



Designing Accessible Web Pages with ToolBook

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Accessibility refers to making online information easy to obtain for people with various levels of eyesight, hearing capacity, and motor skills. Making the information on a Web page available to all people, including those with disabilities, is the goal of creating and presenting accessible e-Learning content. By developing accessible Web pages with ToolBook your content will reach the widest audience possible.

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Understanding accessibility

There are many ways to access visual and auditory information through a Web browser. To improve legibility, some people may increase the font size for text in their browser and others may use text magnification software. People with vision impairments can listen to text as it is vocalized by automated screen reader software. When audio is included as part of a video or media presentation available on a Web page, closed captions can convey the audio content as text. Other techniques are available and new technologies are being developed to meet diverse needs.

You can develop accessible courses by following the guidelines developed by the Web Accessibility Initiative of the World Wide Web Consortium (W3C). For more information, visit <http://www.w3.org/TR/WCAG10-CORE-TECHS/>

About assistive technologies

Assistive technologies allow people with disabilities to interact with computer hardware and software. Hardware solutions include various types of input devices such as larger keyboards and eye-gaze pointing devices. Assistive software includes voice recognition programs, screen magnification, keyboard enhancement utility programs and more.

In the accessibility guidelines developed by the Web Accessibility Initiative, many of the provisions address vision impairments. One way to access computer-based information is by using a type of software program known as a screen reader which translates text displayed on a computer screen into audio output or refreshable Braille displays. Certain conventions are necessary to allow the person using the screen reader software to interact with objects on the page, such as using the Tab key to move the focus from one object to another on the page.

If you plan to develop e-Learning for a small or limited audience, you may be able to determine in advance the types of assistive technologies in use by the people who will interact with your Web pages. You can add this to your project plan and prepare material that meets the needs of the audience. For a large audience, the best way to develop accessible content is to follow the guidelines developed by the Web Accessibility Initiative of the World Wide Web Consortium (W3C).

About section 508

The Congress of the United States amended Section 508 of the Rehabilitation Act to require Federal agencies to make their electronic information accessible to all people, including those with disabilities. You can find out more about the regulations contained in section 508 by visiting <http://www.section508.gov/>

The provisions in section 508 aim to ensure that visual and audio content is available in a format that can be understood by most people. Alternative methods for conveying information are promoted, such as the addition of text descriptions for graphics.

Designing accessible Web pages

While you are planning your project, consider the following ways to present information in an accessible manner.

Descriptive text

Provide text descriptions for each graphic image to briefly explain what is shown in the graphic. These alternate text descriptions can be interpreted by screen reader software and read by people who have graphics turned off. For more information about creating alternate text descriptions, see the next section, “Using the accessibility features in ToolBook.”

Navigation

Create pages that can be navigated by using only the keyboard, as some people are not able to use the mouse to make selections. Buttons that allow a user to make a selection or trigger an action should be included in the tab order. Additionally, text fields that allow the user to enter text should be included in the tab order.

Color

Use a text color that provides a strong contrast with the background color to make the text as legible as possible. For those people who may not be able to distinguish between certain colors, include graphics and section headings that can be understood without reliance on the specific colors used.

Media files

Video, audio, and other types of media files can be inaccessible to people with visual or hearing impairments. If you plan to include media files, provide an alternate means to convey the information contained in the media files. For example, you could include a text transcript of an audio file or a description of a video file. Text is accessible to most people and can be understood by the current assistive technologies in use.

Using the accessibility features in ToolBook

You can create a book with an accessible design by using objects from the Accessibility Catalog. The Accessibility Catalog contains ready-to-use objects such as multiple-choice questions, buttons, text fields, media players, and navigation links. Choose objects from the Accessibility Catalog in ToolBook to display your text, graphics, and other content.

► To open the Accessibility Catalog:

1. From the View menu, choose Options, Catalog, Location.
2. Choose this catalog file:
c:\Program Files\ToolBook\ToolBook 11.0\Accessibility Catalog\catalog.ini

It's a good idea to start testing your ToolBook content for accessibility early in the development process. Develop a couple of pages in ToolBook and then use the Publish to Web menu command to open the Web Specialist. The Web Specialist will convert your pages into Web pages, and you can test these Web pages in a browser while running any kind of assistive technology that is available to you.

► **Keep the following tips in mind to make your content accessible:**

- add a brief description for each graphic you include
- use a text color that provides strong contrast with the background color
- create a logical tab order on the page
- trigger an audio file with a Play Media Player button
- create a transcript or descriptive text for audio or video files

In ToolBook you can enter a short description for a graphic that will appear in pop-up window in a browser. This text will allow people who cannot see the graphic or have graphics turned off to understand what is displayed on the page. Enter your descriptive text in the tooltip text field on the Behavior tab of the properties dialog box for a graphic, and this tooltip text will be exported in the Alt tag in the HTML files that ToolBook generates (as long as you accept the default option labeled "Convert tooltips to alternate text attributes" when you publish your book using the Web Specialist). You can enter tooltip text for any graphic that is shown in the Web Graphic placeholder object, as well as any picture object, paint object, draw object, or button that displays a graphic.

Using a text color that contrasts strongly with the background color (such as black text on a white background) makes it easier for people with some types of vision impairments to read the text. Try to avoid the use of colored text to convey a message by color alone, as people who are colorblind could not understand this visual convention.

A logical tab order makes it easier to understand the content on a page when navigating by using the keyboard, and allows people who use the Tab key to move the focus from object to object to access your content.

You can set a meaningful left-to-right sequence for the tab order as well as a top-to-bottom tab sequence in ToolBook. Initially the tab order follows the order in which objects are added to the page. To set a logical tab order, select the objects on the page that you want to include in the tab order and then open the Set Tab Order dialog box: From the Draw menu, point to Layer, and choose Set Tab Order. The tab order will remain the same after you publish your book to the Web by using the Web Specialist.

If you want to include an audio file, you can add a Play Media Player button from the Accessibility Catalog to your page in addition to a media player. Adding this button allows a person to use the Tab key to move the focus to the Play Media Player button and start the audio file. Using the Tab key to access buttons is essential for people who are using screen reader software.

You can create a text transcript or descriptive narrative for an audio file or video file by adding a scrolling text field to your page and entering the appropriate text. Another way to show a transcript is to

use a button that displays a pop-up page when clicked. Assign a hyperlink to the button that causes the pop-up page to appear, and set the Skip Navigation property for the page that pops up to True so that this page will not be displayed when the user navigates through the course. A third option is to use the Open Document button to display a text file that contains the transcript text. The Open Document button is available in the Action Objects category of the Accessibility Catalog.

About the Accessibility Catalog

The Accessibility Catalog contains a selection of authoring objects that can display content in an accessible format. All objects in the Accessibility Catalog are built to be delivered as Web pages that use DHTML (created by the ToolBook Web Specialist). For a description of any object in the Catalog, point to the object and a pop-up description will display. Quick steps to using an object from the Accessibility Catalog are available when you drag an object from the Catalog to a page and display the ToolBook Coach. Open the Coach by clicking the Help menu and choosing Coach.

In order to make your content available to people using assistive technologies, some of the objects in the Accessibility Catalog may need to be used in conjunction with other objects. Accessibility considerations for specific categories of objects are discussed below.

Action Objects

The buttons in the Action Objects category are able to hide and show objects and create dynamic effects. You can use these buttons in ways that can be interpreted by assistive technologies such as screen readers. For example, you could use an Action Trigger button to display a hidden text field that provides additional information. A screen reader will be able to vocalize the text in the hidden text field after the text field is displayed. If you choose to display visual effects that people with visual impairments will not be able to see, you can add a text description that explains what is happening on the screen.

Text fields

Text is usually easy to access. If you plan to include a text field which allows the user to enter text at Reader level, you should include the text field in the tab order.

Media players

To allow a person to use the keyboard to navigate to a button that will start an audio or video file, add a Play Media Player button to your page. A Play Media Player button works in conjunction with a media player from the Media Players category, providing an alternate way to trigger the media. Individual buttons are also available to stop and pause the media file. Using the keyboard for navigation is necessary for some types of assistive technologies.

Since people with vision impairments can't see video and animation files, you can add a text description or transcript to convey the content of any media files that you include.

Opening the Accessibility Catalog

ToolBook will display the Accessibility Catalog in a book when you open it. To change the current catalog shown in ToolBook, click the Object menu, choose Properties for Book, and then click the General tab in the Properties for Book dialog box. Enter the name and location of the .ini file that defines the Accessibility Catalog (by default, for ToolBook this is c:\Program Files\ToolBook\ToolBook 11.0\Accessibility Catalog\catalog.ini).

About the accessibility options in the Web Specialist

After you create a course or content in ToolBook, you prepare the pages for delivery by going through the steps in the ToolBook Web Specialist. To open this wizard, from the File menu select Publish to Web. There is one page in the Web Specialist that displays accessibility options and both of these options are checked by default. You should accept the default settings to allow ToolBook to export files that will be accessible to the widest audience possible.

The option in the Web Specialist labeled “Convert tooltips to alternate text attributes” allows the text that you enter in the tooltip field of a properties dialog box for a graphic to be exported in a format that can be interpreted and vocalized by screen reader software.