Solve Problems with Data | Persuasive Web Site

Hypertext and Hypermedia

Key Concept
Do you know the difference between the Internet and the World Wide Web? The Web is the part of the Internet that contains hypertext and hypermedia. In fact, the Web is called the Web because it uses hypertext and hypermedia to connect related documents and media.

Hypertext refers to any method of storing electronic documents so that related information is connected. The connections among documents are called hyperlinks. Hypermedia combines different media into a single document. It enables a Web page to include images, audio, and video as well as words and numbers. HTML documents are one of several different uses of hypertext and hypermedia.

Can you see how hypertext and hypermedia make the Internet more powerful and more useful? Hyperlinks make Web pages more interesting because they provide opportunities to explore other credible sources of information. Hypermedia makes Web pages more powerful and more useful because it communicates information in more than one way.

Some people say that the Web is the graphical part of the Internet. Before the Web was invented, everything on the Internet was plain text. The Web has transformed the Internet from an academic research tool into a common household appliance. The more you know about hypertext and hypermedia, the better you will be able to use the Web for research and communication.

Look Ahead

Task: Add hyperlinks and hypermedia to your Web page.

Goal: Show that you can use the anchor, image, and embed elements to enhance a Web site with hyperlinks and hypermedia.

You may want to review the example of a Web page with hyperlinks and hypermedia before you begin.

See the example: Web Page with Hyperlinks and Hypermedia

Download the zip file and unzip it.
Vocabulary

Words to Remember
This page gives basic definitions for some important terms that can help you learn about using peer review to revise an essay. You can get a more complete definition of each term from Fact Monster*.

New Words
**Hyperlink**: A command that connects related information in hypertext or hypermedia.

**Hypermedia**: A method of storing multimedia on a computer so that related information is connected by links.

Review Words
**Architecture**: Planned arrangement of the parts of a structure.

**Audience**: The people who read a publication or view a work of art, performance, or presentation.

**Browser**: A computer program that uses HTTP and HTML to display hypertext documents.

**Carriage Return**: A command that causes the cursor to move to the first space on a line; used with line feed to start a new paragraph in most applications.

**Copy**: Text that is being prepared to communicate a message.

**Cursor**: A visual indicator of where the next letter, number, or symbol entered into an application will appear.

**Designer**: A person who creates plans for producing or constructing a product.

**Home Page**: The main page of a Web site that provides links to other pages on the site.

**HTML (Hypertext Markup Language)**: A set of commands (also called tags) that tells a browser how to display a file or set of connected files as a Web page.

**HTTP (Hypertext Transfer Protocol)**: A set of rules that controls how computers on the Internet exchange hypertext.

**Hypertext**: A method of storing documents on a computer so that related information is connected by links.

**Information Architect**: A person who designs structures for arranging information.
Technology Literacy

**Line Feed:** A command that causes the cursor to move down one line; used with carriage return to start a new paragraph in most applications.

**Multimedia:** Combining more than one type of information, such as words, numbers, images, audio, and video.

**Navigate:** Purposeful movement from one page to another on the Internet.

**Programmer:** A person who writes instructions for a computer to perform.

**Project Manager:** A person who coordinates people and resources to accomplish a significant task.

**Site Map:** A visual representation or textual outline of how information is organized on a Web site.

**Usability:** The extent to which people can quickly and easily complete specific tasks in a computer program, Web site, or other technology tool.

**Webmaster:** A person who provides technical and other services needed to create or maintain a Web site.

**World Wide Web (WWW):** The part of the Internet that uses HTTP to transfer hypertext and hypermedia from one computer to another.
Exploration

Learning from the Web
Hypertext and hypermedia make Web pages more interesting and more useful. Understanding hypertext and hypermedia can help you become a more effective researcher and more persuasive communicator. Explore some Web sites about hypertext and hypermedia. Learn how to add hyperlinks, images, audio, and video to a Web site.

While you explore the following Web sites, think about the guiding questions. You may want to take notes to help you answer the questions. If you think of other questions about hypertext and hypermedia, keep those in mind too.

Guiding Questions

- How can you use HTML to hyperlink to other Web pages?
- How can you use HTML to add media to a Web page?
- How can you use hypertext and hypermedia to make your Web site more persuasive?

Web Sites

- [Messing with Your Text: Links](#) from [Webmonkey for Kids](#)
- [Links](#) from [Kidspace @ the Internet Public Library](#)
- [Dealing with Images](#) from [Webmonkey for Kids](#)
- [Graphics and Images](#) from [Kidspace @ the Internet Public Library](#)
- [HTML Help: HTML](#) from [Lissa Explains It All](#)
- [HTML Examples](#) from [W3 Schools](#)
Information

What to Know
This page summarizes some of the information from the Web sites you explored. This information helps you learn what you need to know for this activity about hypertext and hypermedia. You may want to take notes to help you remember the most important points. You can return to the Web sites for more exploration if you want to learn more.

Adding Hyperlinks to HTML Documents
The World Wide Web is the part of the Internet that contains hypertext. Hypertext connects related documents to one another. Hypertext means any system of connecting electronic documents, not just Web pages. Hypertext enables readers to move through text by clicking hyperlinks. Hyperlinks can connect any electronic documents, not just Web pages.

Once you learn how hypertext works in HTML, a simple text editor is all you need to add hyperlinks to a Web page. In HTML, the anchor element tells web browsers how to display a hyperlink and where to find the related document. The anchor element has a start <a> tag and an end </a> tag. Important attributes of the anchor element include:

- **href.** You can specify the location of the document to which you are creating a hyperlink. The location can be given by a relative path to the file or by a URL. This attribute is required in every anchor element.
- **name.** A hyperlink to another location in the same HTML document is usually called an anchor. You can use the name attribute to refer to a location in the same document by a name that is easy to remember.
- **target.** You can determine what happens when a user clicks a hyperlink with the target attribute. The target attribute is most frequently used to open a linked Web page in either the same window or a new browser window when users click a hyperlink.

Adding Hypermedia to HTML Documents
The World Wide Web is the part of the Internet that contains hypermedia. Hypermedia connects documents to related multimedia resources and combines different media into a single document. It enables a Web page to include images, audio, and video as well as words and numbers. Marc Andreessen invented the first multimedia web browser in 1993. He was still in college at the time!

Once you learn how hypermedia works in HTML, a simple text editor is all you need to add images, audio, and video to a Web page. The simplest way to display multimedia in HTML is to use the anchor element. You hyperlink to an image, audio, or video file in the same way you hyperlink to another HTML document. The browser displays the media on a new page in the same window, just as if it were another Web page.

The real power of hypermedia, however, is combining different types of media in a single
document. You can give your audience a true multimedia experience by embedding images, audio, and video in your Web page.

**Adding Images to HTML Documents**
In HTML, the embedded image element tells web browsers where to find and how to display a graphic. The embedded image element only has a start `<img>` tag. All required information about the graphic must be given in attributes in the start tag.

Important attributes of the embedded image element include:

- **src.** Use the src (source) attribute to specify the location of the image file you want to embed. You can use a relative path to the filename or a URL with the filename.
- **alt.** Use the alt (alternative text) attribute to provide a short description of an image. Most browsers will display the short description when the mouse pointer is over the image. The short description was originally intended for text-only web browsing, but it can be useful to screen-reading software as well.
- **align.** Use the align attribute to determine how the image is positioned in relation to text. All browsers recognize values of left, right, middle, and bottom.
- **border.** Set the value of the border attribute to the number of pixels you want in the border around the image. The default value of the border attribute is zero ("0").
- **height.** Use the height attribute to change the size of an image by setting the height in number of pixels.
- **width.** Use the width attribute to change the size of the image by setting the width in number of pixels.

**Adding Audio and Video to HTML Documents**
You can use the embed element to tell most web browsers where to find and how to display audio or video. The embed element works almost exactly like the embedded image element. Although the embed element is not an official standard, most major web browsers recognize it.

The embed element only has a combined start and end `<embed/>` tag, which must include all required information in attributes. The embed element has all the attributes of the embedded image element described in the preceding list. Another tag used for embedding is the `<object>` element.

Additional important attributes specific to the embed element include:

- **autostart.** Use the autostart attribute to determine whether the audio or video plays automatically when the HTML document is opened by a browser. Set the value to true if you want the audio or video to play automatically.
- **loop.** Use the loop attribute to determine whether the audio or video plays repeatedly as long as the HTML document is open in a browser window. Set the value to true if you want the audio or video to play repeatedly.
- **controls.** Use the controls attribute to specify how you want the browser to display the plug-in that plays the audio or video. The default value is console, which displays all of the plug-in’s controls. Other possible values are smallconsole, playbutton, v|stopbutton, and volumelever.
- **hidden.** Set the hidden attribute to true when you do not want the browser to display the plug-in at all.
**HTML Hyperlinks**

**Adding Hyperlinks to a Web Page**
You can add hyperlinks to a Web page with the anchor element and a text editor. You simply add the anchor tags with the location of the related document. Then, you save the plain text file with an .htm or .html extension.

![HTML Source Code withHyperlinks](image)

When you open the file with a web browser, the plain text file is displayed as an HTML document with hyperlinks. Notice that the anchor tags themselves are not displayed in the browser window.

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Using the Anchor Element

You can use the anchor element to link to any Web resource. Hyperlinks to pages on the same Web site are usually made with relative paths. For example, here is a link to the formatted Web page.

Hyperlinks to pages on another Web site require a URL, like this link to Google.

You can use the target attribute to open a Web resource in a new browser window, like this link to Yahoo!

You can create a link to an e-mail address, like this link for sending comments to the White House.
Embedded Images

Embedding Images in a Web Page
You can add graphics to a Web page with the embedded image element and a text editor. You simply add the `<img>` tag with the source of the graphic and any other needed information defined by `src` and other attributes. Then, you save the plain text file with an `.htm` or `.html` extension.

```
<html>
<head>
<title>Web Page with Images</title>
</head>
<body>
<h3>Using the Embedded Image Element</h3>
<p>The source for the image is given in the `src` attribute. You can use the `width` and `height` attributes to change the size of the image.</p>
<img src="PlanetEarth.jpg" width="25" height="25">
<img src="PlanetEarth.jpg" width="50" height="50">
<img src="PlanetEarth.jpg" width="75" height="75">
<p><img src="PlanetEarth.jpg" alt="Planet Earth" align="right" width="100" height="100">
You can use the `alt` attribute to provide a short description of the image for text-only browsers and screen readers. Most browsers also display the alternate text when you hold the mouse pointer over the image. The alternate text for this image is `<i>Planet Earth</i>`. You can use the `align` attribute to control how text displays around the image.</p>
<p><a href="http://earth.nasa.gov">
<img src="PlanetEarth.jpg" align="left" border="2" width="50" height="50">
</a>
You can use an embedded image element within an anchor element to make the image a hyperlink. Using the `border` attribute helps make it more obvious that the image is a hyperlink.</p>
```

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When you open the file with a web browser, the plain text file is displayed as an HTML document with graphics. Notice that the `<img>` tags themselves are not displayed in the browser window.

*Using the Embedded Image Element*

The source for the image is given in the `src` attribute. You can use the width and height attributes to change the size of the image.

You can use the `alt` attribute to provide a short description of the image for text-only browsers and screen readers. Most browsers also display the alternate text when you hover the mouse pointer over the image. The alternate text for this image is *Planet Earth*. You can use the `align` attribute to control how text displays around the image.

You can use an embedded image element within an anchor element to make the image a hyperlink. Using the `border` attribute helps make it more obvious that the image is a hyperlink.
Embedded Audio and Video

**Embedding Audio and Video in a Web Page**

You can add audio and video to a Web page with the `embed` element and a text editor. You simply add the `<embed>` tag with the source of the media and any other needed information defined in `src` and other attributes. Then, you save the plain text file with an .htm or .html extension.

```html
<html>
<head>
<title>Web Page with Audio and Video</title>
</head>
<body>
<h3>Embedding Audio and Video</h3>

<embed src="applause.mp3" alt="Applause" align="left" width=200/>
<embed src="sample.mov" controls="console"
autostart=false alt="Sample Movie" align="right" width=200 height=260/>

<p>The source for the audio or video is given in the `src` attribute. You can use the `controls` attribute to specify how the plug-in is display. Set the `autostart` to false if you do not want the audio or video to play automatically when the page loads. You could set the `loop` attribute to true if you wanted the audio or video to repeat as long as the page is displayed. </p>

<p>Just like images, the `alt` attribute provides a short description of the audio or video for text-only browsers and screen readers. The `align`, `height`, and `width` attributes also work just like they do with the embedded image element.</p>
</body>
</html>
```

When you open the file with a web browser, the plain text file is displayed as an HTML document with hypermedia. Notice that the `<embed>` tags themselves are not displayed in the browser window.
Embedding Audio and Video

The source for the audio or video is given in the src attribute. You can use the controls attribute to specify how the plug-in is display. Set the autostart to false if you do not want the audio or video to play automatically when the page loads. You could set the loop attribute to true if you wanted the audio or video to repeat as long as the page is displayed.

Just like images, the alt attribute provides a short description of the audio or video for text-only browsers and screen readers. The align, height, and width attributes also work just like they do with the embedded image element.
Task

What to Do
Complete the following task to show what you have learned about HTML and hypertext. While you work through the task, think about whether you are achieving the goal. You may want to review an example of a Web page with hypertext and hypermedia before you begin.

**Task:** Add hyperlinks and hypermedia to your Web page.

**Goal:** Show that you can use the anchor, image, and embed elements to enhance a Web site with hyperlinks and hypermedia.

**See the example:** Web Page with Hyperlinks and Hypermedia
Download the zip file and unzip it.

1. Open the text files containing your HTML documents.
2. Use the anchor element to hyperlink to credible online sources you used to gather accurate and reliable information on your problem.
3. Use the embedded image element or the embed element to add credible hypermedia sources of accurate, reliable, and relevant information on your problem.
4. Remember to save your Web page frequently while you work.
5. View your HTML document in a web browser. Does your Web page display correctly? If not, go back to the text editor and edit the anchor, image, and embed tags.
6. Save the text file with an HTML file extension (.htm or .html).
7. Review the checklist and make sure your Web page is complete.
8. Share your Web site.
Task Example

Download the HTML Zip File for the example files of an example Web site with hyperlinks and hypermedia as follows:

Table of Contents

Introduction
- Add skills and talent to the US Workforce.
- Preserve family unification
- Create a path toward citizenship for illegal immigrants

Conclusion

Most Americans agree that the United States is an exceptional nation—the greatest nation on earth. Most Americans agree that immigration has made our country a better, stronger, more prosperous nation. Why then are there such strongly held differing opinions on how open our borders should be?

Concerns about national security since September 11th have made Americans more aware of the need for a thorough examination of our immigration policy.

Our country needs to maintain a strong economy and meet the challenges of a global marketplace and immigration policy is a significant contributor to these goals. To keep the United States strong and vital, our immigration policy need to address who should be our immigrants of the future and how we handle the illegal immigrants in our country today.

A complete policy on immigration must address the following three issues: how to select those immigrants who will contribute the most to our future economic needs, the need to maintain an international perspective on immigration, and how to handle the current illegal immigration population.