Authoring Tool Accessibility Guidelines 1.0 (working draft)

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Abstract

This document provides guidelines for Web authoring tool developers. Its purpose is two-fold: to assist developers in designing authoring tools that generate accessible Web content and to assist developers in creating an accessible authoring interface.

Accessible Web content is achieved by encouraging authoring tool users ("authors") to create accessible Web content through mechanisms such as prompts, alerts, checking and repair functions, help files and automated tools. It is equally important that all people can be the authors of Web content, rather than merely recipients. It is therefore of critical importance that the tools used to create this content are themselves accessible. Adoption of these guidelines will result in the proliferation of Web pages that can be read by a broader range of readers and in authoring tools that can be used by a broader range of authors.

This document is part of a series of accessibility documents published by the W3C Web Accessibility Initiative.

Status of this document

This is a Working Draft of the Authoring Tool Accessibility Guidelines. It is a draft document and may be updated, replaced or rendered obsolete by other documents at any time. It is inappropriate to use W3C Working Drafts as reference material or to cite them as other than "work in progress". This is work in progress and does not imply endorsement by either W3C or members of the WAI Authoring Tool (AU) Working Group.

This draft is a public working draft, and represents the state of the working group document at 21 June 1999. It has since been released to the WAI interest group for review, and no changes or clarifications were sought. In the time between that document being published as a review draft and this publication as a publication there have been two newer working group drafts published - the latest working group draft is also publicly available. A log of changes between successive working drafts is available.

The Techniques given in the linked "Techniques" document are intended to be informative only. They will not be present in the "normative" version, although there will still be a link to the Techniques document. This will enable them to be updated more easily than the Guidelines themselves.

The goals of the WAI AU Working Group are discussed in the WAI AU charter.

Please send comments about this document to the public mailing list: w3c-wai-au@w3.org, archived at http://lists.w3.org/Archives/Public/w3c-wai-au

A list of the current AU Working Group members is available.

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1. Introduction

The various authoring tools used to generate Web content play a critical role in determining the form and accessibility of the Web. Authoring tools are used to automate the mechanical tasks that are part of producing Web pages. The power of this automation can enhance the accessibility of the Web if it is used to ensure that the code produced promotes accessibility, and frees the author to concentrate on the higher level problems of overall design, content, description, etc. It is imperative that authoring tools generate content that is accessible, and that they are accessible themselves, to allow people to be consumers and producers of Web content on an equal footing, regardless of disability.

The accessibility of authoring tools encompasses some general principles of software accessibility, and some features that are specific requirements for authoring. The accessibility of the content produced depends on the ability of the tool to be used in producing accessible markup, and on the user interface of the tool enabling, informing, and encouraging the use of accessible markup authoring practices. These Guidelines refer extensively to the Web Content Accessibility Guidelines, that details accessibility requirements for markup itself, and include checkpoints that are basic requirements for the accessibility of the tool and its output. In addition, there are guidelines and checkpoints that are uniquely relevant to the role authoring tools play in guiding the author to produce accessible content.

1.1 Scope of these Guidelines

These guidelines are intended to be used by developers of all tools used to produce content for the Web. These include:

- Editing tools specifically designed to produce Web content (e.g., WYSIWYG HTML editors, SMIL authoring packages);
- Tools that offer the option of saving material in a Web format (e.g., word processors or desktop publishing packages);
- Tools that translate documents into Web formats (e.g., filters to translate desktop publishing formats to HTML);
- Tools that produce multimedia, especially where it is intended for use on the Web (e.g., video production and editing suites);
- Tools for site management or site publication, including on-the-fly conversion and Web site publishing tools;
- Tools for management of layout (e.g., CSS formatting tools).

1.2 Guidelines, Checkpoints, and Techniques

The guidelines documents have been organized to address readers seeking abstract principles of accessible authoring tool design and readers seeking concrete solutions. The guidelines documents define three terms for different levels of abstraction:

Guideline
: A guideline is a general principle of accessible authoring tool design. A guideline addresses the question "What accessibility issues should I be aware of?"

Checkpoint
: A checkpoint is a specific way of satisfying one or more guidelines. While checkpoints describe verifiable actions that may be carried out by the authoring tool developer, implementation details are described elsewhere. A checkpoint answers the question "What must/should/may I do to make an authoring tool (and the content it produces) accessible?"

Technique
: A technique is an example of, or further information about implementation of a checkpoint. A technique answers the question "How might I implement that in an authoring tool?"

1.3 Checkpoint priorities

There are three goals:

1. The authoring tool is accessible
2. The authoring tool generates accessible content
3. The authoring tool encourages the creation of accessible content

Checkpoints are assigned priority according to how important they are to meeting those goals:

[Priority 1]
: Essential to meeting those goals

[Priority 2]
: Important to meeting those goals

[Priority 3]
: Beneficial to meeting those goals

1.4 Conformance to these Guidelines

This section defines three levels of conformance to this document:

- Conformance Level "A": all Priority 1 checkpoints are satisfied;
- Conformance Level "Double-A": all Priority 1 and 2 checkpoints are satisfied;
- Conformance Level "Triple-A": all Priority 1, 2, and 3 checkpoints are satisfied;

Note. Conformance levels are spelled out in text so they may be understood when rendered to speech.

Claims of conformance to this document must use one of the following two forms.

Form 1: Specify:

- The guidelines' title: "Authoring Tool Accessibility Guidelines 1.0 (working draft)"
- The guidelines' URI: http://www.w3.org/TR/1999/WAI-AUTOOLS-19990713
- The conformance level satisfied: "A", "Double-A", or "Triple-A".
- The scope covered by the claim (e.g., tool name and version number, upgrades or plugins required).

Example of Form 1: "MyAuthoringTool version 2.3 conforms to W3C's "Authoring Tool Accessibility Guidelines 1.0 (working draft)", available at http://www.w3.org/TR/1999/WAI-AUTOOLS-19990713, level Double-A."

Form 2: Include, on each statement of conformance, one of three icons provided by W3C and link the icon to the appropriate W3C explanation of the claim.

[Editors' note: In the event this document becomes a Recommendation, by that date WAI will provide a set of three icons, for "A", "Double-A", or "Triple-A" conformance levels of "Authoring Tool Accessibility Guidelines 1.0 (working draft)", together with a stable URI to the W3C Web site for linking the icons to the W3C explanation of conformance claims.]

2. Guidelines

Guideline 1. Ensure that the Authoring Tool is Accessible to Authors with Disabilities

The authoring tool is a software program with standard user interface elements and as such should follow relevant user interface accessibility guidelines.

The author may need a different presentation to edit the Web content than the one they wish ultimately to be displayed. This implies display preferences that do not manifest themselves in the ultimate markup or style declarations.

Authoring Web content requires editing a potentially large and complex document. In order to edit a document the author must be able to locate and select specific blocks of text, efficiently traverse the document, and quickly find and mark insertion points. Authors who use screen readers, refreshable braille displays, or screen magnifiers can make limited use (if at all) of visual artifacts that communicate the structure of the document and act as sign posts when traversing the document. There are strategies that make it easier to navigate and manipulate a marked up document. A compressed view of the document allows the author to both get a good sense of the overall structure and to navigate that structure more easily.

Checkpoints:

1.1 Use all applicable operating system and accessibility standards and conventions. [Priority 1]
1.2 Allow the author to change the editing view [p. 12] without changing the presentational markup defined for the document currently being edited. [Priority 1]

1.3 Allow the author to display an editable equivalent for each element, object, and property that is available for editing. [Priority 1]
1.4 Enable navigation and editing via the structure of the document. [Priority 1]
1.5 Enable editing of the structure of the document. [Priority 2]

Guideline 2. Generate standard markup

The first step towards producing accessible content is conformance with standards, which promotes interoperability.

Checkpoints:

2.1 Use applicable W3C Recommendations. [Priority 2]
2.2 Extensions to W3C Recommendations must not make content inaccessible. [Priority 1]

Guideline 3. Support accessible authoring practices

Methods for ensuring accessible markup vary with different markup languages. If markup is automatically generated, many authors will be unaware of the accessibility status of the final product unless they expend extra effort to make appropriate corrections by hand. Since many authors are unfamiliar with accessibility, these problems are likely to remain.

Many applications feature the ability to convert documents from other formats (e.g., Rich Text Format) into a markup format, such as HTML. Markup changes may also be made to facilitate efficient editing and manipulation. These processes are usually hidden from the user's view and may create inaccessible content or cause inaccessible content to be produced.

Checkpoints:

3.1 Implement all accessible authoring practices that have been defined for the markup language(s) supported by the tool. [Priority 1]
3.2 Produce content that conforms to the W3C's Web Content Accessibility Guidelines [WAI-WEBCONTENT] [p. 15] . [Priority 1 for level-A conformance, Priority 2 for double-A conformance, Priority 3 for triple-A conformance]
3.3 Ensure that templates to be inserted in the document conform to W3C Web Content Accessibility Guidelines [WAI-WEBCONTENT] [p. 15] . [Priority 1 for level-A conformance, Priority 2 for double-A conformance, Priority 3 for triple-A conformance]
3.4 Preserve all accessibility content during transformations and conversions. [Priority 1]

Guideline 4. Ensure that no accessibility content is missing

Textual equivalents, including "alt-text", long descriptions, video captions, and transcripts are absolutely necessary for the accessibility of all images, applets, video, and audio files. However, the task of producing these equivalents is probably the most time-consuming accessibility recommendation made to the author.

The authoring tool can provide various mechanisms to assist the author in generating textual equivalents while ensuring that the author can determine whether the textual equivalent accurately reflects the information conveyed by the multimedia object.

Including professionally written descriptions for all multimedia files (e.g., clip-art) packaged with the tool will:

- Save users time and effort;
- Cause a significant number of professionally written descriptions to circulate on the Web;
- Provide users with convenient models to emulate when they write their own descriptions;
- Show authors the importance of description writing.

This will lead to an increase in the average quality of descriptions used.

Checkpoints:

4.1 Prompt the author to provide alternative content (e.g., captions, descriptive video). (Priority 1 for alternative content that is [Web-Content-Priority-1] [p. 15] , Priority 2 for alternative content that is [Web-Content-Priority-2] [p. 15] , Priority 3 for alternative content that is [Web-Content-Priority-3] [p. 15])
4.2 Prompt the author for all missing structural information (e.g., language changes, table headers). (Priority 1 for structural information that is [Web-Content-Priority-1] [p. 15] , Priority 2 for structural information that is [Web-Content-Priority-2] [p. 15] , Priority 3 for structural information that is [Web-Content-Priority-3] [p. 15])
4.3 Allow the author to edit all alternative content and structural information. [Priority 1]
4.4 Provide pre-written alternative content for all multimedia files packaged with the authoring tool. [Priority 2]
4.5 Provide a mechanism to manage alternative content for multimedia objects, that retains and offers for editing pre-written or previously linked alternative content. [Priority 3]
4.6 Do not insert automatically generated (e.g., the filename) or place-holder (e.g., "image") equivalent text, except in cases where human-authored text has been written for an object whose function is known with certainty. [Priority 1]

Guideline 5. Integrate accessibility solutions into the overall "look and feel"

When a new feature is added to an existing software tool without proper integration, the result is often an obvious discontinuity. Differing color schemes, fonts, interaction styles and even application stability can be factors affecting user acceptance of the new feature.

Checkpoints:

5.1 Ensure that the highest-priority accessible authoring practices are the most visible and easily initiated by the author. Highlight the most accessible solutions when presenting choices for the author. [Priority 2]
5.2 Make generation of accessible content a naturally integrated part of the authoring process. [Priority 1]

Guideline 6. Provide methods of checking and correcting inaccessible content

Many authoring tools allow authors to create documents with little or no knowledge about the underlying markup. To ensure accessibility, authoring tools must be designed so that they may automatically identify inaccessible content, and enable its correction even when the markup itself is hidden from the author.

In supporting the creation of accessible Web content, authoring tools must take into account the differing authoring styles of their users. Some users may prefer to be alerted to problems when they occur, whereas others may prefer to perform a check after the document is completed. This is analogous to programming environments that allow users to decide whether to check for correct code during editing or at compile time.

Note that validity is an accessibility requirement, particularly for assistive technologies.

Checkpoints:

6.1 Check for and alert the author to accessibility problems. (Priority 1 for accessibility problems that are [Web-Content-Priority-1] [p. 15] , Priority 2 for accessibility problems that are [Web-Content-Priority-2] [p. 15] , Priority 3 for accessibility problems that are [Web-Content-Priority-3] [p. 15])
6.2 Allow users to control both the nature and timing of accessibility alerts. [Priority 2]
6.3 Assist authors in correcting accessibility problems. (Priority 1 for accessibility problems that are [Web-Content-Priority-1] [p. 15] , Priority 2 for accessibility problems that are [Web-Content-Priority-2] [p. 15] , Priority 3 for accessibility problems that are [Web-Content-Priority-3] [p. 15])

6.4 When removing unrecognized markup, alert the author (according to a configurable schedule). [Priority 2]
6.5 Provide the author with a summary of the document accessibility status on a configurable schedule. [Priority 3]
6.6 Allow the author to perform tag transformations. [Priority 3]
For example, to transform visually formatted elements to structure elements, or tables to lists.

Guideline 7. Promote accessibility in help and documentation

The issues surrounding Web accessibility are often unknown to Web authors. Help and documentation should explain accessibility problems and solutions, with examples.

Checkpoints:

7.1 Integrate accessible authoring practices in all applicable help topics. [Priority 1]
7.2 Explain the accessible authoring practices supported by the authoring tool. [Priority 1]
7.3 Do not use inaccessible markup in examples. [Priority 1]
7.4 Emphasize the universal benefit of accessible design. [Priority 3]

3. Terms and Definitions

Prompts and Alerts

User Configurable Schedule
A user configurable schedule allows the user to determine the type of prompts and alerts that are used, including when they are presented.
Prompts
Prompts are requests for user input, either information or a decision. Prompts require author response.
Alerts
Alerts notify the author of something, or mark something for the author's attention. They may or may not require author response.

Markup Editing Tools and Functions

Authoring Tool
As used in this document, an *Authoring Tool* is any software that is used to generate content for publishing on the Web. See also section 1.3 Scope of these guidelines.
Conversion Tool
Generation Tool

Site Management Tool
Publishing Tool
Image Editor
Video Editor
Multi-media Authoring Tool
Automated Markup Insertion Function
Transformation
: A process whereby one object is changed, according to a discrete set of rules, into another, equivalent, object. This includes any application or application feature that allows content that is marked up in a particular markup language to be transformed into another markup language, such as software that allows the author to change the DTD defined for the original document to another DTD. It also describes the substitution of textual equivalents for graphical or visually defined elements and objects, and the conversion from one element type to another within a document.

Documents, Elements, and Attributes

Document
: A *document* is a series of elements that are defined by a language (e.g., HTML 4.0 or an XML application).

Element
: An element is any identifiable object within a document, for example a character, word, image, paragraph or spreadsheet cell. In HTML and XML an element refers to a pair of tags and their content, or an "empty" tag - one that has no closing tag or content.

Property
: A property is a piece of information about an element, for example structural information (e.g., it is item number 7 in a list, or plain text) or presentation information (e.g., that it is marked as bold, its font size is 14). In XML and HTML properties of an element include the name of the element (e.g., IMG or DL), the values of its attributes, and information associated by means of a stylesheet. In a database, properties of a particular element may include values of the entry, and acceptable data types for that element.

Attributes
: in XML and HTML, an element may have any number of attributes. In the following example, the attributes of the beverage element are flavour, which has the value "lots", and colour, which has the value "red": <beverage flavour="lots" colour="red">my favorite</beverage> Some attributes are integral to document accessibility (e.g., the "alt", "title", and "longdesc" attributes in HTML

Rendered Content
: The *rendered content* is that which an element actually causes to be rendered by the user agent. This may differ from the element's structural content. For example, some elements cause external data to be rendered (e.g., the IMG element in HTML), and in some cases, browsers may render the value of an attribute (e.g., "alt", "title") in place of the element's content.

Accessibility Terms

Accessible, Accessibility
: Within these guidelines, Accessible and Accessibility are used in the sense of being accessible to people regardless of disability.

Accessibility Solution, Accessible Authoring Practice
: These terms refer to Authoring practices that improve the accessibility of content generated by the tool..

Alternative Representation of Content

Alternative Textual Representations
: Certain types of content may not be accessible to all users (e.g., images), so authoring tools must ensure that *alternative textual representations* ("Alt-text") of information is available to the user. Alternative text can come from element content (e.g., the OBJECT element) or attributes (e.g., "alt" or "title").

Description Link (D-link)
: A description link, or *D-Link*, is an author-supplied link to additional information about a piece of content that might otherwise be difficult to access (image, applet, video, etc.).

Transcripts
: A transcript is a line by line record of all dialog and action within a video or audio clip.

Video Captions
: A video caption is a textual message that is stored in the text track of a video file. The video caption describes the action and dialog for the scene in which it is displayed.

Inserting and Editing

Inserting an element

Editing an element

Selection, Focus, and Events

Views
: An authoring tool may offer several *views* of the same document. For instance, one view may show raw markup, a second may show a structured tree view, a third may show markup with rendered objects while a final view shows an example of how the document may appear if it were to be rendered by a particular browser.

Editing view
: What is displayed by the authoring tool to the author during the editing process.

Selection

Current User Selection
Focus

4. Acknowledgments

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If you have contributed to the AU guidelines and your name does not appear please contact the editors to add your name to the list.

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