

# Making Your Word Documents Accessible

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August 2011 – James Falkofsky - [www.PedagogyOnline.com](http://www.PedagogyOnline.com)

Accessibility is a right which we respect. The right to accessibility extends to accessing electronic documents in formats which work correctly with assistive technologies (special computer hardware and software designed to help those with accessibility challenges).

In order to comply with Federal law ([Section 508](#), U.S. Rehabilitation Act), state of Minnesota laws ([Nonvisual Technology Access 16C.145](#), [Minnesota Human Rights Act](#), [Minnesota Electronic and Information Technology Accessibility Guidelines](#)), as well as to satisfy [MnSCU Web Accessibility Guidelines](#), it is important for you to follow some basic steps to make your online files accessible to a broad audience of users. Not only is this your legal responsibility, but making your files more accessible will help everyone viewing those documents through easier navigation and more predictable and consistent display.

It is best to make your documents accessible from the very start; this saves you time and frustration.

In the same manner that it is easier to build a house in a way that meets all of your needs (rather than having to do continual remodeling work), creating your documents in an accessible format from the start avoids later frustrations as you try to rework your content. If someone with an accessibility challenge cannot read your materials – you could be obligated to quickly “re-create” the materials from scratch.

When you make your documents accessible, you also make them more portable. This means that they work better across all web-browsers, computer systems, and types of devices (cell phones and handheld computers, printers, Braille devices, etc.).

Much of the State of Minnesota and MnSCU accessibility standards follow the Federal Section 508 law. Fortunately, Microsoft Word has several features which will help you to create accessible documents easily and quickly. We recommend that you use Microsoft Word 2007 or Microsoft Word 2010 for any documents you intend to post online.

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## ***Seven Parts to Accessible Documents***

There are seven parts to making documents accessible.

1. Creating well-structured documents
2. Providing text alternatives for images and graphics
3. Ensuring that all text has strong contrast with the background color
4. Avoiding colored text
5. Correctly formatting tables
6. Providing unique hyperlink labels
7. Converting documents to an accessible file format.

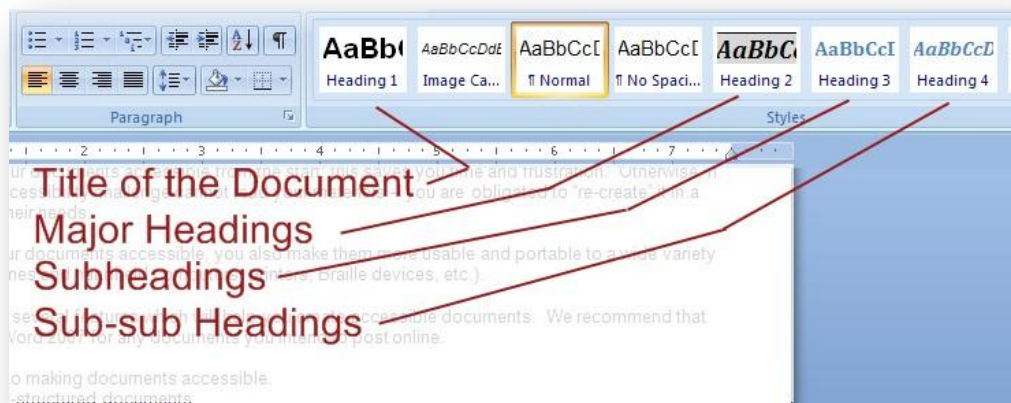
In addition to these steps, some other basic considerations of document writing always apply, such as checking your spelling and grammar, making sure that any hyperlinks still work, and writing your documents in a well-structured and work in a well-structured work in an organized and well-structured and precise manner. Making sure that you addressed those considerations helps prevent problems for people reading your documents through assistive technologies.

## Creating Well-Structured Documents

Most people don't properly use the "Styles" in Word. The styles not only affect the look of text, but they also embed hidden structure codes which helps readers to better navigate the document.

Rather than changing a font size, color, and font-face to create your own headings, you should use the built-in headings – so that the structure of your document becomes screen-readable.

In Word 2007, the **Styles** tools appear on the **Home** tab of the ribbon. Styles are so important to document creation that roughly half of that toolbar is taken up with the styles.



You should follow the accessibility standards as follows for Word documents.

**Heading 1:** used only for the document's title (to be used once, only at the top of the document).

**Heading 2:** used for major headings in the document

**Heading 3:** used for sub-headings in the document

**Heading 4:** used for sub-sub headings in the document.

Most of the rest of the text in your document should use the style "**Normal**."

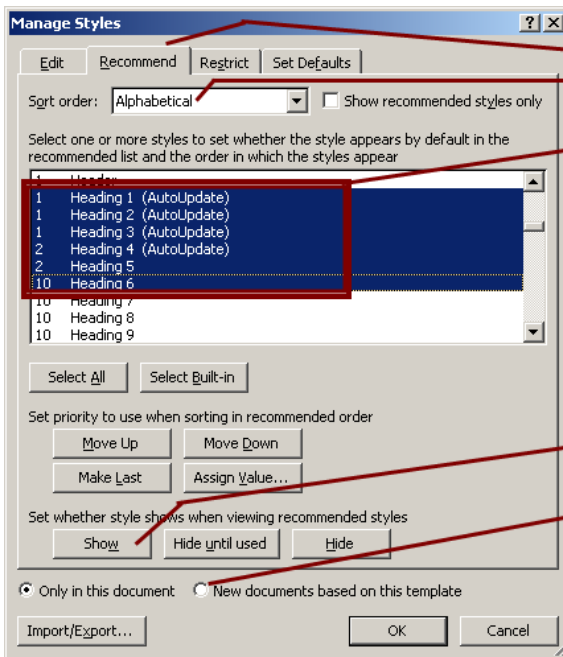
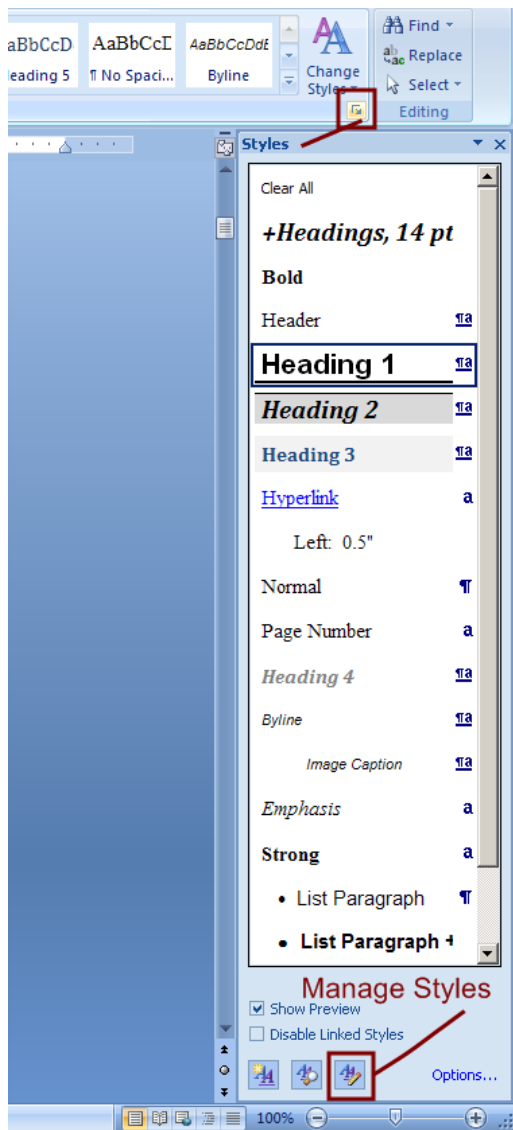
Screen readers and other assistive technologies help blind and mobility restricted users navigate through a document by identifying sections and being able to quickly move to a heading.

Similarly, readers with cognitive impairments can benefit greatly from well-structured documents which have visual cues as to order and arrangement.

If you want to change the appearance of a style, simply right-mouse-click on its name and select **Modify**.

**Note:** If you are not seeing the Heading 1, Heading 2, and Heading 3 styles, you can go into the Styles panel to set them as being available. Follow these steps.

1. Open up the Styles panel by clicking the **Show Styles Window** icon.
2. Click the **Manage Styles** button.
3. In the Manage Styles dialog, click the **Recommend** Tab, and then choose the Sort Order as **Alphabetical**.
4. Select the Headings from 1 to 6, and then click the **Show** button.
5. Choose the option to apply this setting to **New Documents Based Upon This Template**.



Recommend Tab  
Choose Alphabetical

Select Headings

Use Show

Set to New Documents  
Based on This  
Template

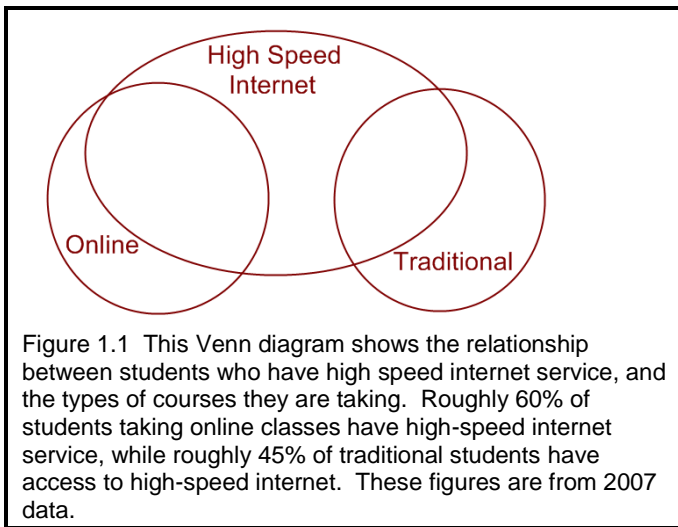
## Providing Text Alternatives for Images and Graphics

Is a picture worth a thousand words? If so... what message are blind users getting?

All photos, images, and other graphics which convey information **must have** an embedded alternate text label. This allows users who cannot see the image to understand what they are missing from the document. It is important that each image have a unique caption in the alternative text label – even if the same image is used more than one location in a document.

Without the alternative text, screen readers say “picture” for each image. If you have several images in a row, the screen reader says “picture, picture, picture, picture, picture ...” – which can be frustrating (not knowing what information is missing).

Any complex images, charts, tables, or other complex items should also have a text-caption which follows the item and explains what ideas the item is meant to communicate. The descriptions should communicate the **ideas** rather than a spatial narrative (“in the upper-left corner there is a circle”). Here is an example.



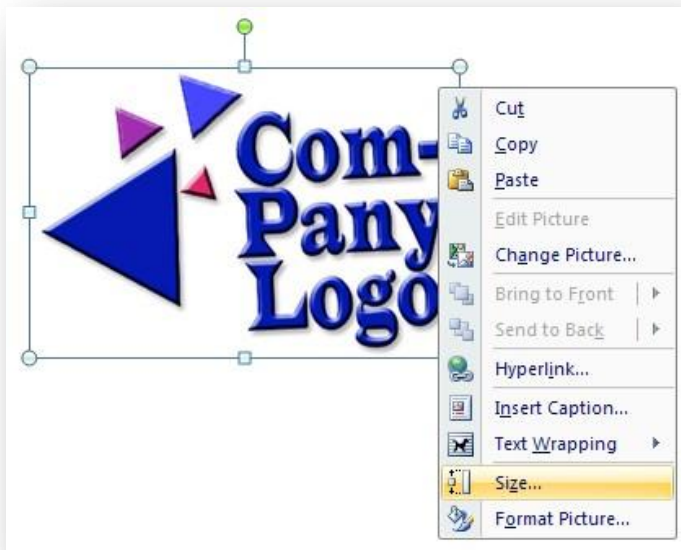
If you are have a detailed explanation for the image, you should include the phrase “captioned below” in your Alternative Text, such as:

*“Figure 1.1 Venn diagram of student access to high-speed internet, captioned below.”*

### Word 2007 Documents (native)

If you have a new Word 2007 document, this process should be followed. If you are opening a Word 2003 (.doc) file, see the next section.

In order to add the required alternative text to your image, click the image to select it, and then use the **shortcut menu** (right-mouse-click) to choose **Size**. In the dialog, choose the **Alt Text** file-tab and enter a unique and descriptive caption for the image.





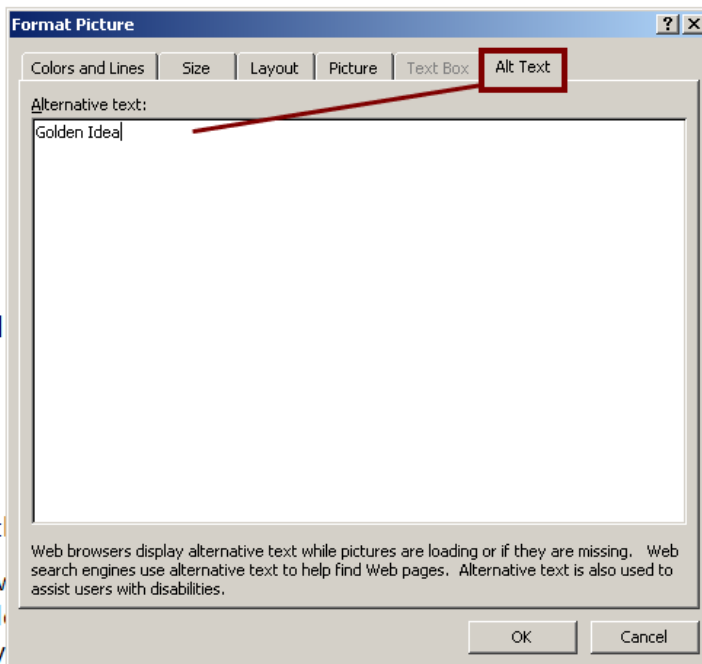
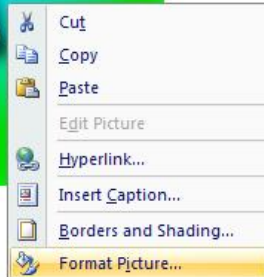
If an image is strictly decorative, which means that it adds no information value whatsoever (it simply is a design element such as a border, a frame, a picture of a random smile), the image needs a special Alternative Text tag. The appropriate tag for decorative items is a single space character (" "). Screen readers interpret a space as just a very short pause and then continue to read the rest of the page.

### Word 2003 Documents (compatibility mode)

If you are opening a Word 2003 (.doc) file, your menus will be in the "compatibility mode" for Word 2003. This will affect how your image dialogs appear.

In order to add the required alternative text to your image, click the image to select it, and then use the **shortcut menu** (right-mouse-click) to choose **Format Picture**. In the dialog, choose the **Alt Text** file-tab and enter a unique and descriptive caption for the image.

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The tools you are most likely and frequent

- → **Content:** provides your students with handouts, such as readings, articles, rubrics, samples and examples, sy

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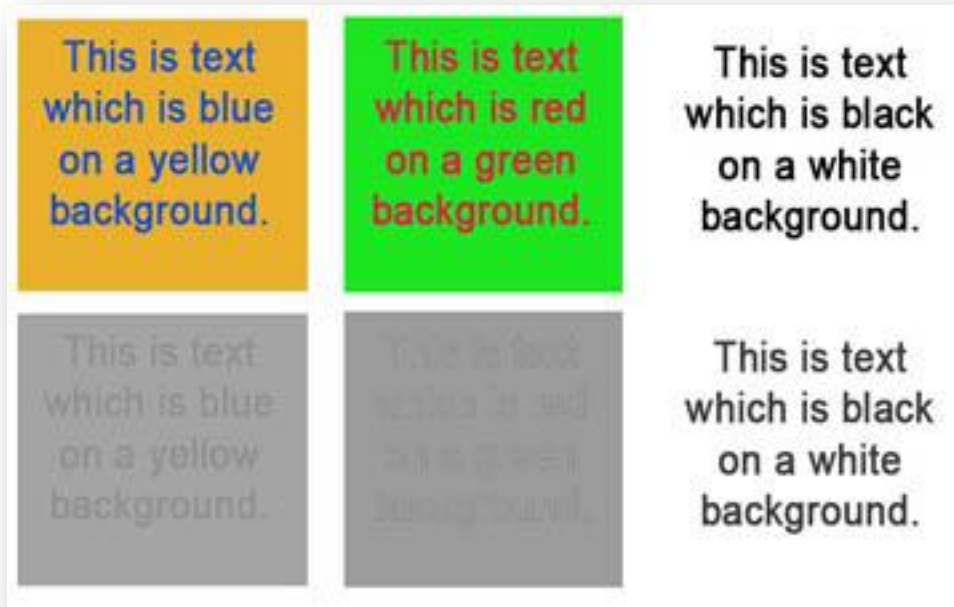
### ***Ensuring All Text has Strong Contrast with the Background Color***

Students who have low-vision or color-blindness may have difficulty reading your documents if the text color does not strongly contrast with the background color. Realize that over 5% of men have partial color blindness (either having difficulty distinguishing red from green, or distinguishing blue from yellow), and choosing poor color combinations can make reading a struggle.



Also – readers with macular degeneration, glaucoma, or other eye disease may have great difficulty reading text which is small or which does not contrast strongly with the background.

The problem with colored text also arises in printing out documents on an black-and-white printer. If there is not enough contrast between the foreground and background colors, the words become extremely hard to read. Here are some samples to represent what a person with color blindness might see (bottom) if you make poor choices in foreground and background colors.



As illustrated in the above graphic, the safest practice is to use a dark font color (preferably black) against a white background.

### ***Avoiding Colored Text***

“All the requirements for this project are in red.”

What is wrong with this?

Well, for one, if you are red-green color blind, you can’t tell which text is red and which is not.

Worse still, if you are blind, you don’t see any colors.

Color alone should **never** be used alone to indicate a condition or category. Make sure that text or other notation accompanies the color in order to communicate the category or condition the color is meant to represent.

For example:

All the requirements for this project are in red.

**Requirement:** documents need to follow APA citation formats.

**Requirement:** the file format for your paper must be Word 2007.

**Requirement:** the paper must be 2000 to 2500 words including a cover page and bibliography.

Research sources should include 3 journal articles, 4 website references, and 1 personal interview.

Better yet, you should avoid the use of colored text. This will lead to your document being more usable and accessible for all readers.

## Correctly Formatting Tables

Some people try to use tables in order to create a design on their page, sometimes using the table structure to create side-by-side columns of text, or to make sure that images “stay” adjacent to specific text.

### Tables are Only for Tabular Data

Unfortunately using tables in this manner creates a lot of grief for blind users and their screen readers. Screen readers expect a table structure to contain spreadsheet-like information (tabular data), and it can become very confusing for users of screen readers if a table structure is instead used for page layout and design. It is important to restrict the use of tables to the purpose of presenting tabular data.

For online and web-accessible documents, it is almost always best to format your documents using a left-aligned, single-column format. This is the most accessible format for all users, and users of handheld computers and cell phones benefit because the single-column format can “word-wrap” on their small display screens.

### Label the Columns

When data must be displayed, it is important to provide appropriate column labels. Whenever possible, tables should be organized so that they can be read from left-to-right a single row at a time. Always include appropriate column headers to describe the contents of each column, and provide an introduction which describes the structure of the table (so that blind users know what the structure is before they start hearing the information from the table).

Here is an example.

**Table 1.1: Average Bonuses per Region.**

The following table shows the average bonus per sales-person as a percentage of base-pay.

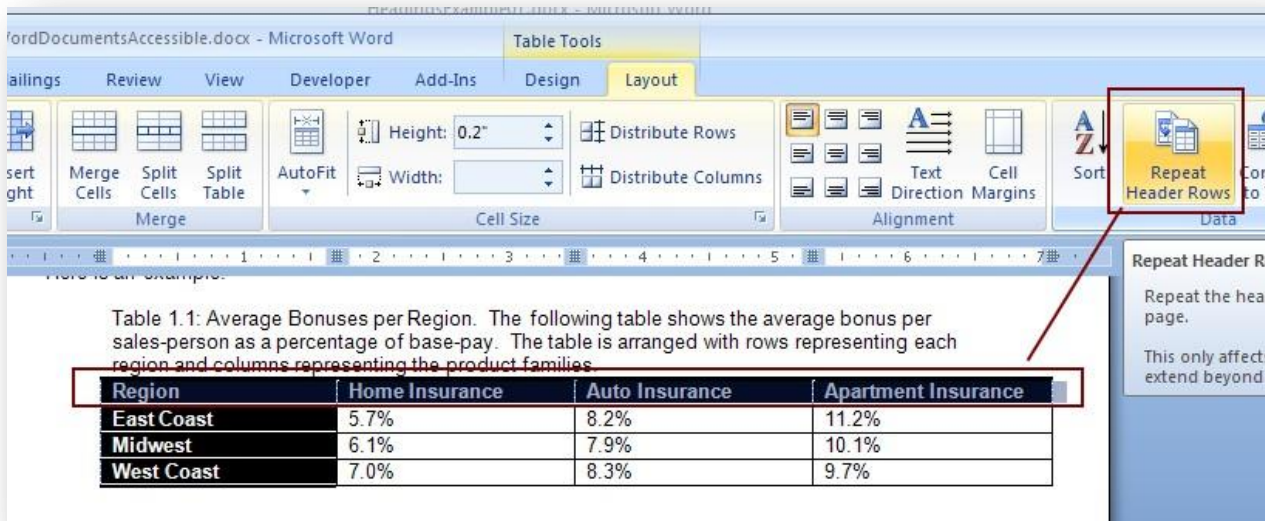
The table is arranged with rows representing each region and columns representing the product families.

Region	Home Insurance	Auto Insurance	Apartment Insurance
East Coast	5.7%	8.2%	11.2%
Midwest	6.1%	7.9%	10.1%
West Coast	7.0%	8.3%	9.7%

### Indicate the Header Rows

You should select the first row(s) which have headings and use the **Table Tools > Layout > Repeat Header Rows** option. This will embed coding into your document which establishes that row as part of the heading of the table – making it easier for screen readers to locate and re-read the heading information.





If you have a large table, you can often break it up into smaller sets of tables, or you could provide an example table that shows the column structure for just one row. That would allow you to provide a clear description of the design of the larger data table before the user has to navigate the full table structure.

If your information needs to be displayed in a large or complex table, then you should seek assistance from someone who knows how to embed special table coding into web-documents so that users can easily navigate the columns and rows.

## Providing Unique Hyperlink Labels

One of the features of screen readers is that they can allow the user to hear just the hyperlinks on a page. This aids in navigation, since the user does not have to hear the entire page in order to locate the links.

In order for this feature to work properly, all hyperlinks must have unique contextual names. Also, the labels on hyperlinks should be conversational titles and not the complex URL web address.

The following table provides some poor examples contrasted with some good examples of hyperlink links.

Original Example	Problem	Corrected Example
<b>Google</b> search engine, click <a href="#">here</a> <b>Ask Jeeves</b> search engine, click <a href="#">here</a> <b>Dog Pile</b> search engine, click <a href="#">here</a>	The link titles are not unique.	Search Engines to use: <a href="#">Google</a> <a href="#">Ask Jeeves</a> <a href="#">Dog Pile</a>
<a href="http://www.medicinenet.com/macular_degeneration_age-related_type/article.htm">http://www.medicinenet.com/macular_degeneration_age-related_type/article.htm</a>	The hyperlink is too long and not contextual.	Age-Related <a href="#">Macular Degeneration</a> article
<a href="#">Article 1.</a> <a href="#">Article 2.</a> <a href="#">Article 3.</a>	Link titles are not descriptive of the underlying content.	Articles: <a href="#">Macular Degeneration</a> <a href="#">Color Blindness</a> <a href="#">Glaucoma</a>

## ***Converting Documents to an Accessible File Format***

In most cases you are creating “read only” documents; you expect others will read your document, but they will not have a need to change your document. In addition, you should create your files in a format which allows others to view them without having to first purchase expensive software (Word, Excel, etc.).

There are two recommended options for saving electronic files for use on the web. The easier choice is to save the file in Portable Document Format (.pdf) for use with Adobe Acrobat Reader. The more flexible choice is to save your file as a web-HTML file (because you can edit the file even after you’ve posted it).

### **The PDF File Format**

[Adobe Reader](#) is a free program which allows users to read documents which are saved in the Portable Document Format (.pdf). It is estimated that over 90% of Windows computers already have a version of Adobe Reader already installed, and installation is easy and straight-forward for any users who do not have the program. The Adobe Reader program contains many features specifically to help persons with disabilities navigate and read documents, and the software works on Windows and Mac OS systems equally well.

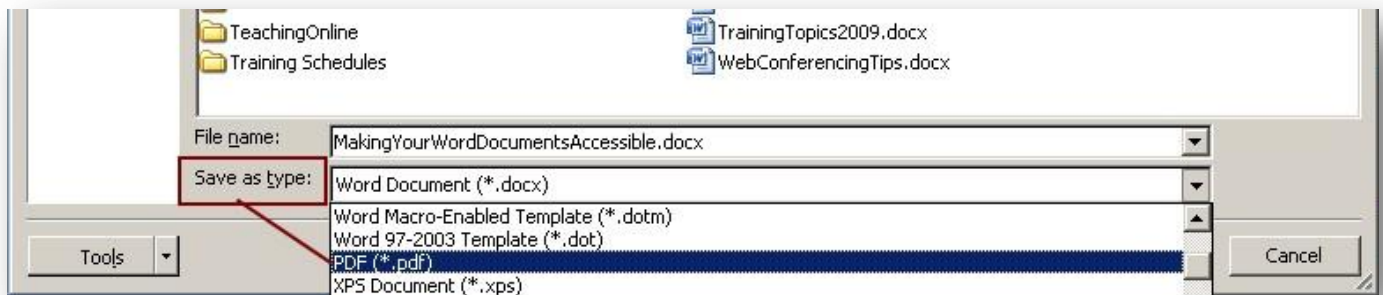
The advantage of the PDF format is that it bundles all of your images and graphics into the file along with your text. This makes it simpler to send your file, post it to a website, or otherwise transfer it between computers. It also optimizes your images, so if you have extremely large images which have been “shrunk” to fit into your Word document, upon saving as PDF, the images will automatically be resized and compressed (allowing users to download your file much more quickly). PDF documents are highly recommended for all “read-only” documents which don’t need editing or updates.

### **Saving as a PDF File**

Microsoft Office 2007 has a free [PDF plug-in](#) which allows you save files in the PDF format from within any Microsoft Office application. You will need to download and install the plug-in in order to get this functionality.

Once installed, simply go to the Office button, choose **Save As**, and then choose the **Save As Type** to be **PDF (\*.pdf)**.

When saving your file, make sure that the filename does not contain spaces or other special characters or symbols (only letters and numbers are permitted for files which will load from the web).



## The HTML File Format

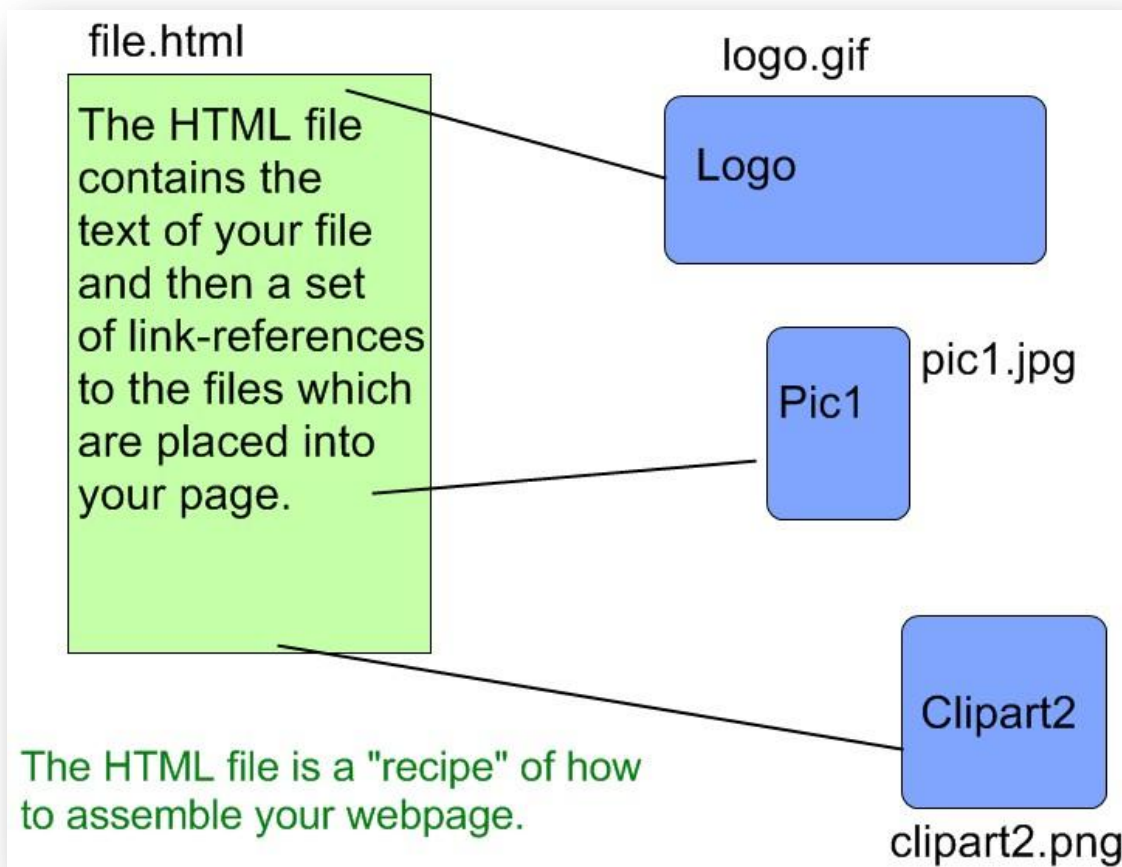
The HTML format is the most portable of all web document formats. Any web-browser can correctly read and display a standard HTML format – without the needs for any additional plug-ins or software. This can be especially important if you anticipate your viewers to have less-sophisticated technology skills or if you expect a significant number of users trying to view your documents through cell phones or handheld computers.

The HTML format is also preferred by many users because the content can “flow” to the size of the window. If the browser window is smaller, the text can word-wrap to the space available. The ability to allow content to “fit the shape of the screen” is called fluid-design, and it allows users to open and read more than one document at a time (they can adjust each browser window to fill just a portion of their computer’s monitor).

A major advantage of the HTML design is your ability to edit your document from within a website. Once the file is uploaded, you can use the site’s built-in editor to correct and revise the document. In ***Desire2Learn***, you can use the pencil icon to edit an existing HTML document.

The difference between a Word document and a HTML document is that a Word document contains all of your images and graphics within the same file as your text.

When you save your document as an HTML file, the file ending with **.htm** is a “recipe” for putting the page back together. If you have any images or graphics, they are stored in a separate space outside your document. To get the images to appear on your webpage, you will need to make sure that you upload the images in addition to the **.htm** file.



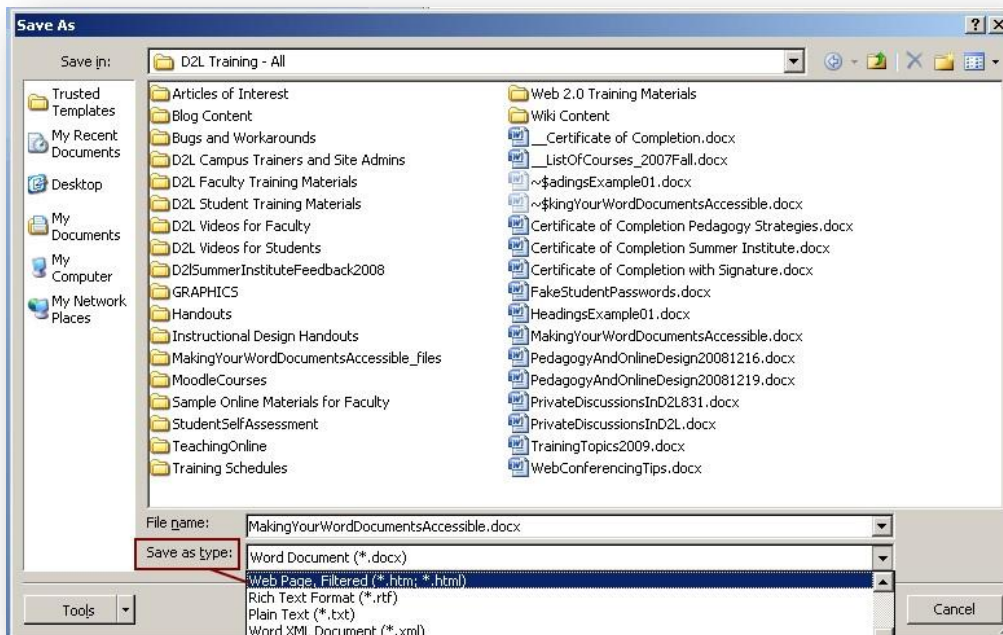
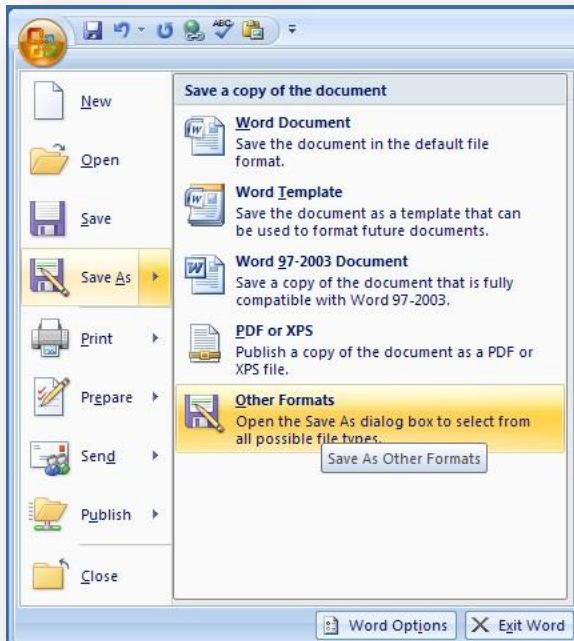
When you are saving an HTML file using Microsoft Word 2007, a new image folder is created with the same name as your document. Any images from you document are saved and stored in that folder.

## Saving as an HTML File

Saving your Word 2007 file as a web page is easy. Click on the OFFICE button, and then select **Save As > Other Formats**.

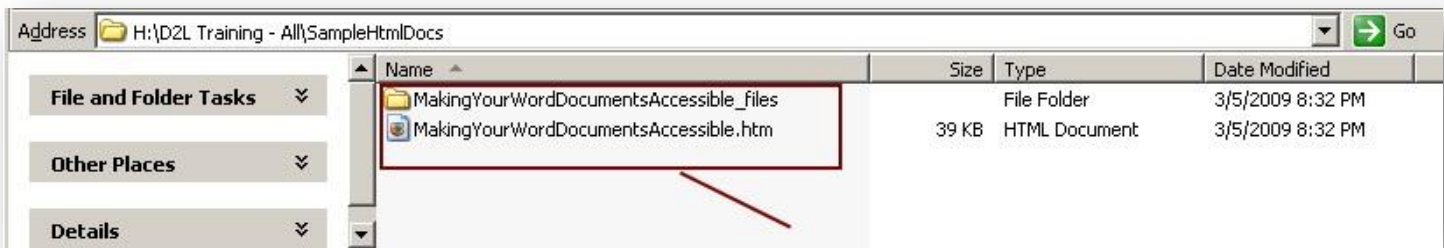
Then choose the **Save As Type** to be **Web Page, Filtered (\*.htm, \*.html)**.

When saving your file, make sure that the filename does not contain spaces or other special characters or symbols (only letters and numbers are permitted for files which will load from the web).





Your file will have the extension **.htm** and you will also get a new folder in the same directory if your document has any images. The images are stored inside the folder.



If you need to upload or email your document, you need to make sure that the folder of files is also transferred. The easiest method for this is to ZIP (compress) the file and its folder.

### Zippping Your HTML File

The zipping / compression process takes several files and turns them into one file. At the same time, the process generally reduces the overall size of the files which are in the resulting zipped file folder.

In your file directory, find and highlight the **.htm** file and its associated **file folder** (you can use the *ctrl+mouse-click* to individually select one item at a time).

Then bring up the shortcut menu (right-mouse-click) and select **Send To > Compressed (zipped) Folder**.

The resulting file will end with the file extension **.zip**.

