TOPIC 4: WEB AUTHORING AND DESIGN TOOLS

T4.1) Description of web design tool

Web design is the process of creating websites. It encompasses several different aspects, including webpage layout, content production, and graphic design. While the terms web design and web development are often used interchangeably, web design is technically a subset of the broader category of web development.

Websites are created using a markup language called HTML. Web designers build webpages using HTML tags that define the content and metadata of each page. The layout and appearance of the elements within a webpage are typically defined using CSS, or cascading style sheets. Therefore, most websites include a combination of HTML and CSS that defines how each page will appear in a browser.

Tools of web-design

Some web designers prefer to hand code pages (typing HTML and CSS from scratch), while others use a "WYSIWYG" editor like Adobe Dreamweaver. This type of editor provides a visual interface for designing the webpage layout and the software automatically generates the corresponding HTML and CSS code.

Another popular way to design websites is with a content management system like WordPress or Joomla. These services provide different website templates that can be used as a starting point for a new website. Webmasters can then add content and customize the layout using a web-based interface.

While HTML and CSS are used to design the look and feel of a website, images must be created separately. Therefore, graphic design may overlap with web design, since graphic designers often create images for use on the Web. Some graphics programs like Adobe Photoshop even include a "Save for Web…" option that provides an easy way to export images in a format optimized for web publishing.

T4.2) Features of web design tools

Basic Features of Web Design Tools

A perfect web design tool should incorporate most and preferably all the features listed below:

- **Freedom to create.** I need a tool where I don't feel crippled, where I can realize my own vision. Templates are great, but I also need to tweak and change things the way I want.
- **Responsive design for any screen.** Phones, tablets, watches, 4K monitors - screens are becoming more fragmented every day. Many tools seem to ignore this completely, others do it very hard to use.

- **SEO support.** Very important, and needs to be updated as best practices change. E.g. keywords are no longer relevant to Google.
- **Rich content.** Video, animations, interactive widgets. The web is an interactive medium and should be treated as such.

Details of Features of Web Design Tools

Feature #1: Views

Most web authoring software provides multiple views of the web page you're working on.

- **Standard, normal, or design view** - This is typically the default view, which is a blank screen on which you type, paste, or insert content. This is very similar to a word processor screen.
- **Code view -** Allows you to view and work directly with the HTML code.
- **Split -** Both of the above views are displayed simultenously in separate windows.

Examples from common applications

- In Macromedia Dreamweaver, you can switch between views using the View menu.
- In Microsoft FrontPage, you can switch between views using tabs that appear in the lower left corner of the application window.
- In Netscape Composer, you can switch between views using either of the above methods.

Activity

- Find how to switch between views in your web authoring software. Does the software provide more than one way to do this? Try typing something on the screen in Normal or Design View, then switch to Code View to see the HTML that was generated by the web authoring tool.
- Ask your instructor for instructions on how to open and save files with your web authoring software in your school's computing environment.
- Now open your portfolio file *unit6.htm* in your web authoring software. At this point the page should have a banner, a navigation menu, and a pair of W3C icons. Practice switching between views and exploring your page using your web authoring tool.

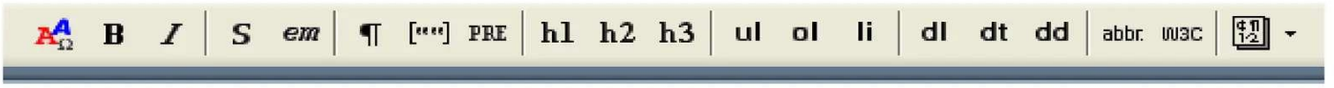
Feature #2: Creating Headings and SubHeadings

In Normal or Design View, Web authoring software is very similar to word processing software. One or more toolbars appear across the top of the application window. A text formatting toolbar typically includes buttons for bolding and italicizing text, and probably additionally includes some means of identifying a heading or subheading.

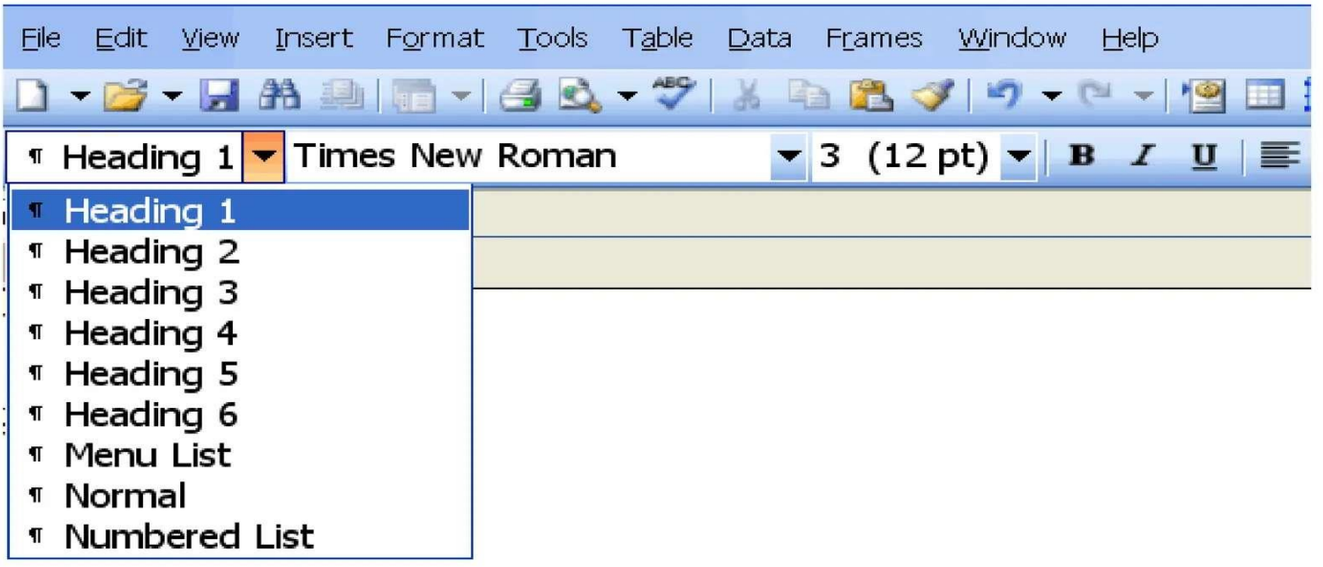
Examples from common applications

Example #1

The following is a sample toolbar from Macromedia Dreamweaver. To create an <h1> heading in Dreamweaver, simply select the button labeled **h1**, type your heading text, then press Enter.



Example #2
The following is a sample toolbar from Microsoft FrontPage. To create an **<h1>** heading in FrontPage, use the dropdown menu to select Heading 1, type your heading text, then press Enter.



Activity

- Add a main heading "Unit 6: Web Authoring Software" to your web page, just beneath the menu. Since you already know how to do this with source code, try doing it using the graphic view, then check your source code to see what code was inserted by the software.
- Now add a subheading "My Web Authoring Software" beneath this.
- As in previous lessons, add a named anchor to this heading with name="software". In some web authoring tools, this feature may be called a bookmark. See if you can figure out how to add it using your software's menu system or graphic interface.
- Beneath this subheading, write a short paragraph identifying what web authoring software you're using, including the version number.
- After you've added this content to your web page, switch to Code View to see the HTML that was generated by the web authoring tool. Does it differ at all from the HTML you would have used if you were coding this page manually?

Feature #3: Inserting Links
In many web authoring software products, you add a link to a document by selecting *Insert* from the menu, then *Link* or *Hyperlink*. A dialog box will appear, prompting you for the link text that you want to display, the destination of the link, and possibly other information. Most web authoring software tools additionally provide a button or icon that allows you to quickly insert a link.

Activity

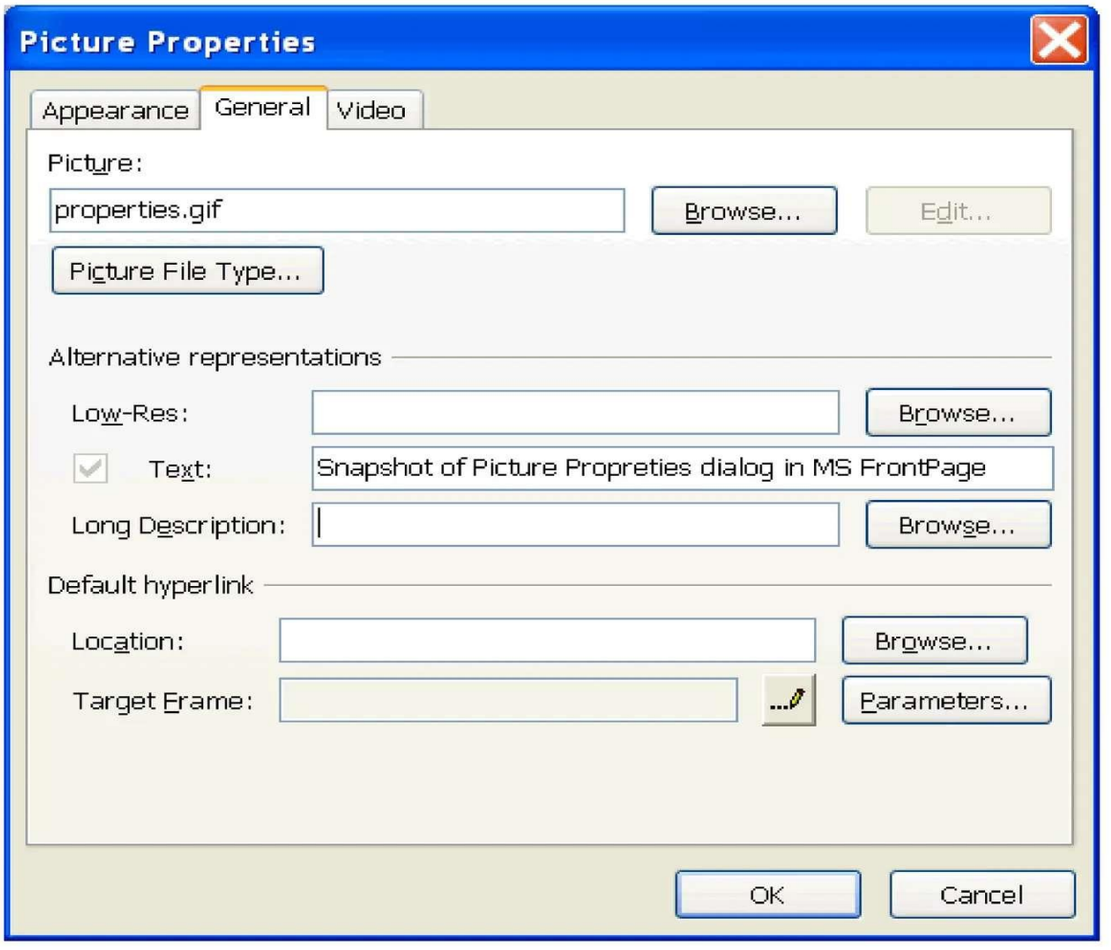
- Explore your software, and find out how many ways there are to add a link to your web page.
- Create a new section in your web page with subheading "List of Links", and a named anchor "links"
- In this new section, use your software's graphic interface to add an unordered list of links to a few of your favorite websites.
- Now switch to Code View to see the HTML that was generated by the web authoring tool.
- Open your portfolio home page (*index.htm*) in your web authoring software. See if you can figure out how to link to a specific named anchor within a document. In the appropriate places on your home page, convert items to links to the new sections in your Unit 6 document.

Feature #4: Inserting Images

In many web authoring software products, you add an image to a document by selecting *Insert* from the menu, then *Image* or *Picture*. A dialog box will appear, prompting you for the location of the image. After you have inserted the image into your webpage, you can edit its attributes in a Properties dialog box or panel. For example, you can change the image's height and width, put a border around it, make it into a link, and add alternate text for users who can't see the image. Image Properties are typically accessed by right clicking on the image and selecting Properties from the popup menu (if you are a Mac user, you can achieve the same result by pressing CTRL and clicking on the image to see the popup menu).

Examples from common applications

The following is the Picture Properties dialog from Microsoft FrontPage:



Activity

- Explore your software, and find out how to insert a picture.
- Create a new section in your web page with heading "Inserting an Image" and named anchor "image".
- In the new section, insert the 3D Box image that you created in the lesson on Basic Image Manipulation.
- Explore the various options that are available for image properties. Try chang some of these properties to see what happens. Be sure to add alternate text to the image for the benefit of those who can't see it.
- After changing image properties, switch to Code View to see the HTML that was generated by your changes.

T4.3) Web authoring protocols

The Internet relies on a number of *protocols* in order to function properly. A protocol is simply a standard for enabling the connection, communication, and data transfer between two places on a network. Here are some of the key protocols that are used for transferring data across the Internet from website to users.

HTTP
HTTP stands for Hypertext Transfer Protocol. It is the standard protocol for transferring web pages (and their content) across the Internet.

When you browse a web page, the URL might be preceded by `http://`. This is telling the web browser to use HTTP to transfer the data. Most browsers will default to HTTP if you don't specify it. You can test this by typing in say... `www.quackit.com` (instead of `http://www.quackit.com`).

HTTPS
HTTPS stands for Hypertext Transfer Protocol over Secure Socket Layer. Think of it as a secure version of HTTP. HTTPS is used primarily on web pages that ask you to provide personal or sensitive information (such as a password or your credit card details).

When you browse a web page using HTTPS, you are using SSL (Secure Sockets Layer). For a website to use HTTPS it needs to have an *SSL certificate* installed on the server. These are usually issued by a trusted 3rd party, referred to as a Certificate Authority (CA).

When you browse a web page using HTTPS, you can check the details of the SSL certificate. For example, you could check the validity of it. You could also check that the website does actually belong to the organization you think it does. You can usually do this by double clicking on the browser's padlock icon. The padlock icon only appears when you view a secure site.

Here's an example of Firefox's padlock icon from Firefox's address bar:

Firefox also displays a padlock at the bottom right of the browser window, along with the common name of the organization that the certificate was issued to:

FTP
FTP stands for File Transfer Protocol. It is used to transfer files across the Internet. FTP is commonly used by web developers to publish updates to a website (i.e. to upload a new version of the website).

Where HTTP is used for displaying the file in your browser, FTP is used simply to transfer the file from one computer to a specified location on another computer. You can use FTP to transfer the files from your computer to a remote computer (such as a web server), or to transfer from the remote computer to your local computer.

Internet Protocol Address (IP Address):
A numeric code that uniquely identifies a particular computer on the Internet. 127.0.0.1 is an example of an IP address. The browser uses IP addresses to find websites on the Internet.

Internet Service Provider (ISP):
Is a business or organization that offers users access to the Internet and related services , examples being BT, Virgin Media, Talk Talk.

Domain Name:
The name that identifies a website. For example, Facebook.com.

Domain Name System (DNS):
A naming system that converts domain names into IP addresses. We use domain names to navigate to websites because they're easier to remember, but computers require IP addresses to communicate with each other.

Doctype:
The doctype declaration specifies which version of HTML is used in a document. It has a direct effect on whether your HTML will validate , an example of this would be:

<!DOCTYPE html PUBLIC

T4.4) Characteristics of a good web design

Despite the innumerable variables, there are specific and telling features/characteristics of impeccably built websites, no matter the kind of business or industry, which any company can use a barometer to measure against. Below are some of the most important features/ characteristics of well-built web design of which to take note. These features are absolutely necessary for every website in order to deliver the exceptional results that site visitors and owners expect.

1. Quality Web Content. There's one primary reason people use search engines and browse websites, and that is to search for information. People desire information every day, and want if delivered in a fast and reliable fashion. Whether to entertain, entice or educate, superior content is a must in every frequently visited website, especially if search engine optimization is part of the website's overarching marketing strategy.

For business websites, content should include important information and come in the forms that are pertinent to the business. Retail sites for example, need high quality pictures of their products, while consulting firms are more apt to highlight client testimonials. A best practice for most search engine optimization gurus is also ensuring the most relevant content is prominent on the webpages.

2. Clear, User-friendly Navigation. A stellar web design must contain a user-friendly navigation scheme that allows visitors to quickly find the information needed. Important links must be easy to find and given logical, simple, and include easy-to-understand labels. Calls to action are placed in conspicuous spots within the navigation's scheme. If there is a plethora of content, then a search box is suggested to make it faster to reach more specific pages within a website.

3. Simple and Professional Web Design. Bells and whistles may seem nice in concept, but they rarely add much value to an effectively constructed and sensible web design. Typically, the websites best at effectively converting site visitors into buying customers, maintain an attractive layout, but keep it clean and simple. Google is an excellent example of such a site. Actually, users found Google's initial design over simplified during the initial testing phases. Thus in order to keep a simple interface, but prevent the appearance of site constructed without much thought, Google added the 'I'm Feeling Lucky' button underneath the search box. Despite the fact that hardly anyone clicks on this button, its addition balances the layout in such a way that delivers a better user experience.

To keep websites simple, without making them look bland such as in Google's case, a balanced distribution of content and graphics is required and the use of slightly contrasting colours and clear fonts is key. Colours that are scream, are overtly contrasting, and font sizes that are difficult to read will put a strain on visitors' eyes. Also, one should break up sizeable blocks of text with either spacing or images as appropriate.

4. Webpage Speed. People inherently lose patience quickly, and that holds true when visiting a website. The longer a website takes to load, the more likely a person will leave before it fully renders. Beautiful graphics and substantial content become useless if a site's speed hampers its ability to deliver content quickly.

Several factors affect site speed, including server speed, the number of graphics, website traffic, etc. A web design company must make sure to minimize all controllable factors slowing down site speed by using reliable site hosting, proper website code, and optimized graphics.

5. Search Engine Optimization. A well-designed website generally will receive many visitors, and one method to attract visitors is search engine optimization. This entails the insertion of search keywords in website content, an appropriate link profile, social media signals, and over 200 other factors.

6. Web Compatibility. The variety of browser and platforms which one can now be view web design can present a challenge to developers, but talented ones are accustomed to handling such factors. A site should easily render on various resolutions, screen sizes, and browsers; and with the increasing popularity of mobile devices, websites should function properly on the plethora of these types of devices.

When it comes to web design, remember that not all that glitters is gold. Know what truly makes a well-built site and you'll soon find your website quickly on its way to attracting and retaining customers

T4.5) Description of authoring tools

Web development can range from developing the simplest static single page of plain text to the most complex web-based internet applications,

A *platform* is the underlying programming language that the site will utilize. The most popular development platforms are HTML, PHP, .NET, and JSP.

Dream weaver is one of the applications that help manage webpages developed in the above platforms… and so are synonymously regarded as web platforms too though are only web development tools

Introduction to Adobe Dreamweaver

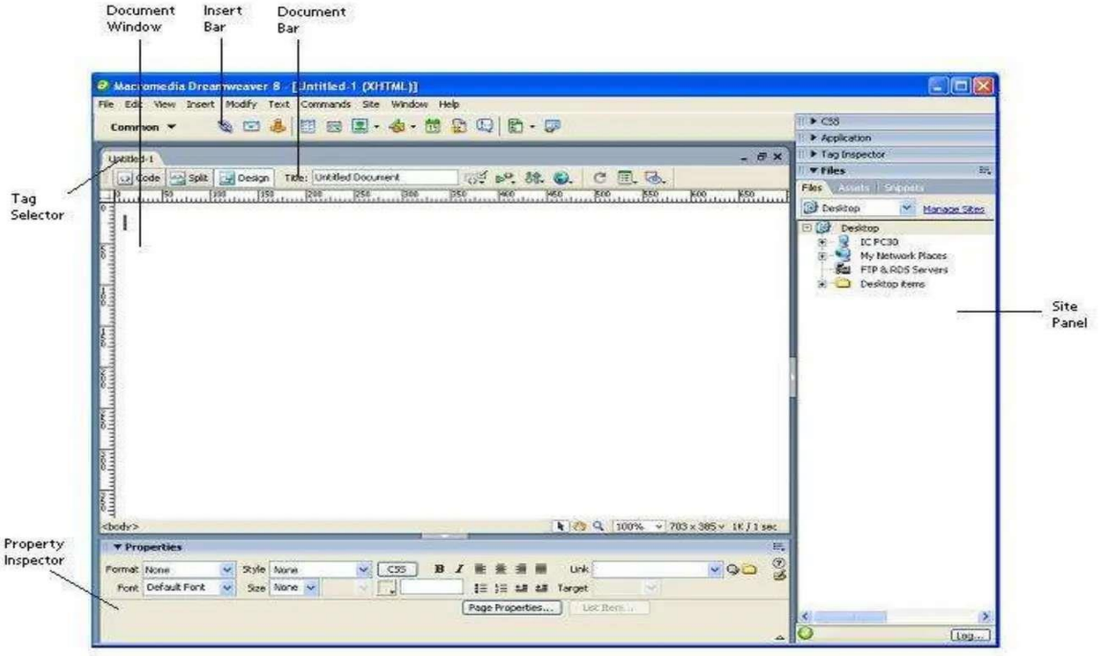
What is Dreamweaver? Dreamweaver helps you to create web pages while it codes html (and more) for you. It is located on the bottom tray  or in the **start** menu, under **Macromedia**.

Manage a website in Dreamweaver

Before you begin: *Webspace*: your webpage must be on your webspace to be accessible from the internet. store all components of the website in one folder. It is recommended that you create a separate "images" folder within the main one to keep track of your images. The main folder must be on your webspace. *Planning*: it helps if you know how you want your webpage to look *before* using Dreamweaver. Think about colors, uniformity among pages and organization of links and topics.

Creating a new page:

Under "File", select "New". Make sure it is set on "Basic Page" and "HTML".



The Dreamweaver Windows

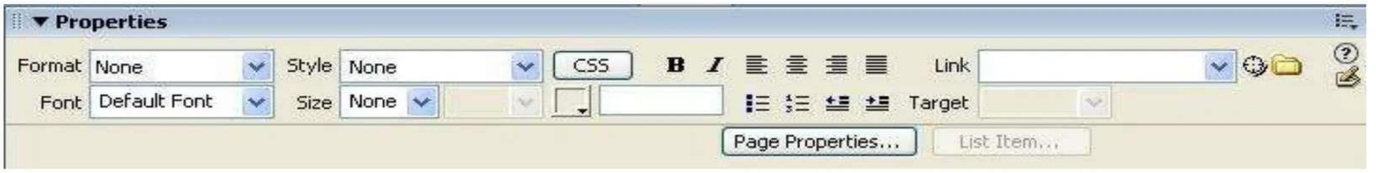
The **Document window** displays the current, editable page.

The **Site Panel** allows you to easily access, view and manage the files and folders that make up your site. This is **optional**, but useful.

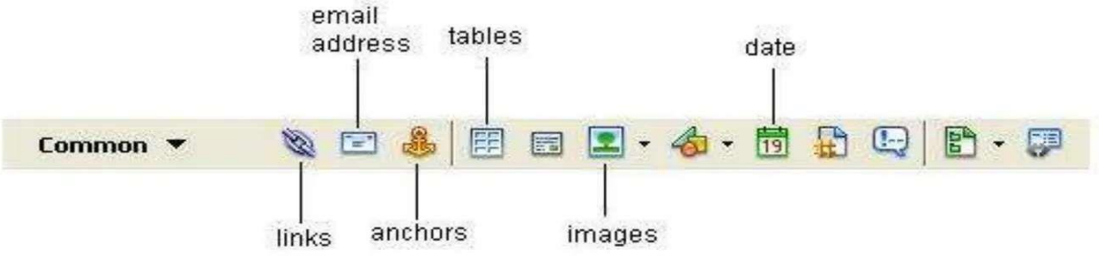
From the top menu, select **Site**➪**New Site**➪click the "**Advanced**" tab. Fill in the **Site Name** ("bob's site"), the **Local Root Folder** (the folder where all pages of your website are contained), and the **http address** (the exact online location of your site—http://www.mtholyoke.edu/~bob/main_folder_name).

The two commonly used tool bars are the **Insert bar** and the **Properties inspector**. If they are not visible on your screen, pull down these options under **Windows (Insert** and **Properties)** at the top, or press **F4** on your keyboard.

The Property Inspector allows you to view and change properties of selected objects or texts.

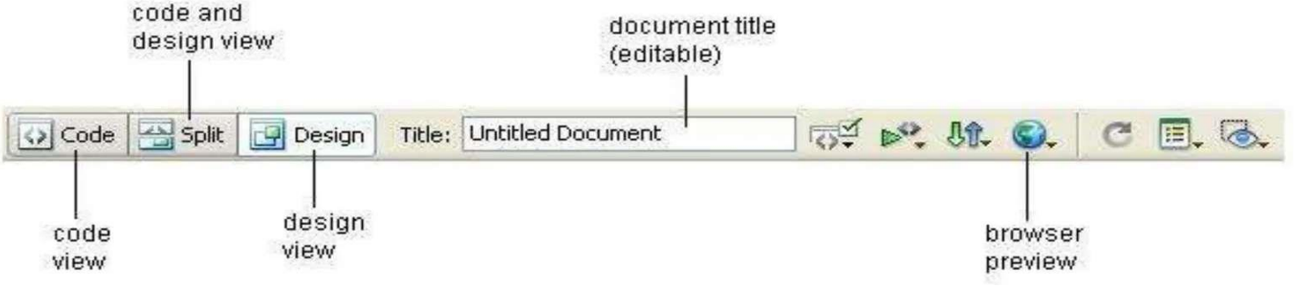


The **Insert bar** contains buttons for inserting various types of objects, e.g. images, tables and text into your page.



The **Document toolbar** contains buttons and pop -up menus that provide different views of the Document window (e.g. Design view, Code view) and gives you access to references and a preview of your page in the browser of your choice. If the document toolbar is not already visible, go to **View**➪ **Toolbars**➪ **Document** in the top menu.

To preview your page in a browser click on the Browser Preview on the Document toolbar or choose **File** ➪ **Preview in Browser**. You must save the page first to see changes.

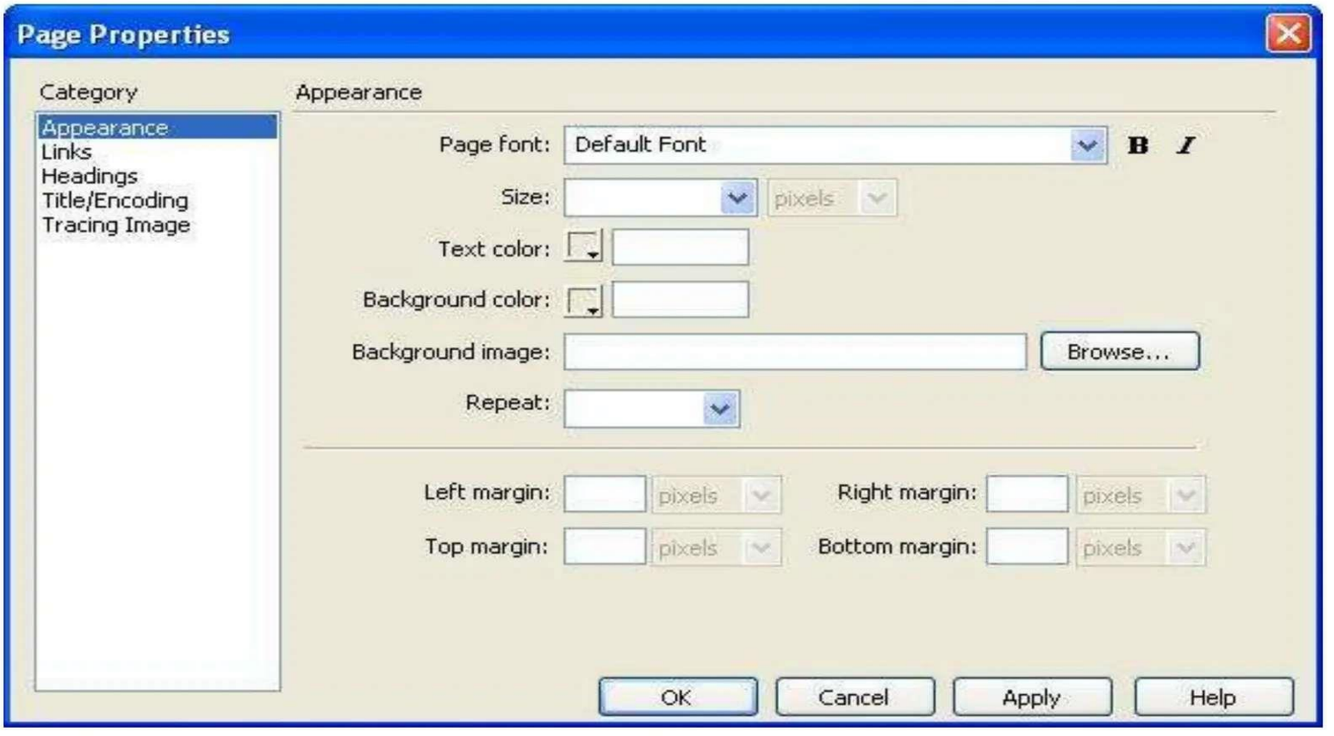


Page Title and Page Properties

Page Title: It is important to title new web pages. A good habit to adopt is to title your page before you do anything else. The page title appears in the top title bar of the browser window and if bookmarked, the title of the bookmark. Without a title, "Untitled document" will appear. You can yype in the page title in the Title box located in the **Document toolbar**.

Page Properties

The default appearance of text, background color, page margins, color of links, and other properties can be changed in the **Page Properties** window. Go to **Modify** ⇗ **Page Properties** or press Control + J on your keyboard to open the Page Properties dialog box. It is important to establish defaults on text as different browsers may have different defaults.



Creating Basic Web Page Elements

Dreamweaver's basic authoring functions are quite straightforward though manipulating the properties of basic elements, such as tables and images, may be a little less obvious.

In this section, to cover the basic functions, we will create a simple personal home page with the following elements:

- Text
- Table
- Image
- Hyperlink
- Mailto: link
- Background color

Note: SAVE YOUR PAGE NOW. Saving a page before inserting elements helps avoid prompts for defining full web sites and will help keep the code references calling for links and images relative to the document.

Backgrounds:

You can set your background color here. It is important to consider readability—good contrast between the text and background color. Neons are bad!

If you have an image to use as background on your page, select 'Browse' and click on the image you want to use as your background. The image will tile (repeat the image) over the entire page.

Working with Text

Text - Inserting

As with most web authoring programs, the essential method of inserting text with Dreamweaver is this

To insert text:

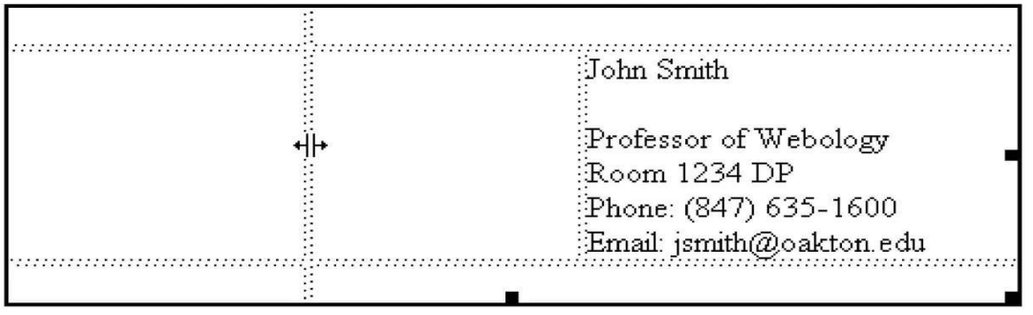
1. Click somewhere on the page.
2. Type.
3. When finished, stop typing.

You can also copy and paste from most any other text-based document but the result is a pretty boring chunk-o-text. Text must be formatted to achieve a more interesting look and easy-to-read layout.

For the home page exercise and use the table we created to contain the 'header' information. Type the following text (substitute your personal information if desired) in the **far right cell** of the 2nd row:

> ***Note on Line Breaks:*** *Pressing Enter will give you a double-space between lines. Shift-enter will single-space.*
>
> John Smith, PhD.
>
> Professor of Webology
>
> Room 1234
>
> Phone x5678
>
> Email: jsmith@oakton.edu

Your page should now look something like this (don't worry if the cell widths don't match... yet).



As it is with word processing, what you type will appear to be in Dreamweaver's default font-- generally Times Roman or Arial. This does not impact how the text will ultimately look in a web browser. If text is left unformatted, a web browser will apply its own default. (Even after formatting, it is still possible for a browser to override.)

Text - Formatting

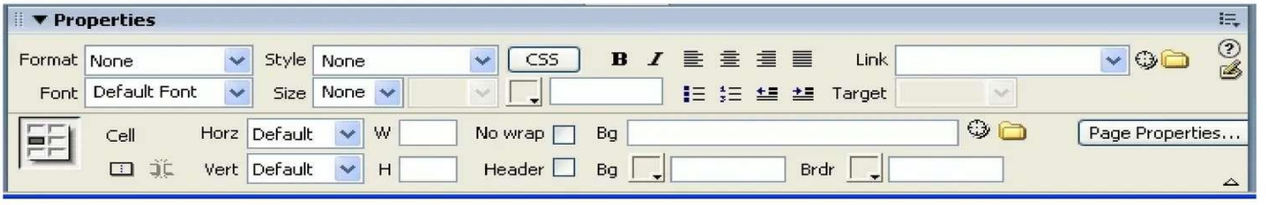
Text formatting (e.g., size, typeface, color, etc.) can be accomplished in a number of ways. More sophisticated web sites will use Style Sheets for much of this. Style Sheets are a set of commands that control the look and layout of web pages. Depending on how they are used, they can be applied to multiple pages or a portion of a single page. Though Style Sheets are beyond the scope of this introductory document, they are becoming standard and are worth learning as your skills and interest progress.

The most common way to format text in simple web pages is to apply formatting commands to individual words, phrases or lines of text. This is done by selecting the text and using the Properties palette to make changes.

To format text:

1. Drag the mouse across the desired text to select it.

2. Use the Properties Palette to change the text appearance. If you are formatting text in a table cell, the Properties palette will show text commands on the upper half of the palette and table/cell commands in the lower half.

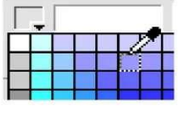


Key to formatting commands on the Properties palette:

- Paragraph/Heading. If you are formatting a line of text that is essentially a headline introducing a section of the document, choose one of the Heading sizes from the drop menu. The appearance will be similar to choosing a text size, but headings provide structural markup to the document-- which browsers for disabled users depend on.

- Font style. "Default" applies no style and leaves the appearance up to the browser when the page is displayed. Because the success of declaring a font style requires that other people's computers have that font installed, the five main choices on this list are pretty safe for most browsers. Each of the five selections has a 2nd and 3rd choice that will be applied if the preferred font is unavailable.

- Text color. Type a 6-digit hex code into the text field or click on the small down arrow near the upper left to reveal a color palette. The mouse pointer becomes an "eyedropper" that can choose a color from the color palette or can be pointed at an element (text, image, etc.) on the web page to duplicate its color.



- Bold and Italics. Functions like most word processors. Choose one or both to apply that style to selected text.