

# Enhancing the Accessibility of the Web

with Adobe® Acrobat® Software

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**Introduction** While the Web has broken down traditional barriers to communication, not everyone has been able to fully reap the benefits. For millions of individuals with disabilities, accessing information on the Web is not always easy. Seeking to bridge this digital divide, governments, the disabled community, and businesses worldwide are engaged in efforts to make the Web more accessible to people with disabilities, particularly those whose disabilities make it difficult to interact with computer technologies, for example individuals with blindness, low visual acuity, or motor impairment.

For authors and Webmasters, meeting this challenge means making accessibility a design objective. Electronic formats such as HTML and Adobe Portable Document Format (PDF) are not automatically accessible, but there are ways to make them so. Whether presented in HTML, Adobe PDF, or some other format, the key to making Web-based information accessible is to create content in such a way that it can be properly interpreted by assistive technologies, such as screen readers, used by people with visual disabilities. The World Wide Web Consortium (W3C) has published guidelines on its Web site at [www.w3.org](http://www.w3.org) to assist Web content creators with this task.

An industry leader in network publishing and digital document creation, Adobe has taken an active role in developing accessibility standards for digital content. As a member of the W3C, the company is part of the Web Accessibility Initiative (WAI), whose mission is to promote accessible Web content. Adobe is also on the W3C committee for Scalable Vector Graphics (SVG), an XML-based graphics format that includes accessibility features. In addition to helping set standards, Adobe has been offering accessibility solutions since 1997, when it introduced the [access.adobe.com](http://access.adobe.com) Web site offering free services that convert Adobe PDF files into HTML or plain text for easy interpretation by assistive technologies.

Adobe PDF is a standard for distribution of final form documents on the Web, and Adobe Acrobat products, such as Adobe Acrobat 5.0 and Adobe Acrobat Capture 3.0, are essential tools for creating Adobe PDF files. Together, these tools give organizations the ability to convert any document into Adobe PDF and deliver it exactly as intended via the Web. Adobe Acrobat is also enabling the delivery of powerful ePaper solutions that include electronic forms, digital signatures, security, and collaboration capabilities, making Adobe PDF the ideal platform for moving paper-based business processes to the Web.

Adobe is committed to providing tools that help organizations optimize their digital content for accessibility. Now, Acrobat 5.0 software enables organizations to realize e-business and e-government objectives with Acrobat and Adobe PDF while ensuring that their electronic information is accessible.

**Acrobat 5.0—A New Era in Accessibility** Adobe Acrobat 5.0 represents a major step forward in Adobe’s ongoing efforts to improve the accessibility of both Acrobat software and the information contained in Adobe PDF files. Acrobat 5.0 includes a host of features and capabilities that enhance the usability of the application for users with a broad range of disabilities and help users create Adobe PDF documents that are more accessible to people with disabilities.

#### **Usability Enhancements**

The following section outlines the new accessibility features in Acrobat 5.0 that provide a better user experience for people with disabilities. All of these features are also included in the free Acrobat Reader™ 5.0 software, which is downloadable from the Adobe Web site at [www.adobe.com/acrobat](http://www.adobe.com/acrobat).

#### **Support for screen readers.**

Acrobat 5.0 for Windows implements Microsoft® Active Accessibility (MSAA), an application programming interface (API) that allows Windows-based programs to expose information about their content and user interface to assistive technologies such as screen readers utilizing synthesized speech and/or refreshable-Braille output devices. Because MSAA is a widely supported accessibility standard, Acrobat 5.0 for Windows integrates with a broad range of assistive technologies, including leading screen reader products from vendors such as Freedom Scientific and GW Micro. For people who are blind or have low vision, this integration dramatically improves the usability of Acrobat software on the Windows platform as well as the accessibility of Adobe PDF documents.

#### **High-contrast color schemes.**

The amount of contrast between text and page background can make a big difference in a document’s legibility for individuals with low vision. Acrobat 5.0 allows users to increase contrast by creating custom color schemes that override the colors specified in a document.

#### **Reflowable text blocks.**

People with visual disabilities often have difficulty reading text at small point sizes. But simply magnifying the screen view typically results in a cumbersome reading experience where a user has to manually scroll from left to right to read a single line of text. Acrobat 5.0 includes a document reflow feature that offers a more elegant solution. When viewing a tagged Adobe PDF file with this feature enabled, a user can zoom in to any portion of the document and the text will automatically reflow to fit the available screen space. By combining text reflow with high contrast viewing, people with low vision can more easily read virtually any tagged Adobe PDF document. (For more information about tagged Adobe PDF files, see the section “Tagged Adobe PDF” later in this document.)

**Keyboard shortcuts.**

Using a mouse device can be difficult or impossible for individuals with certain disabilities. Acrobat 5.0 includes a broad range of keyboard shortcuts that enable these users to navigate the interface without the use of a mouse. Windows users can also use the keyboard to control Acrobat 5.0 within Microsoft Internet Explorer.

**New Tools for Creating and Optimizing Adobe PDF Files for Accessibility**

Acrobat 5.0 includes powerful new features that enable users to create Adobe PDF files that are more accessible to people with visual disabilities using assistive technologies. This section provides an overview of these features.

**Tagged Adobe PDF.**

Adobe Acrobat 5.0 software introduces tagged Adobe PDF, an enhancement to the PDF specification that allows PDF files to contain logical document structure. Logical structure refers to the organization of a document, such as the title page, chapters, sections, and subsections. This logical structure provides a mechanism to indicate the precise reading order and improve navigation, particularly for longer, more complex documents. While the previous version of Acrobat enabled the creation of Adobe PDF files with structure information that allowed for a certain level of accessibility, Acrobat 5.0 is greatly enhanced. Tagged Adobe PDF files include complete logical structure plus additional information about a document's contents that substantially increase accessibility. More specifically, tagged Adobe PDF files include the following characteristics, which provide direct accessibility benefits:

- Includes both content and logical structure information inside the Adobe PDF file.
- Allows precise control over document read order, including table data.
- Understands paragraph attributes required for accurate text reflow.
- Enables the export of document content and structure to Rich Text Format (RTF) so that the information can be reused in other programs or read with assistive technologies, including products that aren't MSAA compliant.
- Supports alternate text (ALT text) descriptions for images, including object groups that all share one alternate description.
- Allows accessible interaction with documents such as filling in form fields, following links, and so on.
- Represents all text as Unicode—a standard for describing text characters—ensuring that all characters and words, even ligatures such as the “f” in “office,” are presented to assistive technologies in a clear and understandable manner. Unicode also differentiates between soft and hard hyphens. As a result, a hyphenated word that spans two lines, such as “com-puter,” can be read as a single word.

**Adobe PDFMaker 5.0 for Windows.**

Acrobat 5.0 for Windows includes the PDFMaker 5.0 macro, which allows easy one-step creation of tagged Adobe PDF files from within Microsoft Office 2000 applications. When used with an Office 2000 version of Word, PowerPoint, or Excel, PDFMaker captures the logical structure information contained in the source document—including Word styles, Excel table data, columns, footers, bulleted lists, bookmarks, and so on—and saves it in a tagged Adobe PDF file with proper reading order. PDFMaker even preserves any alternate text for images that authors defined when creating their Office 2000 documents.

Note: PDFMaker also works with Windows-based Office 97 applications to create structured Adobe PDF files, which retain document structure but do not necessarily indicate proper reading order and are not optimized for accessibility. To make a structured Adobe PDF file accessible, use the Make Accessible plug-in described next.

**Acrobat 5.0 Make Accessible plug-in for Windows.**

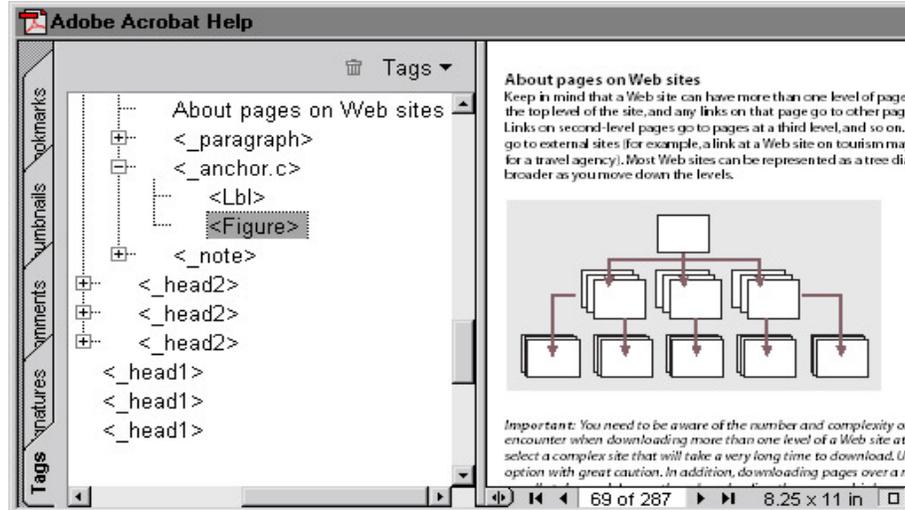
The Make Accessible plug-in—available as a free download on the Adobe Web site at [www.adobe.com](http://www.adobe.com) beginning spring 2001—lets Acrobat 5.0 for Windows users convert untagged Adobe PDF files, including legacy PDF documents and those created from applications other than Office 2000, into tagged Adobe PDF files. This plug-in automatically analyzes the logical structure of a document and creates a new version of the file that will read more clearly with an assistive technology.

**Accessibility Checker.**

The Accessibility Checker is a convenient tool that helps users identify common accessibility problems in their Adobe PDF documents. The tool checks a document for problems such as missing ALT tags for images, unspecified languages for text, and unrecognizable character encodings. If any are found, they are logged and reported on-screen or in a separate file. A user can then choose to fix or ignore these problems before distributing the document.

**Tags palette.**

The Tags palette displays the logical structure of a tagged Adobe PDF file and can be used to correct problems found by the Accessibility Checker. Users can revise the read order of a tagged document by adding or rearranging items in the list. This capability is especially useful for touching up the logical structure or read order of tagged Adobe PDF documents created with the Acrobat 5.0 Make Accessible plug-in for Windows. The Tags palette also lets users add information to a document's structure to make the contents of the document fully accessible. For example, users can add alternate text to images so screen readers can describe them in words.



The logical structure of a tagged Adobe PDF file is displayed in the Tags palette. Authors can touch up the reading order of a document by rearranging the order the tags.

**Enhanced security settings.**

In the previous version of Acrobat, locking an Adobe PDF document to prevent copying and pasting of text rendered the document inaccessible. New security settings in Acrobat 5.0 make it possible to enable content for accessibility, while still prohibiting copying and extraction.

**Acrobat Capture 3.0—A Powerful Paper-to-Tagged Adobe PDF Solution** As the Web continues to expand, organizations face the challenge of making large volumes of paper-based information available on the Web. Historically among the largest producers of paper, government agencies in particular confront pressures in this regard as they are often charged by law or mandate to duplicate or replace paper documents with electronic versions on the Web. What’s more, the electronic versions must strictly maintain the fidelity of the originals and be accessible to people with disabilities. Of the formats commonly used on the Web—HTML, TIFF, and PDF—only Adobe PDF can satisfy both of these core requirements.

Adobe Acrobat Capture 3.0 is professional production software that automates processes for high-volume conversion of paper-based information to Adobe PDF. When combined with the new Tag Adobe PDF agent (available for purchase on the Adobe Web site at [www.adobe.com](http://www.adobe.com) beginning spring 2001), it provides a highly accurate tool for converting scanned paper documents into tagged Adobe PDF files in one seamless workflow. Once

documents are in tagged Adobe PDF, they can be reviewed and optimized for accessibility using the Acrobat 5.0 Accessibility Checker and Tags palette features described earlier in this document.

**access.adobe.com—An Online Accessibility Resource** Adobe hosts a Web site at

<http://access.adobe.com> that's dedicated to providing tools and information to help make Adobe PDF files accessible to users with visual disabilities. Using the site's free online services, most Adobe PDF documents can be converted to HTML or plain text for easy reading by assistive technologies. These services make the text within Adobe PDF files readable on any platform that supports Web browsers and screen readers, regardless of whether the user has Acrobat 5.0 or an MSAA-compliant screen reader. To convert Adobe PDF files located on a Web site, users can submit the URL of the file via a Web-based form or via e-mail. Adobe PDF files on a local hard disk, CD-ROM, or local area network (LAN) also can be converted by attaching the file to an e-mail message.

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**Conclusion** Adobe is committed to providing solutions that improve the accessibility of Acrobat software and the information in Adobe PDF files. Adobe Acrobat 5.0 software marks a significant step forward, including tools that create and optimize Adobe PDF files for accessibility as well as usability enhancements that make the application and the free Acrobat Reader accessible to users with a broad range of disabilities. And Adobe continues to provide free online services for making Adobe PDF files accessible on the [access.adobe.com](http://access.adobe.com) Web site.

For more information on Adobe Acrobat 5.0 and Adobe Acrobat Capture 3.0, visit the Adobe Web site at [www.adobe.com](http://www.adobe.com). For more information on Acrobat products and accessibility, check out the "How To Create Accessible Adobe PDF Files" guide and online demonstration videos available at [www.adobe.com/acrobat](http://www.adobe.com/acrobat) or <http://access.adobe.com>.