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 AccessibilityGuidelines. 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. It is expected that a new working draft will render this draft obsolete by the beginning of September 1999.

This draft follows the working group meeting on 25 August 1999. A log of changes between successive working drafts is available.

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 guidelines in this document are designed to help authoring tool developers understand, and thereby reduce, accessibility barriers to the creation of Web content. In these guidelines, the term authoring tool refers to the wide range of software used for creating Web content, including:

- 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).

An accessible authoring tool is accessible software that produces accessible content for the Web. For detailed information about the production of accessible content this document relies on the Web Content Accessibility Guidelines [WAI-WEBCONTENT [p. 15]]. Similarly, this document does not directly address the general design of accessible software. It does design issues directly related to accessible authoring tools, such as automation, accessibility checking, appropriate documentation, navigation mechanisms, prompts, the adoption of system conventions, and other features that will result in authoring tools which allow users to create accessible content regardless of disability. Because most of the Web is created using authoring tools, they play a critical role in ensuring the accessibility of the web.

A separate document, entitled Techniques for Authoring Tool Accessibility [WAI-AUTOOLS-TECH [p. 15]], provides suggestions and examples of how each checkpoint might be satisfied, It also includes references to other accessibility resources (such as platform-specific software accessibility guidelines) which give additional information on how a tool may satisfy each checkpoint. Readers are strongly encouraged to become familiar with the techniques document. Please note that while there may be many helpful suggestions there the requirements which need to be fulfilled are the checkpoints in this document, and ways other than those suggested may be appropriate for some tools.

1.1 How the Guidelines are organized.

This document includes guidelines which are general principles of accessible design. Each guideline includes:

- The guideline number;
- The statement of the guideline;
- The rationale behind the guideline;
- A list of checkpoint definitions.

The checkpoint definitions in each guideline specify requirements for authoring tools to follow the guideline. Each checkpoint definition includes:

- The checkpoint number;
- The statement of the checkpoint;
- The priority of the checkpoint;
- In some cases informative notes, clarifying examples, or cross references to related guidelines or checkpoints;
- A link to a section of the Techniques Document ([WAI-AUTOOLS-TECH] [p. 15]) where implementations and examples of the checkpoint are discussed;

Each checkpoint is intended to be specific enough that it can be verified, while being sufficiently general to allow developers the freedom to use the most appropriate strategies to meet the checkpoint.

The Techniques provided in the techniques document are suggestions for how implementation might be done, or where further information can be found. They are informative only, and other strategies may be used to meet the checkpoint as well as, or in place of, those discussed.

1.2 Checkpoint priorities

There are four goals:

1. The authoring tool is accessible
2. The authoring tool generates accessible content by default
3. The authoring tool is user configurable
4. 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

1.3 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 (e.g., "Double-A" rather than "AA") 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/WAI/AU/WAI-AUTOOLS-19990825
- The conformance level satisfied: "A", "Double-A", or "Triple-A".
- The product covered by the claim (e.g., tool name and version number, upgrades or plug-ins 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/WAI/AU/WAI-AUTOOLS-19990825, 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 for standards and conventions which are essential to accessibility, Priority 2 for those that are important to accessibility, Priority 3 for those that are beneficial to accessibility). [Priority 1]
1.2 Allow the author to change the editing view [p. 13] without affecting the document markup. [Priority 1]

> This allows the author to edit the document according to their personal requirements, without changing the way the document looks or is rendered when published.

1.3 Render an accessible equivalent of each element property. [Priority 1]
1.4 Allow the author to edit all properties of each element and object in an accessible fashion. [Priority 1]
1.5 Ensure the editing view allows navigation via the structure of the document. [Priority 1]
1.6 Enable editing of the structure of the document. [Priority 2]
1.7 Allow the author to search within editing views. [Priority 2]

Guideline 2. Generate standard markup

Conformance with standards promotes interoperability and accessibility. Where applicable use W3C recommendations, which have been reviewed to ensure accessibility and interoperability. If there are no applicable W3C Recommendations, use a published standard that enables accessibility.

Checkpoints:

2.1 Use applicable W3C Recommendations. [Priority 2]

> These specifications have undergone review specifically to ensure that they do not compromise, and where possible they enhance, accessibility

2.2 Ensure that content is created in accordance with a published standard [Priority 1]

> This is necessary for user agents to be able to transform web content to a presentation appropriate to a particular user’s needs.

2.3 Ensure that document markup language used enables accessibility of content. [Priority 1]

> This is relevant both to the use of an existing document markup language, and to one which is created or extended for a specific purpose..

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 Ensure the author can implement accessible authoring practices 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 provided by the tool 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 authoring, transformations and conversions. [Priority 1]

Guideline 4. Ensure that no accessibility content is missing

Generating equivalent content, such as textual alternatives for images and audio descriptions of video, can be one of the most challenging aspects of Web design. Along with the necessity for structural information it is a cornerstone of accessible design, allowing content to be presented in a way most appropriate for the needs of the user without constraining the creativity of the author.

Automating the mechanics of this process, by prompting authors to include the relevant information at appropriate times, can greatly ease the burden for authors. Where such information can be mechanically determined (e.g., the function of icons in an automatically-generated navigation bar, or expansion of acronyms from a dictionary) and offered as a choice for the author the tool will assist the author, at the same time as it reinforces the need for such information and the author's role in ensuring that it is used appropriately in each instance.

Checkpoints:

4.1 Prompt the author to provide alternative content (e.g., captions, expanded versions of acronyms, long descriptions of graphics). (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 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]
4.3 Provide pre-written alternative content for all multimedia files packaged with the authoring tool. [Priority 2]

> Note: This text should be used for input field default, but not for automatic insertion.

4.4 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]

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 Make generation of accessible content a naturally integrated part of the authoring process. [Priority 1]
5.2 Ensure that the highest-priority accessible authoring practices are among the most obvious and easily initiated by the author. [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 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])
6.3 Allow users to control both the nature and timing of accessibility alerts. [Priority 2]
6.4 Allow the author to override any removal of unrecognized markup. [Priority 2]

Notes:

1. The author may have included or imported markup that is not recognized by the tool, but which enhances accessibility.
2. This need not be the default setting.

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 element 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 Ensure that all documentation examples show how to produce content that conforms 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]

Note: An example may be built from several parts, some of which are not themselves conformant, so long as those parts are identified and linked to a conforming example.

7.4 Emphasize the universal benefit of accessible design. [Priority 3]

3. Terms and Definitions

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.

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
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.

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 style sheet. 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 flavor, which has the value "lots", and colour, which has the value "red": <beverage flavor="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.

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 Representations

Certain types of content may not be accessible to all users (e.g., images or audio presentations), so alternative representations are used, such as transcripts for audio, or short functionally equivalent text (e.g., "site map link") and/or descriptive text equivalents (e.g., "Graph 2.5 shows that the population has doubled approximately every ten years for the last fifty years, increasing from about 10 million to 330 million in that time"). An object may have several alternative representations, for example a video, captions of the audio, audio description of the video, a series of still images, and textual representations of each of these.

Inserting an element

Inserting an element involves placing that element's markup within the markup of the file. This applies to all insertions, including, but not limited to, direct coding in a text editing mode, choosing an automated insertion from a pull-down menu or tool bar button, "drag-and-drop" style insertions, or "paste" operations.

Editing an element

Editing an element involves making changes to one or more of an element's attributes or properties. This applies to all editing, including, but not limited to, direct coding in a text editing mode, making changes to a property dialog or direct User Interface manipulation.

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.

Markup Language
: The term *markup language* is used in this document to refer to the encoding language of a document, such as HTML, SVG, or MathML.

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.

5. References

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