Summary of User Agent Accessibility Guidelines 1.0

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Abstract

This informative appendix summarizes the principal goals and structure of "User Agent Accessibility Guidelines 1.0" *[UAAG10]* .

Status of this document

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This document is part of a series of accessibility documents published by the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C). WAI Accessibility Guidelines are produced as part of the WAI Technical Activity. The goals of the User Agent Accessibility Guidelines Working Group are described in the charter.

A list of current W3C Recommendations and other technical documents can be found at the W3C Web site.

Introduction

The "User Agent Accessibility Guidelines 1.0" (UAAG 1.0) is the third of a trilogy of accessibility guidelines published by the Web Accessibility Initiative (WAI) of the World Wide Web Consortium. The WAI Guidelines were designed to present a consistent model for Web accessibility in which responsibilities for addressing the needs of users with disabilities are shared (and distributed among) authors, software developers, and specification writers.

The "User Agent Accessibility Guidelines 1.0" explains what software developers can do to improve the accessibility of mainstream browsers and multimedia players so that people with hearing, cognitive, physical, and visual disabilities will have improved access to the World Wide Web. A user agent that conforms to these guidelines will enable access through its own user interface and through other internal facilities, including its ability to communicate with other technologies (especially assistive technologies). UAAG 1.0 is not aimed at developers of assistive technologies (e.g., screen magnifiers, screen readers, speech recognition software, alternative keyboards, braille devices, etc.), although these technologies will be essential to ensuring Web access for some users with disabilities.

UAAG 1.0 is developed by the W3C User Agent Accessibility Guidelines Working Group (UAWG), whose participants include software developers, users with disabilities, and international experts in the field of accessibility technologies.

The other two documents of the WAI Guidelines trilogy are:

- "The Web Content Accessibility Guidelines 1.0" *[WCAG10]* , which explains to authors how to create accessible Web content.
- "The Authoring Tool Accessibility Guidelines 1.0" *[ATAG10]* , which explains to developers how to design authoring tools that are accessible to authors with disabilities, and that produce accessible Web content (i.e., content that conforms to WCAG 1.0).

Accessibility scenarios

The following scenarios show how some of the requirements "User Agent Accessibility Guidelines 1.0" benefit users with disabilities. These and similar scenarios, as well as information about assistive technologies and different types of disabilities, are described in "How People with Disabilities Use the Web"

[PWD-USE-WEB] .

Scenario 1: Keyboard accessibility

Mr. Jones, a reporter for an on-line journal, makes extensive use of the Web to conduct research and to publish articles. Over his twenty-year career, he has developed repetitive stress injury (RSI) in his hands and arms, and it has become painful for him to type. He uses a combination of voice recognition and an alternative keyboard to prepare his articles, but he doesn't use a mouse. One of the requirements of UAAG 1.0 is that a conforming user agent be fully operable through the keyboard and implement conventional keyboard programming interfaces (APIs). Since many alternative input devices make use of conventional keyboard APIs, this allows Mr. Jones to use an alternative keyboard.

Scenario 2: Access to all content

Ms. Martinez is taking several distance learning courses in physics. She is deaf. She had little trouble with the curriculum until the university upgraded their on-line courses to a multimedia approach, using an extensive collection of audio lectures. While the audio benefitted users with blindness and low-vision, and users with reading disabilities, Ms. Martinez required the information in alternative formats. To make the classes more accessible, the university provided text transcripts in addition to the audio versions of the lectures. The university also provided text captions (using SMIL) synchronized with the audio and video of some of the lectures. One of the requirements of UAAG 1.0 is that a conforming user agent display captions and other "conditional content" that authors may have provided to improve accessibility but that is not rendered by default.

Scenario 3: Communication with assistive technologies

Ms. Laitinen is an accountant at an insurance company that uses Web-based formats over a corporate intranet. She is blind. She uses a screen reader in conjunction with a graphical desktop browser and a speech synthesizer. She uses speech output, combined with navigation of the important links on a page, to scan documents rapidly for important information, and has become accustomed to listening to speech output at a speed that her co-workers cannot understand at all.

For Ms. Laitinen it is critical that her desktop browser communicate with available assistive technologies (screen reader, speech synthesizer). UAAG 1.0 includes requirements related to communication (through APIs) and to the implementation of system conventions (which increase the likelihood of interoperability). Communication with her assistive technology does not suffice to make her browser more accessible, however. Some of her other needs that are addressed by UAAG 1.0 include:

- the ability to operate it through the keyboard (since a mouse is almost useless to her);
- the ability to move focus to links and form controls (so that her assistive

technologies know "where she is looking");
- access to descriptions of images and video (since these text descriptions can be read by her speech synthesizer);
- documentation on the accessibility features of her browser.

Checkpoints and Guidelines

The heart of UAAG 1.0 consists of nearly ninety "checkpoints", each of which includes one or more requirements. The checkpoints are ranked according to their importance to accessibility (priority 1 for most important, then priority 2 and 3).

Here is one example of a checkpoint:

1.1 Full keyboard access. (P1)

1. Ensure that the user can operate through keyboard input alone any user agent functionality available through the user interface.

A checkpoint may include more than one requirement, and may also include informative Notes that give examples or further explanation.

Checkpoints are organized into twelve "guidelines". Each guideline expresses a general principle of accessible design. Guideline 1 includes three checkpoints, including checkpoint 1.1. Guideline 1 reads:

> **Guideline 1: Support input and output device-independence.** Ensure that the user can interact with the user agent (and the content it renders) through different input and output devices.

Because people with disabilities may not be able to use certain input (e.g., pointing device) or output modes (e.g., visual, audio), the user agent must be operable through a number of different input and output modes. Keyboard input and text output enable device-independence in today's operating environments, so UAAG 1.0 emphasizes support for these modes.

Please note that the *requirements* of UAAG 1.0 are the checkpoints, not the guidelines.

Techniques

A user agent may satisfy the requirements of UAAG 1.0 in many different ways. The checkpoints of UAAG 1.0 have therefore been written to be independent of specific markup languages (e.g., the Hypertext Markup Language (HTML) or Scalable Vector Graphics (SVG)) and operating systems. To assist developers in understanding how to satisfy the requirements for specific technologies and operating systems, the User Agent Accessibility Guidelines Working Group has published a separate document entitled "Techniques for User Agent Accessibility Guidelines 1.0" *[UAAG10-TECHS]* . The Techniques document includes references to other accessibility resources (such as platform-specific software accessibility guidelines), examples, and

suggestions for approaches that may be part of satisfying the requirements of UAAG 1.0.

Conformance to UAAG 1.0

Conformance to UAAG 1.0 means that a user agent has satisfied a set of the document's requirements. Conformance is expected to be a strong indicator (but not a guarantee) of the accessibility of a user agent.

The conformance model of UAAG 1.0 has been designed to allow different types of user agents with different input and output capabilities to conform. At the same time, the model is designed so that:

- people reading claims can determine whether a conforming user agent is likely to meet their accessibility needs, and
- people can compare claims about different user agents with relative ease.

For instance, user agents with the following capabilities might both conform:

- one user agent supports several audio, image, and video formats, and keyboard input.
- another user agent does not support video output, but supports synthesized speech output instead, and is entirely operable through keyboard and voice input.

UAAG 1.0 includes requirements for conformance *claims*, e.g., version information about the software components that together satisfy the checkpoints, information about the platforms on which they run, information about which markup languages are implemented as part of conformance, which requirements the user agent does not satisfy, and more.

We encourage developers to use the checklist *[UAAG10-CHECKLIST]* appendix to UAAG 1.0 as a tool for evaluating user agents for conformance.

References

For the latest version of any W3C specification please consult the list of W3C Technical Reports at http://www.w3.org/TR.

[ATAG10]
"Authoring Tool Accessibility Guidelines 1.0", J. Treviranus, C. McCathieNevile, I. Jacobs, and J. Richards, eds., 3 February 2000. This W3C Recommendation is http://www.w3.org/TR/2000/REC-ATAG10-20000203/.

[PWD-USE-WEB]
The *How People with Disabilities Use the Web*, J. Brewer. This document provides an introduction to use of the Web by people with disabilities. It is not yet a formal W3C Working Draft.

[UAAG10-CHECKLIST]
An appendix to this document lists all of the checkpoints, sorted by priority. The checklist is available in either tabular form or list form.

[UAAG10-TECHS]
"Techniques for User Agent Accessibility Guidelines 1.0", I. Jacobs, J. Gunderson, E. Hansen, eds. The latest draft of the techniques document is available at http://www.w3.org/TR/UAAG10-TECHS/.

[UAAG10]
"User Agent Accessibility Guidelines 1.0", I. Jacobs, J. Gunderson, E. Hansen, eds. The latest draft of the guidelines is available at http://www.w3.org/TR/UAAG10/.

[WCAG10]
"Web Content Accessibility Guidelines 1.0", W. Chisholm, G. Vanderheiden, and I. Jacobs, eds., 5 May 1999. This W3C Recommendation is http://www.w3.org/TR/1999/WAI-WEBCONTENT-19990505/.