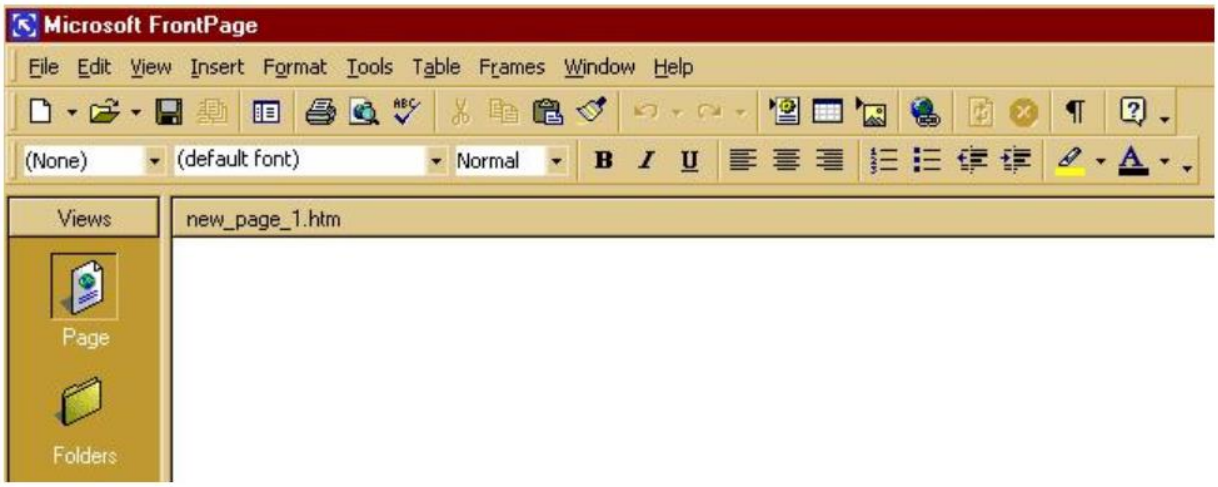


*Figure 2: example of web authoring tools*

At a minimum, web authoring tools are able to suggest valid code after the user has typed part of a command. This is done by showing a pop-up to the user that suggests valid code that could complete the command currently being entered. This auto-complete mechanism is often called intellisense and sometimes called picklist. Normally, web authoring tools enable developers to create not just web pages, but other software as well. Such general-purpose web authoring tools are normally referred to as Integrated Development Environments (IDE).

**Web page Uploads**

After you enter your web page text on your local computer with your favorite IDE, you'll probably want to publish it. Publishing means that you upload your web page to a web server computer so other users can access it on the Web. Some IDEs, like Dreamweaver, provide built-in uploading capabilities, but other IDEs, like Visual Studio, do not. For IDEs that do not provide built-in uploading capabilities, you'll need to use a separate file upload tool (such WinSCP).

**Web Hosting Service**

For a file upload tool such as WinSCP to work, you need to have a web server computer on which to store the uploaded files. For the uploaded files to be accessible as web pages on the Web, your web server computer needs to have a web hosting service in place. The web developer usually doesn't have to worry about the web hosting service software. If the web developer is part of a medium- to large-sized organization, then the organization's information technology (IT) department will install and maintain the web hosting service.

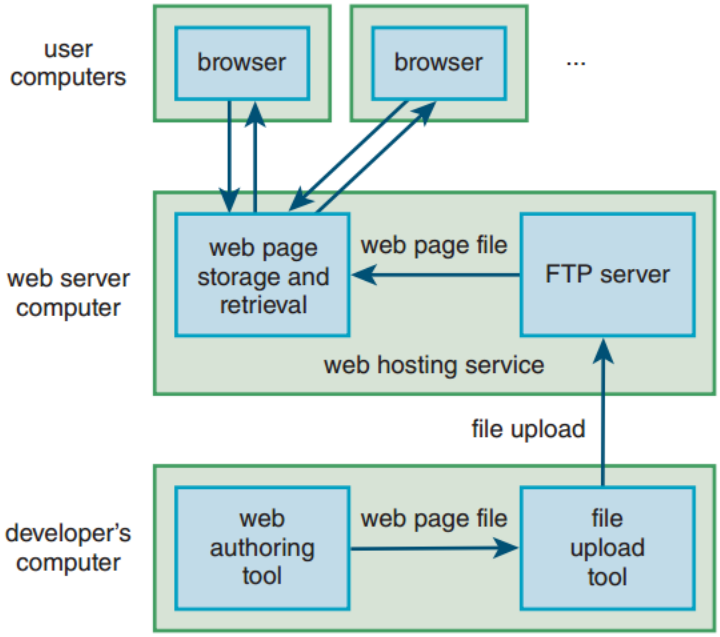


*Figure 3:Website file processing*

On the other hand, if the web developer is part of a very small organization or not part of an organization at all, the developer will need to set up the web hosting service or rely on a generic web hosting company (e.g., GoDaddy.com) to do so. Regardless of who's in charge of the web hosting service, all web hosting services need to have a mechanism for receiving uploaded files from a file upload tool. Typically, that mechanism is an FTP (file transfer protocol) server, which is a program that runs on the web server computer. FIGURE 3 is a pictorial description of how the FTP server fits in with the rest of the website creation process.

**Browsers**

The top of Figure 3 shows the final part of the website experience: browser access. A browser is a piece of software that enables a user to retrieve and view a web page. According to http://gs.statcounter.com, the most popular browsers for computers are Google Chrome, Microsoft's browsers (Microsoft Edge and Internet Explorer), and Mozilla 2 Firefox, with Google Chrome at #1. Other browsers are Safari (for Mac

devices), Opera, and Android's default browser. Safari and Android are particularly popular with mobile devices.

## Web Page Example

Note FIGURE 4, which shows a simple Kansas City Weather web page. Formally, the website address value is known as a URL, which stands for Uniform Resource Locator. That name is not all that intuitive, so just remember that a URL is a website address. Here's the URL for the Kansas City Weather page in Figure 4:

```
http://teach.park.edu/~jdean240/lecture/weather.html
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The http refers to the hypertext transfer protocol, where a protocol is a set of rules and formats for exchanging messages between computers. After http comes a delimiter, ://, and then the name of the web server computer that stores the web page. For this example, the web server computer is *teach*. Next comes the domain that describes how the web server can be found on the Internet. For this example, the domain is *park.edu*. Next, there's a sequence of directories and subdirectories (also called folders and subfolders) that indicate where the web page is stored on the web server computer. That's called the path. For this example, the path is *~jdean240/lecture*. The ~(tilde) at the left indicates that the directory is a home directory for a user's account. In the example, after the lecture subdirectory, there's a / and then weather.html. The phrase *weather.html* is the web page's filename, and the / is another delimiter. This time, the / separates the subdirectory from the web page filename.

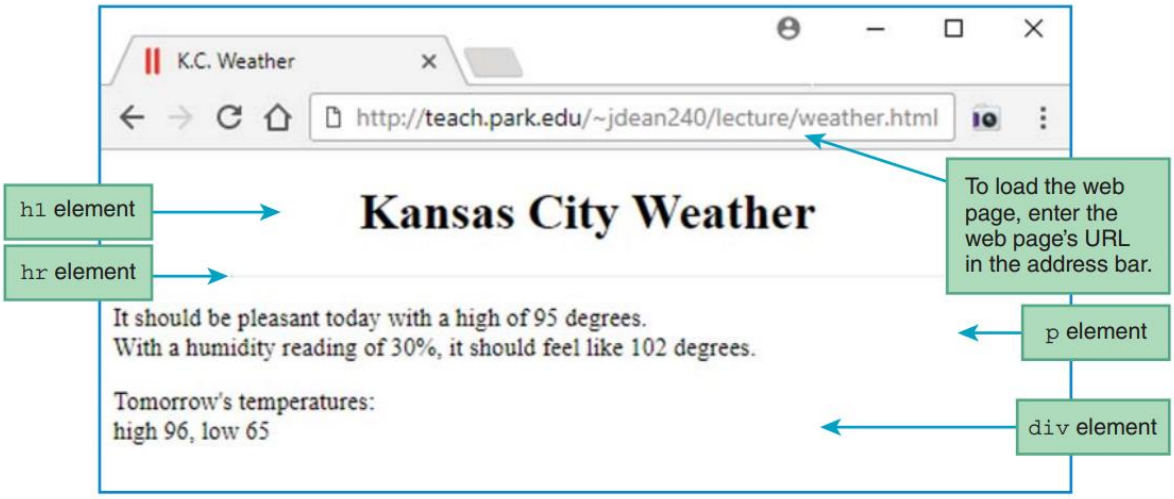


*Figure 4:Kansas City Weather web page*

In Figure 4, all the things you see below the address bar are web page elements *h1*, *hr*, *p*, and *div*. The *h1*element is used to implement a web page heading, with the "*h*" in *h1*standing for "heading." The *hr* element is used to implement a horizontal line, with the "h" and "r" standing for "horizontal" and "rule," respectively. The *p* element is used to implement a paragraph. Finally, a *div* element is used to group words together as part of a division within a web page.