AOIT Web Design

Lesson 10

Gathering and Preparing   
Web Content

Teacher Resources

| Resource | Description |
| --- | --- |
| Teacher Resource 10.1 | Assessment Criteria: Website Written Content |
| Teacher Resource 10.2 | Guide: Preparing Images for the Web |
| Teacher Resource 10.3 | Assessment Criteria: Website Graphical Content |
| Teacher Resource 10.4 | Key Vocabulary: Gathering and Preparing Web Content |

Teacher Resource 10.1

Assessment Criteria: Website Written Content

Student Names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Using the following criteria, assess whether the students met each one.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Met | Partially Met | Didn’t Meet |
| All content is complete, accurate, up-to-date, and grammatically correct; has no spelling errors; and is written in a tone appropriate for the audience. |  | □ | □ | □ |
| Content is written and categorized logically and has appropriate hierarchies and headlines/subheads. |  | □ | □ | □ |
| Text is written for scanning, with short paragraphs, bulleted lists, concise text, and up-front summaries. |  | □ | □ | □ |
| Links and visited links are made obvious through color. |  | □ | □ | □ |
| Descriptive titles and keywords are used throughout the text. |  | □ | □ | □ |

Additional Comments:

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Teacher Resource 10.2

Guide: Preparing Images for the Web

Use the information in this guide as you demonstrate how to prepare images for the web.

Raster-based and vector-based images

* Show students examples of raster-based and vector-based images, and explain how to convert a vector-based image to a raster-based one. Point out that if students are using their own artwork, they may need to convert drawings to raster-based images.
* Image editors such as Photoshop, Fireworks (PNG), and GIMP are raster-based. They edit images composed of pixels. Image editors such as Adobe Illustrator or Inkscape are vector-based. They edit lines and shapes (vectors) composed using mathematical formulas that define the colors and shapes in the image. Images on web pages should be raster images. Vector images need to be converted to raster for use on the web.

Finding photos and clip art for a website

* Show students how to access any special graphics libraries available with your photo editor.
* Explain that the client is often the best source for website images. (If necessary, remind students that collecting images from their client was part of the follow-up to their client meeting in Lesson 6.)
* Show students how to find photos under Creative Commons licensing at Wikimedia Commons. Point out that there are different types of Creative Commons licenses and that students should be sure their client’s site is allowed under the license.
* Discuss the use of stock art and where students can download free, low-resolution images (e.g., [www.photodune.net](http://www.photodune.net), [www.shutterstock.com](http://www.shutterstock.com), and [www.thinkstock.com](http://www.thinkstock.com)).

Copyright laws

Explain to students that they cannot use copyrighted images without permission, and that there are major penalties and fines for doing so. Point out that Creative Commons licenses provide a flexible range of protections and freedoms for authors, artists, and educators. This license provides a standardized alternative to the “all rights reserved” of the traditional copyright.

Using inline images

* Explain to students that inline images are images that are inserted into the text. Inline images can occur within headings or paragraphs.
* Demonstrate how to place an inline image on a web page using Dreamweaver. Next, explain the difference between placing a logo on a web page and placing an inline image.

Choosing the best file formats for graphics

* For photo images, JPEG is the best file format because it provides the smallest file size.
* For images that are not photos (usually logos and images that were originally vector-based), indexed PNG files are the most commonly used file format. GIF is also used; however, for images using a transparent background, GIF does not support an alpha channel. This means that GIF transparency is done rather crudely compared to transparent 24-bit PNG images. Older versions of Internet Explorer did not render PNG images correctly, but recent versions of all browsers display PNG images correctly.
* Explain why some images need to be transparent, and demonstrate how to create a transparent image. Point out that 24-bit PNG is the best format for transparent images.

Relationship between an image’s physical size and its file size

* Image physical size measures how wide and high an image is in pixels. The bigger the physical size, the larger the file size will be and the longer it will take to download on a web page. Students should ensure that the total file size for the website is in line with their client’s technical requirements.
* Though high bandwidth is typical these days, making images as small as practical (in terms of file size) is very important. Many users now browse via smartphones, and smaller file sizes help with slower download speeds. Any images that are larger than about 100KB should be examined very closely to see if there are ways to make them smaller.

Optimizing images for the web

* For JPEG images, decreasing the file size will decrease image quality. Consider the trade-offs between image quality and image file size.
* For PNG images, select True Color.
* For GIF images, there is a trade-off between color fidelity and image size.
* Cropping can also optimize images.

Standard resolution and color model for web graphics

* Standard resolution for web graphics should be 72 ppi (pixels per inch). Show students how to set images to 72 ppi.
* Most pixel-based image editors work using the RGB color model. Computer monitors emit color as RGB (red, green, blue) light, so this is the color model to use for web pages. Most image editors also support the use of the CMYK color model. However, this is primarily used to convert digital art to CMYK color for printing. CMYK JPEG images will not render in most web browsers.

Height and width attributes

Typically, when you embed an image on a web page, you want to specify the actual height and width of the image. This is a best practice and helps the page to load faster because the browser can build the page using the height and width declared in the <img> tag to reserve a spot for the image while the rest of the page loads. But in most cases, you should not use the height and width attributes to resize an image in HTML; your image should already be the correct size. Here are two examples of what happens if images are not the right size:

* A developer uses the height and width tags to resize a very large original image to a smaller size in-page. This is bad because it forces an unnecessarily large image to be downloaded from the server, and there is a risk that the image will look bad because the browser probably will not do a very nice job of making it smaller. Best practice is to use a graphics editing program to create a smaller version of the image and save that version on the server.
* A developer uses the height and width tags to resize a small original image to a large in-page size. The download will be small, but the image will definitely look pixilated and gross. Best practice is to use a graphics editing program to create a larger version of the image and save it on the server.

Teacher Resource 10.3

Assessment Criteria: Website Graphical Content

Student Names:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Using the following criteria, assess whether the students met each one.

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| --- | --- | --- | --- | --- |
|  |  | Met | Partially Met | Didn’t Meet |
| All graphics are raster-based RGB images at 72 ppi, and all contain useful <alt> attributes. All images combined for the web page are no larger than 144K, unless there is an exceptional reason the combined images are larger, such as an image gallery page. |  | □ | □ | □ |
| All graphics are obtained legally and are used tastefully and consistently within the site’s visual design and color scheme. |  | □ | □ | □ |
| Photos are in JPEG format, and logos, banners, and other simple graphics are in PNG or GIF format. |  | □ | □ | □ |
| Transparent images are created without a halo. |  | □ | □ | □ |
| Images are fully optimized, no height and width tags are used to resize images, and images that link to other pages or documents are coded correctly. |  | □ | □ | □ |
| All image files follow the site’s naming convention and are placed properly within the directory structure. |  | □ | □ | □ |

Additional Comments:

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Teacher Resource 10.4

Key Vocabulary: Gathering and Preparing   
Web Content

| Term | Definition |
| --- | --- |
| dithering | An image compression option wherein two colors are alternatively tiled so that the eye is fooled into seeing a new solid color based on the combination of pixels. |
| file size | The size of the image file, or how long it will take to download from a web page. |
| image size | The actual physical size of an image in pixels or inches, or how much screen real estate it will use. |
| inline images | Images that are inserted into the text, so that the text flows around the image. Inline images can be aligned to the left or right within the text using CSS styling rules. |
| optimizing | Maintaining the best quality images at the smallest possible file size. |
| ppi (pixels per inch) | A unit of measurement referring to the number of pixels in an image viewable on a computer monitor. Standard web graphic ppi is 72. |
| raster | Graphics that are displayed on screens using a grid of tiny colored pixels. GIF, JPEG, and PNG support bitmap, or raster, graphics. They do not retain their image quality when resized. |
| transparency | Blank areas of a graphic that remain invisible when the graphic is placed on top of others. Only GIF and PNG images can be saved with transparency. |