Text–Only Web Techniques

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INTRODUCTION

Text-only Web techniques are an important set of tools in every Web developer's repertoire. When fully utilized, they allow developers to render multiple types of information, in various organizations, into linear text. Examples of these techniques include text descriptions or transcripts of non-text media; the ability to reorganize tabular text into linear information; and label placement for Web forms. Using text-only Web techniques does not imply the exclusion of other media types from a Web site. Rather, text-only Web techniques allow for media richness by providing clear, speedy and intuitive access for many types of users. Although the term "text only" commonly arises in discussions of assistive technology, text-only techniques provide benefits for all Web users. This article will discuss some of the motivations for developers to use text-only techniques, including adherence to World Wide Web consortium standards. It also will describe the three primary technical strategies for creating a text-equivalent version of a Web page.

ADVANTAGES OF TEXT-ONLY WEB SITES

The goal of most Web sites is to provide information, whether for free or for a fee. In today's society, most of our information resides in text format, but the media-rich nature of the Web is increasing the number of images, audio and video clips, and animations. There are several reasons a developer might choose to provide a text equivalent for these non-text media. Since most of our systems were originally built to accommodate text, text format is one of the most portable document formats. Text files easily transfer between different pieces of proprietary software, and a variety of handheld devices, such as pen scanners, depend on text format. Other clients that make use of text-only equivalents include screen readers, dynamic braille displays, screen magnifiers and graphical browsers with adaptive technology such as Amaya (Vatton, 2003). Perhaps the most demanding text-only client is a text-only Web browser. These can process media-rich pages, but can have difficulty rendering the non-text elements into text format. If text equivalents are not provided, the user is left with incomplete information. Perhaps the most famous text-only browser is LYNX, which has existed in open-release form since 1995 (Lynx Developers, 2001). LYNX is fully documented and includes guidelines for writing LYNX-friendly Web pages. A special configuration of LYNX, called BLYNX, makes it particularly effective for blind and visually impaired users; more information about BLYNX can be found at http://leb.net/blinux/blynx/ (Rosmaita, 1997).

Another reason developers might want to provide text equivalents is to accommodate users' equipment. Users who experience slow connection times may use a text-only browser to access information quickly. Since one of the great advantages of the Internet is its global connectivity, developers need to consider connections from developing countries, public schools and libraries, and home-based users who rely on dial-up connections.

Others appreciate the harmony between text and assistive technology. Developers for public institutions are required by law to consider the needs of assistive technology users (28 C.F.R. 35.160). Assistive technology, which includes such items as screen readers or Braille output devices, handles text quite well, making text-only pages a good design solution. Due to the variety of users' abilities and equipment, using text-only techniques will not fulfill all the requirements of accessible Web design, but they are an important component to ensure access to all users. In addition, developers may wish to create pages accessible to mobile wireless devices such as cell phones, cars and handheld personal computers. For all these reasons, concentrating the bulk of information on a Web site in text format assists a wide variety of users with access.

ACCESSIBILITY STANDARDS

One of the primary groups involved in setting Web accessibility standards is the World Wide Web Consortium (W3C). The W3C provides three overall guidelines for the provision of text-only versions. First, they urge the separation of structure from presentation. While the structure of the page concerns the logical organization of information, the presentation refers to such issues as font, color and images (W3C, 2003). The W3C consortium is also encouraging developers to separate structure and presentation by recommending new versions of HTML, the newest versions of which are called XHTML (W3C, 2003b).

The second relevant W3C guideline is to create documents that do not rely on one type of hardware. As discussed throughout this chapter, pages should be usable by people without mice, with small screens, low-resolution screens, black-and-white screens, and with only voice or text output. In addition to the technologies covered by the W3C guidelines, developers may wish to consider users of mobile, wireless technology, with consideration of monochrome displays and small viewing areas.

Finally, the W3C urges developers to provide accessible equivalents. Text can be rendered in ways that are available to almost all browsing devices and accessible to almost all users. Therefore, if a developer chooses to create a media-rich page, it is important to make the information available in another format, particularly making it usable by someone who is visually or hearing impaired. According to W3C, developers will have successfully provided an accessible text equivalent for all non-text content if:

1. All non-text content is explicitly associated with a text equivalent (images have alt-text, movies have collated text transcripts, animations have descriptions, interactive scripts have a functional equivalent such as a form, audio files have a text transcript).
2. The text equivalent fulfills the same function and conveys the same information as the non-text content.
3. Where it is not possible to describe the non-text content in words, or for text to provide the same function as the non-text content, a label identifying the content is provided (Chisholm, White & Vanderheiden, 2001).

One easy test W3C recommends is to imagine reading the document aloud over the telephone, noting which page elements require description to make the information meaningful to the listener (Chisholm, Vanderheiden & Jacobs, 1999). For full documentation of the W3C standards for Web accessibility, refer to the Web Accessibility Initiative (WAI) home page, www.w3.org/WAI/.

TECHNICAL STRATEGIES

Currently, three primary technical strategies exist for creating a text-equivalent version of a Web page. These include creating an entire reproduction of the Web site in a text-only format; using available tools to convert "regular" pages to text-only equivalents "on the fly"; and providing text equivalents throughout a Web site where information is conveyed in media other than text.

For certain Web sites or applications, one might consider making a text-only reproduction of a Web site. This has obvious disadvantages for large Web sites, but may be a simple solution for others. For especially straightforward Web pages, developers might consider making the original Web site itself fully text-only. The advantages to this are having only one version of the Web site that fulfils all the text-only criteria. These pages also load quickly and easily transform to alternate formats. The disadvantages include little or no creative freedom in designing the layout of the page for visual users. An example of this is the Lynx home page, http://lynx.browser.org/. Although it is plain, it conveys the information equally well to all users.

A solution that addresses most of the above disadvantages of reproducing a Web site while still providing text-only access is to use a scripting program to transform Web pages "on the fly" from media-rich pages into text-only Web pages. One example of this can be found at the BBC Web site, www.bbc.co.uk/. Clicking on the link for the text-only version transforms the page on the fly. On the text-only version, for example, it is clear it has just been transformed because the current weather is still current. The program used to accomplish the transformation is called Betsie, a freeware program that can be downloaded and modified to fit the needs of individual Web sites and applications (British Broadcasting Corp., 1999).

Even without scripting, one can avoid reproducing a Web site and still use graphics and other media by

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