

# Creating Accessible Images

[http://www.webaim.org/techniques/images/alt\\_text.php](http://www.webaim.org/techniques/images/alt_text.php)

## The Importance of Alternative Text

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One of the biggest accessibility problems on the Web today is the lack of alternative text for graphics and images. Individuals who are blind often use screen readers or refreshable Braille devices that read the text on the page to them. When these assistive technologies come across images without **alt** text, they are unable to communicate their meaning.

When a screen reader comes across an image with no **alt** attribute, there are a couple of things that could happen:

1. It could simply skip the image as if it were not even on the page.
2. It could find some text that is associated with the image such as the file name and read that instead.

The exact behavior of the screen reader varies between brands of screen readers and the circumstances of the Web page itself, but either way, the end result is undesirable. The user either misses the image content completely or gets some text that is probably meaningless.

### Example: without **alt** text

Let's listen to a recording of a screen reader (IBM Home Page Reader 3.0 in this case) when it comes across an image with no **alt** text.

### Note

For the sake of illustration, the **Announce Images with no Alt text** option is activated in Home Page Reader in this example. The default setting of Home Page Reader is to skip over images that do not have **alt** text, unless they are links, in which case it reads the link destination.

Select a format: [Wav](#) | [Mp3](#) | [RealMedia](#) | [Transcript](#)

Someone using a screen reader would have a difficult time knowing what the image was for. We need to add a text alternative to the image. To do this we simply put **alt="University of the Antarctic logo"** in the **img** tag. The HTML source would then look like this:

```

```

### Example: with **alt** text

Let's listen to Home Page Reader 3.0 reading the image—this time with **alt** text—so we can see the difference.

Select a format: [Wav](#) | [Mp3](#) | [RealMedia](#) | [Transcript](#)

Here is the image that we were listening to:



The addition of alternative text allows screen reader users to get the same information as others who can see the image.

## Adding alt Text

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Let's look at another example image:

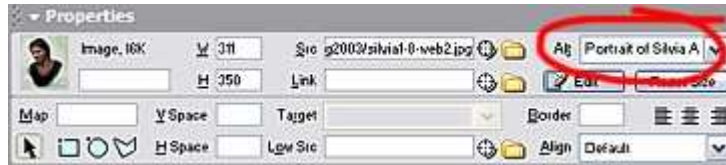


The HTML code for this image is as follows:

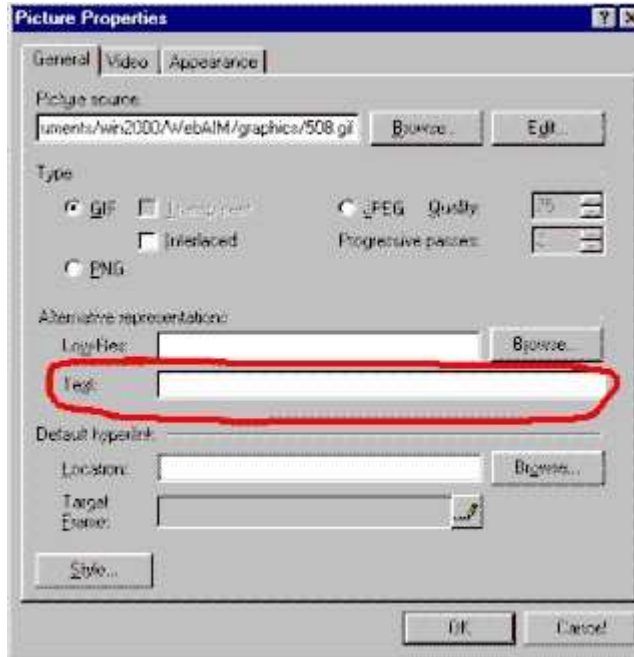
```

```

You can type the code exactly as you see it above into a text editor, or you can use the interfaces of software tools such as Dreamweaver, FrontPage, or GoLive to accomplish the same thing. In Dreamweaver, **alt** text is added through the **Properties** window as pictured below:



In Microsoft's FrontPage, you double click on the image to bring up the **Picture Properties** dialog box. You then add the text alternative to the **Text** field under **Alternative representations**.



Other editors have similar functions for adding alternative text. Consult your editor's documentation for instructions on how to add an **alt** attribute.

Now that we have a better idea of what an **alt** attribute is and how simple it is to add an **alt** attribute to an image, let's talk about what the **alt** attribute should contain.

## Communicating the Purpose of the Graphic

### Images that contain important content

If the image or graphic contains information that is relevant to the content of the site, then the **alt** attribute should also provide that content, in a way that is consistent with the purpose of the image. Remember that the *purpose* of the image is not necessarily the same as the *appearance* of the image.

#### Example 1

For example, the WebAIM Training CD site uses images for its main navigation, such as the one pictured below.



These images look like tabs on file folders. Some of these tabs are maroon, and others are blue. When the tab is selected, it turns white. Part of the text is in upper case; part is in lower case. All of these details are important to the look and feel of the Web site, but to someone who cannot see how the site looks, its look and feel are mostly irrelevant. The important aspect of these graphics is that they link to other areas of the site. With that in mind, I would want to provide alternative text that conveys the fact that the user can click on this image to go to another area of the site. In this case, the link destination would be Track 2 of the training event, which is the track for coordinators. The most appropriate **alt** text for this image is as follows:

"Track 2: Coordinators."

In this case, the **alt** text exactly matches the text in the graphic. In most cases where there is text within images, this is the best solution. Don't worry about describing the image. Tell the user about the *purpose* of the image, not its appearance.

### Example 2

Take another look at the portrait of Silvia below:



This particular graphic could be used in many different ways, with many different purposes. Here are a few scenarios:

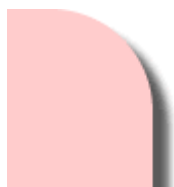
- An elementary school teacher creates a Web site to explain the difference between paintings, drawings, and sculpture. She includes several different examples of each type of art. In the text of the page itself, she describes the differences between these three media. She uses the portrait of Silvia as one of 4 examples of paintings. One possible **alt** text in this case would be **"A painting of a young lady."** This is probably sufficient, as long as the teacher has adequately described what a painting is within the document itself.
- A family member is compiling a list of people in her family, along with portraits of these individuals. Since all of the images are portraits, an appropriate **alt** text would be **"Silvia Alvarez."**
- An art instructor in a high school creates a Web site showing different types of paintings. He uses this painting as an example of a portrait, and explains within the text of the page what a portrait is. An appropriate **alt** text could be **"Portrait."**
- An art historian is creating a catalogue of different portrait artists. His purpose is to show portraits by various artists. The **alt** text could include information relevant to art historians, such as the title of the work of art, the name of the artist, the medium, and the date. The **alt** text could say **"Silvia Alvarez, oil on canvas, by Paul Bohman, 2002."**

We could go on with different scenarios, but I think you get the point. There is no one right **alt** text for any particular image. It all depends upon the context and the purpose of the image. This is a judgment call that the page's author must make.

### Null **alt** text

### Decorative images

The Web has become a graphical environment in which developers often add images to their pages simply to enhance the visual appeal of the site. For example, the image below could be used to form part of a rounded border on a page.



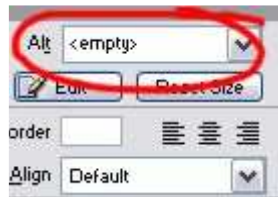
Images in this category do not provide any content to the user; they are simply used for decorative purposes. These images have no value to someone who cannot see the page. The proper HTML markup for this type of image is what is often referred to as an empty or null **alt** attribute, written as **alt=""**. That is **alt** equals quote quote, with no space in the middle. The source for the image in this example would look like this:

```

```

Screen readers will ignore graphics with empty **alt** text, which is exactly what we want in this case. You may be wondering why it is necessary to specify a null **alt** text. Wouldn't it make more sense to simply leave the **alt** attribute off entirely? This is a good question, but the answer is that missing **alt** text is worse than null **alt** text because some screen readers read the file name of the image, which can be confusing to listen to. When you add null **alt** text, screen readers skip over the image without reading anything at all.

Dreamweaver MX allows users to create null **alt** text within the **Properties** dialogue box.



Unfortunately, many other HTML editors do not allow you to create empty **alt** attributes within the graphical interface so you must edit your HTML source code directly. To do this, locate the image in the code and add **alt=""** to the **img** tag.

## Transparent and spacer images

Developers often use transparent and spacer images to create space between elements on a page. Although users with sight do not see the transparent images, they may be visible to individuals using text browsers or screen readers. You should add an empty **alt** attribute (**alt=""**) to all transparent and spacer images.

## Redundant images

Sometimes, Web developers add **alt** text to an image that is exactly the same as the text next to it, or the same as another graphic next to it, as in the example below:



In cases like this, you should add null **alt** text, so that screen reader users do not have to hear the same information twice. The JAWS screen reader would say: "image, international students; image, international students" when reading this section of Web content, which can be confusing, or at least annoying. (In this case, both the photograph of the girl and the adjacent text are images.)

## Image Maps

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### Client-side image maps

Every common Web development tool creates client-side image maps, rather than server-side image maps. As the names suggest, server-side image maps require special scripting on the server, whereas client-side image maps are processed only in the client's browser. Unless you have purposely chosen to create a server-side image maps, you probably will never create one. Client-side image maps can be accessible, whereas server-side image maps cannot.

Client-side image maps require **alt** text for both the image and the hot spots. Take a look at this example (**Note:** none of the links lead anywhere):



There is only one image above, but there are 5 hot spots. Each of these hot spots leads to a different location in the Web site, so it is necessary to convey the

navigational purposes of each of the links. The **alt** text for these hot spots should be exactly the same as the text in the image. The **alt** text for the hot spots is *HOME*, *Products*, *Services*, *Contact us*, and *Index*. Now we have the **alt** text for the hot spots, but what about the image itself? Aside from the hot spots, this image does not convey any meaningful information. The most appropriate **alt** text for the image is a null **alt** text. Here is the code for the image and its hot spots:

```

<map name="Map">
<area shape="rect" coords="7,9,191,54" href="#maps" alt="HOME">
<area shape="rect" coords="7,68,191,114" href="#maps" alt="Products">
<area shape="rect" coords="7,127,190,172" href="#maps" alt="Services">
<area shape="rect" coords="6,186,190,229" href="#maps" alt="Contact us">
<area shape="rect" coords="7,245,189,289" href="#maps" alt="Index">
</map>
```

Not all images used as image maps will have null **alt** text. The content author must determine the most appropriate **alt** text for the situation.

## When to Provide Long Descriptions

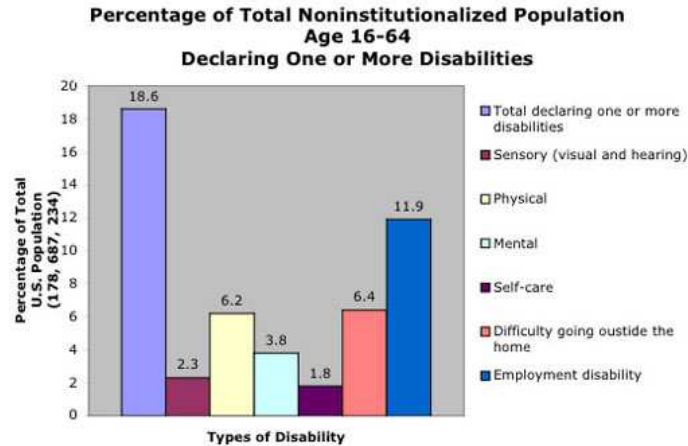
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In some instances, an image is too complex to describe in a few words. Charts and graphs are primary examples of such images. Although there does not appear to be any limit to the length of text in an **alt** attribute, **alt** text is meant to be relatively short, so it would be an abuse of this attribute to write more than a few words, or, at most, a few short sentences. The answer, then, is to provide a brief alt text description of the image and then provide a longer description elsewhere.

### In the context of the document itself

By putting the long description right in the context of the document where the graphic occurs, you are serving everybody, not just those with disabilities. Everyone will be able to read the long description and benefit from it. Here is an example of how that could be accomplished with an image of a graph:





The above bar graph shows the percentage of total U.S. noninstitutionalized population age 16-64 declaring one or more disabilities. The percentage value for each category is as follows:

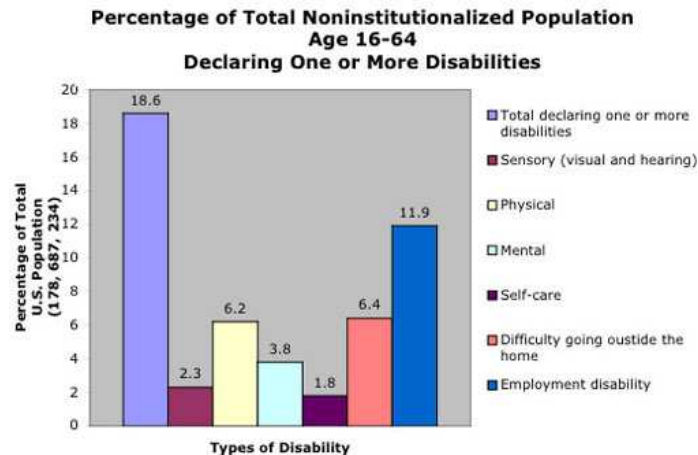
- Total declaring one or more disabilities: 18.6 percent
- Sensory (visual and hearing): 2.3 percent
- Physical: 6.2 percent
- Mental: 3.8 percent
- Self-care: 1.8 percent
- Difficulty going outside the home: 6.4 percent
- Employment disability: 11.9 percent

data retrieved from [2000 U.S. Census - external link](#)

In the above example, the data appears after the image, and is accessible to all.

### **A normal text link**

The second-best way to provide a long description is to simply link to one. There is no fancy code or technique involved here. Just link to a long description, as in the example below:

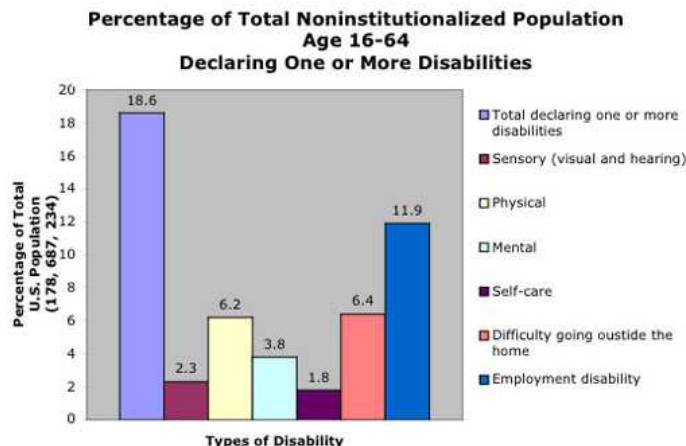


[Text description of this graph](#) is available on a separate page.

The information is available to everybody through this method as well, even though they have to click on a link to access it. The link is apparent to everyone. They can choose to follow the link or not to.

### The **longdesc** attribute

The **longdesc** attribute, which can be added to an `<img>` tag, does nothing more than provide a link to a separate page where a long description is available. It works in the same way as the previous example, except that the link is invisible to sighted readers. The following example is the same graph with a **longdesc** attribute added:



Those who are sighted realize that there is nothing to see about a **longdesc** attribute. As far as they are concerned, it isn't there. The only people who can access the **longdesc** attribute easily are those using modern screen readers. Older screen readers did not support this attribute. Even among those who use

the latest version of screen reader, there are many who are unfamiliar with the `longdesc` attribute (because it is used so infrequently), and do not know how to access it even though their screen reader supports it.

The bottom line is that the `longdesc` tag benefits only a small audience, despite the fact that it is a technique recommended in both the WAI guidelines and the Section 508 guidelines.

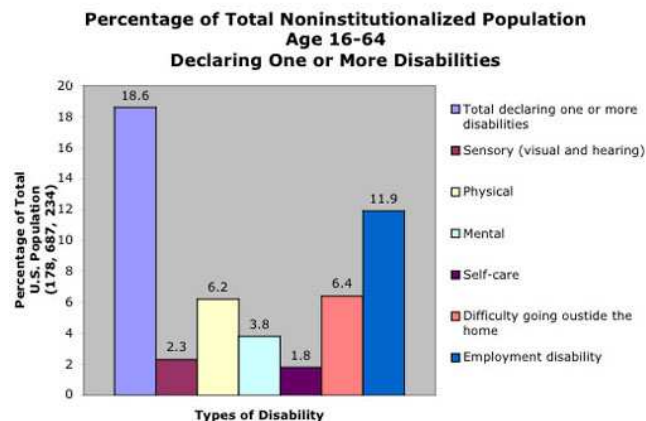
Here is the markup for the `longdesc` attribute:

```

```

## "D" Links

In the days before the `longdesc` tag was supported by screen readers, a group of people decided that they needed an equivalent method that was supported, so they invented the "d" link. The letter "d" stands for "description." These "d" links are nothing more than regular links to another page, with the text of the link being the letter "d." Here is how a "d" link would look in our example:



## D

You can use an upper case D or a lower case d. It really doesn't matter. The "d" link is normally placed right after the image. This technique works in all browsers, and it does accomplish the purpose of providing access to the long description, but it is less elegant than the other methods. Some people will be confused by the one-letter link. Others will simply ignore it. You can use this method, but only if you have a good reason for rejecting the others.