List of Checkpoints for User Agent Accessibility Guidelines 1.0

31 August 2001

This version:
http://www.w3.org/WAI/UA/WD-UAAG10-20010831/uaag10-chklist
(Formats: plain text, PostScript, PDF)
This document is an appendix to:
http://www.w3.org/WAI/UA/WD-UAAG10-20010831/
Latest version of User Agent Accessibility Guidelines 1.0:
http://www.w3.org/WAI/UA/UAAG10/
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Abstract

This document is an appendix to "User Agent Accessibility Guidelines 1.0" *[UAAG10]* . It provides a list of all checkpoints from the User Agent Accessibility Guidelines 1.0, organized by concept, as a checklist for user agent developers. Please refer to the Guidelines document for introductory information, information about related documents, a glossary of terms, and more.

This list may be used to review a tool or set of tools for accessibility. For each checkpoint, indicate whether the checkpoint has been satisfied, has not been satisfied, or is not applicable.

A tabular version of the list of checkpoints is also available (e.g., for printing).

Status of this document

This section describes the status of this document at the time of its publication. Other documents may supersede this document. The latest status of this document series is maintained at the W3C.

This document is an appendix to a Working Draft. It is a draft document and may be updated, replaced or obsoleted 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, or the consensus of, W3C Members.

Please send comments about this document to the public mailing list w3c-wai-ua@w3.org; public archives are available.

This document has been produced as part of the Web Accessibility Initiative. WAI Accessibility Guidelines are produced as part of the WAI Technical Activity. The goal of the WAI User Agent Accessibility Guidelines Working Group is discussed in the Working Group charter.

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

Priorities

Each checkpoint in this document is assigned a priority that indicates its importance for users with disabilities.

Priority 1 (P1)
: This checkpoint **must** be satisfied by user agents, otherwise one or more groups of users with disabilities will find it impossible to access the Web. Satisfying this checkpoint is a basic requirement for enabling some people to access the Web.

Priority 2 (P2)
: This checkpoint **should** be satisfied by user agents, otherwise one or more groups of users with disabilities will find it difficult to access the Web. Satisfying this checkpoint will remove significant barriers to Web access for some people.

Priority 3 (P3)
: This checkpoint **may** be satisfied by user agents to make it easier for one or more groups of users with disabilities to access information. Satisfying this checkpoint will improve access to the Web for some people.

Priority 1 checkpoints

- 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.

  For both content and user agent.
- Checkpoint 1.2 Activate event handlers. (P1)
  1. For the element with content focus, allow the user to activate any explicitly associated input device event handlers through keyboard input alone.
  2. The user agent is not required to allow activation of event handlers associated with a given device (e.g., the pointing device) in any order other

than what the device itself allows.

- Checkpoint 1.3 Provide text messages. (P1)
  1. Ensure that every message (e.g., prompt, alert, notification, etc.) that is a non-text element and is part of the user agent user interface has a text equivalent.

- Checkpoint 2.1 Render content according to specification. (P1)
  1. Render content according to format specification (e.g., for a markup language or style sheet).
  2. When a rendering requirement of another specification contradicts a requirement of the current document, the user agent may disregard the rendering requirement of the other specification and still satisfy this checkpoint.
  3. Rendering requirements include format-defined interactions between author preferences and user preferences/capabilities (e.g., when to render the "`alt`" attribute in HTML, the rendering order of nested `OBJECT` elements in HTML, test attributes in SMIL, and the cascade in CSS2).

- Checkpoint 2.2 Provide text view. (P1)
  1. For content authored in text formats, provide a view of the text source. For the purposes of this document, text formats are defined to be:
     - all media objects given an Internet media type of "text" (e.g., text/plain, text/HTML, or text/*) as defined in RFC 2046 *[RFC2046]* , section 4.1.
     - all SGML and XML applications, regardless of Internet media type (e.g., HTML 4.01, XHTML 1.1, SMIL, SVG, etc.).

- Checkpoint 2.3 Render conditional content. (P1)
  1. Allow configuration to provide access to each piece of unrendered conditional content "C".
  2. The configuration may be a switch that, for all content, turns on or off the access mechanisms described in the next provision.
  3. When a specification does not explain how to provide access to this content, do so as follows:
     - If C is a summary, title, alternative, description, or expansion of another piece of content D, provide access through at least one of the following mechanisms:
       - (1a) render C in place of D;
       - (2a) render C in addition to D;
       - (3a) provide access to C by querying D. In this case, the user agent must also alert the user, on a per-element basis, to the existence of C (so that the user knows to query D);
       - (4a) allow the user to follow a link to C from the context of D.
     - Otherwise, provide access to C through at least one of the following mechanisms:

        - (1b) render a placeholder for C, and allow the user to view the original author-supplied content associated with each placeholder;
        - (2b) provide access to C by query (e.g., allow the user to query an element for its attributes). In this case, the user agent must also alert the user, on a per-element basis, to the existence of C;
        - (3b) allow the user to follow a link in context to C.
    4. To satisfy this checkpoint, the user agent may provide access on a per-element basis (e.g., by allowing the user to query individual elements) or for all elements (e.g., by offering a configuration to render conditional content all the time).

    For all content.
- Checkpoint 2.4 Allow time-independent interaction. (P1)
    1. For rendered content where user input is only possible within a finite time interval controlled by the user agent, allow configuration to provide a view where user interaction is time-independent.
    2. The user agent may satisfy this checkpoint by pausing processing automatically to allow for user input, and resuming processing on explicit user request. When this technique is used, pause at the end of each time interval where user input is possible. In the paused state:
        - Alert the user that the rendered content has been paused (e.g., highlight the "pause" button in a multimedia player's control panel).
        - Highlight which enabled elements are time-sensitive.
        - Allow the user to interact with the enabled elements.
        - Allow the user to resume on explicit user request (e.g., by pressing the "play" button in a multimedia player's control panel; see also checkpoint 4.5).
    3. The user agent may satisfy this checkpoint by generating a time-independent ("static") view, based on the original content, that offers the user the same opportunities for interaction. The static view should reflect the structure and flow of the original time-sensitive presentation; orientation cues will help users understand the context for various interaction opportunities.
    4. When satisfying this checkpoint for a real-time presentation, the user agent may discard packets that continue to arrive after the construction of the time-independent view (e.g., when paused or after the construction of a static view).

- Checkpoint 2.5 Make captions, transcripts available. (P1)
    1. Allow configuration or control to render text transcripts, collated text transcripts, captions, and auditory descriptions at the same time as the associated audio tracks and visual tracks.

    For all content.
    Content type labels: Video, Audio.
- Checkpoint 2.6 Respect synchronization cues. (P1)
    1. Respect synchronization cues (e.g., in markup) during rendering.

Content type labels: Video, Audio.

- Checkpoint 3.1 Toggle background images. (P1)
  1. Allow configuration not to render background image content.
  2. In this configuration, the user agent is not required to retrieve background images from the Web.
  3. This checkpoint only requires control of background images for "two-layered renderings", i.e., one rendered background image with all other content rendered "above it".

Content type labels: Image.

- Checkpoint 3.2 Toggle audio, video, animated images. (P1)
  1. Allow configuration not to render audio, video, or animated image content, except on explicit user request. This configuration is required for content rendered without any user interaction (including content rendered on load or as the result of a script), as well as content rendered as the result of user interaction (e.g., when the user activates a link).
  2. The user agent may satisfy this checkpoint by making video and animated images invisible and audio silent, but this technique is not recommended.
  3. When configured not to render content except on explicit user request, the user agent is not required to retrieve the audio, video, or animated image from the Web until requested by the user.

Content type labels: Animation, Video, Audio.

- Checkpoint 3.3 Toggle animated/blinking text. (P1)
  1. Allow configuration to render animated or blinking text content. as motionless, unblinking text. Blinking text is text whose visual rendering alternates between visible and invisible, any rate of change.
  2. In this configuration, the user must still have access to the same text content, but the user agent may render it in a separate viewport (e.g., for large amounts of streaming text).
  3. The user agent also satisfies this checkpoint by always rendering animated or blinking text as motionless, unblinking text.

Content type labels: VisualText.

- Checkpoint 3.4 Toggle scripts. (P1)
  1. Allow configuration not to execute any executable content (e.g., scripts and applets).
  2. In this configuration, provide an option to alert the user when executable content is available (but has not been executed).
  3. The user agent is only required to alert the user to the presence of more than zero scripts or applets (i.e., per-element alerts are not required).

- Checkpoint 3.5 Toggle content refresh. (P1)
  1. Allow configuration so that the user agent only refreshes content on explicit

user request.
2. In this configuration, alert the user of the refresh rate specified in content, and allow the user to request fresh content manually (e.g., by following a link or confirming a prompt).
3. When the user chooses not to refresh content, the user agent may ignore that content; buffering is not required.
4. This checkpoint only applies when the user agent (not the server) automatically initiates the request for fresh content.

- Checkpoint 4.1 Configure text size. (P1)
  1. Allow global configuration of the reference size of visually rendered text, with an option to override reference sizes specified by the author or user agent defaults.
  2. Offer a range of text sizes to the user that includes at least:
     - the range offered by the conventional utility available in the operating environment that allows users to choose the text size (e.g., the font size),
     - or, if no such utility is available, the range of text sizes supported by the conventional APIs of the operating environment for drawing text.

  Content type labels: VisualText.
- Checkpoint 4.2 Configure font family. (P1)
  1. Allow global configuration of the font family of all visually rendered text, with an option to override font families specified by the author or by user agent defaults.
  2. Offer a range of font families to the user that includes at least:
     - the range offered by the conventional utility available in the operating environment that allows users to choose the font family,
     - or, if no such utility is available, the range of font families supported by the conventional APIs of the operating environment for drawing text.
  3. For text that cannot be rendered properly using the user's preferred font family, the user agent may substitute an alternative font family.

  Content type labels: VisualText.
- Checkpoint 4.3 Configure text colors. (P1)
  1. Allow global configuration of the foreground and background color of all visually rendered text, with an option to override foreground and background colors specified by the author or user agent defaults.
  2. Offer a range of colors to the user that includes at least:
     - the range offered by the conventional utility available in the operating environment that allows users to choose colors,
     - or, if no such utility is available, the range of colors supported by the conventional APIs of the operating environment for specifying colors.

  Content type labels: ColorText.

- Checkpoint 4.4 Slow multimedia. (P1)
  1. Allow the user to slow the presentation rate of rendered audio and animations (including video and animated images).
  2. For a visual track, provide at least one setting between 40% and 60% of the original speed.
  3. For a prerecorded audio track including audio-only presentations, provide at least one setting between 75% and 80% of the original speed.
  4. When the user agent allows the user to slow the visual track of a synchronized multimedia presentation to between 100% and 80% of its original speed, synchronize the visual and audio tracks. Below 80%, the user agent is not required to render the audio track.
  5. The user agent is not required to satisfy this checkpoint for audio and animations whose recognized role is to create a purely stylistic effect.

  Content type labels: Animation, Audio.
- Checkpoint 4.5 Start, stop, pause, advance, reverse multimedia. (P1)
  1. Allow the user to stop, pause, and resume rendered audio and animations (including video and animated images) that last three or more seconds at their default playback rate.
  2. Allow the user to navigate efficiently within audio and animations (including video and animated images) that last three or more seconds at their default playback rate. The user agent may satisfy this requirement through forward and backward sequential access techniques (e.g., advance three seconds), or direct access techniques (e.g., play starting at the 10-minute mark), or some combination.
  3. When serial techniques are used to satisfy the previous requirement, the user agent is not required to play back content during serial advance or rewind (though doing so may help orient the user).
  4. The user agent is not required to satisfy this checkpoint for audio and animations whose recognized role is to create a purely stylistic effect.
  5. When the user pauses a real-time audio or animation, the user agent may discard packets that continue to arrive during the pause.

  Content type labels: Animation, Audio.
- Checkpoint 4.6 Position captions. (P1)
  1. For graphical viewports, allow the user to position rendered captions with respect to synchronized visual tracks as follows:
     - if the user agent satisfies this checkpoint by using a markup language or style sheet language to provide configuration or control, then the user agent must allow the user to choose from among at least the range of positions enabled by the format
     - otherwise the user agent must allow both non-overlapping and overlapping positions (e.g., by rendering captions in a separate viewport that may be positioned on top of the visual track).
  2. In either case, the user agent must allow the user to override the author's

specified position.
3. The user agent is not required to change the layout of other content (i.e., reflow) after the user has changed the position of captions.
4. The user agent is not required to make the captions background transparent when those captions are rendered above a related video track.

- Checkpoint 4.9 Global volume control. (P1)
  1. Allow global configuration of the volume of all rendered audio, with an option to override audio volumes specified by the author or user agent defaults.
  2. Allow the user to choose zero volume (i.e., silent).

  Content type labels: Audio.
- Checkpoint 4.10 Independent volume control. (P1)
  1. Allow independent control of the volumes of rendered audio sources synchronized to play simultaneously.
  2. The user agent is not required to satisfy this checkpoint for audio whose recognized role is to create a purely stylistic effect.
  3. The user control required by this checkpoint includes the ability to override author-specified volumes for the relevant sources of audio.

  Content type labels: Audio.
- Checkpoint 4.12 Configure synthesized speech rate. (P1)
  1. Allow configuration of the synthesized speech rate, according to the full range offered by the speech synthesizer.

  Content type labels: Speech.
- Checkpoint 4.13 Configure synthesized speech volume. (P1)
  1. Allow control of the synthesized speech volume, independent of other sources of audio.
  2. The user control required by this checkpoint includes the ability to override author-specified synthesized speech volume.

  Content type labels: Speech.
- Checkpoint 4.14 Configure synthesized speech characteristics. (P1)
  1. Allow configuration of synthesized speech characteristics according to the full range of values offered by the speech synthesizer.

- Checkpoint 4.17 Choose style sheets. (P1)
  1. For user agents that support style sheets:
     - Allow the user to choose from and apply available author style sheets (in content).
     - Allow the user to choose from and apply available user style sheets.
     - Allow the user to ignore author and user style sheets.

- Checkpoint 6.1 DOM read access. (P1)
  1. Provide programmatic read access to HTML and XML content by conforming to the following modules of the W3C Document Object Model DOM Level 2 Core Specification *[DOM2CORE]* and exporting the interfaces they define:
     - the Core module for HTML;
     - the Core and XML modules for XML.

- Checkpoint 6.2 DOM write access. (P1)
  1. If the user can modify HTML and XML content through the user interface, provide the same functionality programmatically by conforming to the following modules of the W3C Document Object Model DOM Level 2 Core Specification *[DOM2CORE]* and exporting the interfaces they define:
     - the Core module for HTML;
     - the Core and XML modules for XML.

- Checkpoint 6.3 Programmatic access to non-HTML/XML content. (P1)
  1. For markup languages other than HTML and XML, provide programmatic read access to content.
  2. Provide programmatic write access for those parts of content that the user can modify through the user interface. To satisfy these requirements, implement at least one API that is either
     - defined by a W3C Recommendation, or
     - a publicly documented API designed to enable interoperability with assistive technologies.
  3. If no such API is available, or if available APIs do not enable the user agent to satisfy the requirements, implement at least one publicly documented API to satisfy the requirements, *and* follow operating environment conventions for the use of input and output APIs.
  4. An API is considered available if the specification of the API is published (e.g., as a W3C Recommendation) in time for integration into a user agent's development cycle.

- Checkpoint 6.4 Programmatic operation. (P1)
  1. Provide programmatic read access to user agent user interface controls.
  2. Provide programmatic write access for those controls that the user can modify through the user interface. For security reasons, user agents are not required to allow instructions in content to modify user agent user interface controls.
  3. To satisfy these requirements, implement at least one API that is either
     - defined by a W3C Recommendation, or
     - a publicly documented API designed to enable interoperability with assistive technologies.
  4. If no such API is available, or if available APIs do not enable the user agent to satisfy the requirements, implement at least one publicly documented

API that allows programmatic operation of all of the functionalities that are available through the user agent user interface, *and* follow operating environment conventions for the use of input and output APIs.
5. An API is considered available if the specification of the API is published (e.g., as a W3C Recommendation) in time for integration into a user agent's development cycle.

For user agent features.

- Checkpoint 6.5 Programmatic alert of changes. (P1)
  1. Provide programmatic alert of changes to content, user interface controls, selection, content focus, and user interface focus.
  2. To satisfy these requirements, implement at least one API that is either
     - defined by a W3C Recommendation, or
     - a publicly documented API designed to enable interoperability with assistive technologies.
  3. If no such API is available, or if available APIs do not enable the user agent to satisfy the requirements, implement at least one publicly documented API to satisfy the requirements, *and* follow operating environment conventions for the use of input and output APIs.
  4. An API is considered available if the specification of the API is published (e.g., as a W3C Recommendation) in time for integration into a user agent's development cycle.

  For both content and user agent.
- Checkpoint 6.6 Conventional keyboard APIs. (P1)
  1. Follow operating environment conventions when implementing APIs for the keyboard.
  2. If such APIs for the keyboard do not exist, implement publicly documented APIs for the keyboard.

- Checkpoint 6.7 API character encodings. (P1)
  1. For an API implemented to satisfy requirements of this document, support the character encodings required for that API.

  For both content and user agent.
- Checkpoint 7.1 Focus and selection conventions. (P1)
  1. Follow operating environment conventions that benefit accessibility when implementing the selection, content focus, and user interface focus.

- Checkpoint 7.2 Respect input configuration conventions. (P1)
  1. Ensure that default input configurations of the user agent do not interfere with operating environment accessibility conventions (e.g., for keyboard accessibility).

  For user agent features.
- Checkpoint 8.1 Implement accessibility features. (P1)
  1. Implement the accessibility features of specifications (markup languages, style sheet languages, metadata languages, graphics formats, etc.). For the purposes of this checkpoint, an accessibility feature is either

    - one identified as such, or
    - one that allows the author to satisfy any requirement of the "Web Content Accessibility Guidelines 1.0" *[WCAG10]* .

  For all content.

- Checkpoint 9.1 Provide content focus. (P1)
  1. Provide at least one content focus for each viewport (including frames) where enabled elements are part of the rendered content.
  2. Allow the user to make the content focus of each viewport the current focus.

- Checkpoint 9.2 Provide user interface focus. (P1)
  1. Provide a user interface focus.

- Checkpoint 9.3 Move content focus. (P1)
  1. Allow the user to move the content focus to any enabled element in the viewport.
  2. Allow configuration so that the content focus of a viewport only changes on explicit user request. Configuration is not required if the content focus only ever changes on explicit user request. See also checkpoint 5.1.
  3. If the author has not specified a navigation order, allow at least forward sequential navigation to each element, in document order.
  4. The user agent may also include disabled elements in the navigation order.

- Checkpoint 9.4 Restore history. (P1)
  1. For user agents that implement a viewport history mechanism, for each state in a viewport's browsing history, maintain information about the point of regard, content focus, and selection.
  2. When the user returns to any state in the viewport history, restore the saved values for these three state variables.

- Checkpoint 10.1 Table orientation. (P1)
  1. Make available to the user the purpose of each rendered table (e.g., as expressed in a summary or table caption) and the relationships among the table cells and headers.

- Checkpoint 10.2 Highlight selection and content focus. (P1)
  1. Provide a mechanism for highlighting the selection and content focus of each viewport.
  2. The highlight mechanism must not rely on color alone.
  3. Allow global configuration of selection and focus highlight styles.
  4. For graphical viewports, if the highlight mechanism involves colors or text decorations, offer a range of colors or text decorations to the user that includes at least:
     - the range offered by the conventional utility available in the operating environment that allows users to choose colors or text decorations,

    - or, if no such utility is available, the range of colors or text decorations supported by the conventional APIs of the operating environment for specifying colors or drawing text.

- Checkpoint 10.3 Distinct default highlight styles. (P1)
  1. Ensure that all of the default highlight styles for the selection and content focus, as well as for enabled elements, recently visited links, and fee links in rendered content:
     - do not rely on color alone, and
     - differ from each other, and not by color alone.
  2. This checkpoint does not apply to those highlight styles inherited from the operating environment as default values, as long as the user can change the styles in the operating environment.

- Checkpoint 10.7 Highlight current viewport. (P1)
  1. Provide a mechanism for highlighting the viewport with the current focus (including any frame that takes current focus).
  2. For graphical viewports, the default highlight mechanism must not rely on color alone.
  3. This default color requirement does not apply if the highlight mechanism is inherited from the operating environment as the default and the user can change it in the operating environment.

- Checkpoint 11.1 Current user bindings. (P1)
  1. Provide information to the user about current user preferences for input configurations.
  2. To satisfy this checkpoint, the user agent may make available binding information in a centralized fashion (e.g., a list of bindings) or a distributed fashion (e.g., by listing keyboard shortcuts in user interface menus).

  For user agent features.
- Checkpoint 12.1 Accessible documentation. (P1)
  1. Ensure that at least one version of the user agent documentation conforms to at least Level Double-A of the Web Content Accessibility Guidelines 1.0 *[WCAG10]* .

  For user agent features.
- Checkpoint 12.2 Document accessibility features. (P1)
  1. Document all user agent features that benefit accessibility.
  2. For the purposes of this checkpoint, a user agent feature that benefits accessibility is one implemented to satisfy the requirements of this document (including the requirements of checkpoints 8.1 and 7.3).
  3. The user agent may satisfy this checkpoint either by
     - providing a centralized view of the accessibility features, or
     - integrating accessibility features into the rest of the documentation.

  For user agent features.
- Checkpoint 12.3 Document default bindings. (P1)

1. Document the default user agent input configuration (e.g., the default keyboard bindings).

For user agent features.

Priority 2 checkpoints

- Checkpoint 2.7 Repair missing content. (P2)
  1. Allow configuration to generate repair text when the user agent recognizes that the author has failed to provide conditional content that was required by the format specification.
  2. The user agent may satisfy this checkpoint by basing the repair text on any of the following available sources of information: URI reference, content type, or element type.

  For all content.
- Checkpoint 3.6 Toggle redirects. (P2)
  1. Allow configuration so that a "client-side redirect" (i.e., one initiated by the user agent, not the server) only changes content on explicit user request.
  2. Allow the user to access the new content on demand (e.g., by following a link or confirming a prompt).
  3. The user agent is not required to provide these functionalities for client-side redirects specified to occur instantaneously (i.e., after no delay).

- Checkpoint 3.7 Toggle images. (P2)
  1. Allow configuration not to render image content.
  2. The user agent may satisfy this checkpoint by making images invisible, but this technique is not recommended.

  Content type labels: Image.
- Checkpoint 4.7 Slow other multimedia. (P2)
  1. Allow the user to slow the presentation rate of rendered audio and animations (including video and animated images) not covered by checkpoint 4.4.
  2. The same speed percentage requirements of checkpoint 4.4 apply.

  Content type labels: Animation, Audio.
- Checkpoint 4.8 Control other multimedia. (P2)
  1. Allow the user to stop, pause, resume, fast advance, and fast reverse rendered audio and animations (including video and animated images) not covered by checkpoint 4.5.

  Content type labels: Animation, Audio.
- Checkpoint 4.11 Control other volume. (P2)
  1. Allow independent control of the volumes of rendered audio sources synchronized to play simultaneously that are not covered by checkpoint 4.10.

Content type labels: Audio.

- Checkpoint 4.15 Specific synthesized speech characteristics. (P2)
  1. Allow configuration of the following synthesized speech characteristics: pitch, pitch range, stress, richness.
  2. Pitch refers to the average frequency of the speaking voice.
  3. Pitch range specifies a variation in average frequency.
  4. Stress refers to the height of "local peaks" in the intonation contour of the voice.
  5. Richness refers to the richness or brightness of the voice.

Content type labels: Speech.

- Checkpoint 4.16 Configure synthesized speech features. (P2)
  1. Provide support for user-defined extensions to the synthesized speech dictionary, as well as the following functionalities:
     - spell-out: spell text one character at a time or according to language-dependent pronunciation rules;
     - speak-numeral: speak a numeral as individual digits or as a full number; and
     - speak-punctuation: speak punctuation literally or render as natural pauses.

- Checkpoint 5.1 No automatic content focus change. (P2)
  1. Allow configuration so that if a viewport opens without explicit user request, its content focus does not automatically become the current focus.
  2. Configuration is preferred, but is not required if the content focus can only ever be moved on explicit user request.

- Checkpoint 5.2 Keep viewport on top. (P2)
  1. For graphical user interfaces, allow configuration so that the viewport with the current focus remains "on top" of all other viewports with which it overlaps.

- Checkpoint 5.3 Manual viewport open only. (P2)
  1. Allow configuration so that viewports only open on explicit user request.
  2. In this configuration, instead of opening a viewport automatically, alert the user and allow the user to open it on demand (e.g., by following a link or confirming a prompt).
  3. Allow the user to close viewports.
  4. If a viewport (e.g., a frame set) contains other viewports, these requirements only apply to the outermost container viewport.
  5. Configuration is preferred, but is not required if viewports can only ever open on explicit user request.
  6. User creation of a new viewport (e.g., empty or with a new resource loaded) through the user agent’s user interface constitutes an explicit user request.

- Checkpoint 5.4 Selection and focus in viewport. (P2)
  1. Ensure that when a viewport's selection or content focus changes, it is at least partially in the viewport after the change.

- Checkpoint 5.5 Confirm form submission. (P2)
  1. Allow configuration to prompt the user to confirm (or cancel) any form submission.
  2. Configuration is preferred, but it not required if forms can only ever be submitted on explicit user request.

- Checkpoint 5.6 Confirm fee links. (P2)
  1. Allow configuration to prompt the user to confirm (or cancel) any payment that results from activation of a fee link.
  2. Configuration is preferred, but is not required if fee links can only ever be activated on explicit user request.

- Checkpoint 6.8 DOM CSS access. (P2)
  1. For user agents that implement Cascading Style Sheets (CSS), provide programmatic access to those style sheets in content by conforming to the CSS module of the W3C Document Object Model (DOM) Level 2 Style Specification *[DOM2STYLE]* and exporting the interfaces it defines.
  2. For the purposes of satisfying this checkpoint, Cascading Style Sheets (CSS) are defined by either CSS Level 1 *[CSS1]* or CSS Level 2 *[CSS2]* .

- Checkpoint 6.9 Timely access. (P2)
  1. Ensure that programmatic exchanges proceed in a timely manner.

  For both content and user agent.
- Checkpoint 7.3 Operating environment conventions. (P2)
  1. Follow operating environment conventions that benefit accessibility. In particular, follow conventions that benefit accessibility for user interface design, keyboard configuration, product installation, and documentation.
  2. For the purposes of this checkpoint, an operating environment convention that benefits accessibility is either
     - one identified as such in operating environment design or accessibility guidelines, or
     - one that allows the author to satisfy any requirement of the "Web Content Accessibility Guidelines 1.0" *[WCAG10]* or of the current document.

  For user agent features.
- Checkpoint 7.4 Input configuration indications. (P2)
  1. Follow operating environment conventions to indicate the input configuration.

  For user agent features.
- Checkpoint 8.2 Conform to specifications. (P2)

1. Use and conform to either
    - W3C Recommendations when they are available and appropriate for a task, or
    - non-W3C specifications that enable the creation of content that conforms at level A or better to the Web Content Accessibility Guidelines 1.0 *[WCAG10]* .
2. When a requirement of another specification contradicts a requirement of the current document, the user agent may disregard the requirement of the other specification and still satisfy this checkpoint.
3. A specification is considered available if it is published (e.g., as a W3C Recommendation) in time for integration into a user agent's development cycle.

For all content.

- Checkpoint 9.5 No events on focus change. (P2)
    1. Allow configuration so that moving the content focus to or from an enabled element does not automatically activate any explicitly associated event handlers.

- Checkpoint 9.6 Show event handlers. (P2)
    1. For the element with content focus, make available the list of input device event handlers explicitly associated with the element.

- Checkpoint 9.7 Move content focus optimally. (P2)
    1. Allow the user to move the content focus to any enabled element in the viewport.
    2. If the author has not specified a navigation order, allow at least forward and reverse sequential navigation to each element, in document order.
    3. The user agent must not include disabled elements in the navigation order.

- Checkpoint 9.8 Text search. (P2)
    1. Allow the user to search within rendered text for a sequence of characters from the document character set.
    2. Allow the user to start a forward search (in document order) from any selected or focused location in content.
    3. When there is a match do both of the following:
        - move the viewport so that the matched text content is within it, and
        - allow the user to search for the next instance of the text from the location of the match.
    4. Alert the user when there is no match, when the search reaches the end of content, and prior to any wrapping. A wrapping search is one that restarts automatically at the beginning of content once the end of content has been reached.
    5. Provide a case-insensitive search option for text in scripts (i.e., writing systems) where case is significant.

    For all rendered content.

- Checkpoint 9.9 Structured navigation. (P2)
  1. Allow the user to navigate efficiently to and among important structural elements in rendered content.
  2. Allow forward and backward sequential navigation to these important structural elements.

- Checkpoint 10.4 Highlight special elements. (P2)
  1. Provide a mechanism for highlighting all enabled elements, recently visited links, and fee links in rendered content.
  2. Allow the user to configure the highlight styles. The highlight mechanism must not rely on color alone.
  3. For graphical viewports, if the highlight mechanism involves text size, font family, colors, or text decorations, offer the corresponding range of values required by checkpoint 4.1, checkpoint 4.2, checkpoint 4.3, or checkpoint 10.2.
  4. For a graphically rendered enabled elements, highlight the most specific rendered element that:
     - encompasses the enabled element, and
     - is rendered as a coherent unit according to specification.

     For example, an HTML user agent rendering a PNG image as part of an image map is only required to highlight the image as a whole, not each enabled region. On the other hand, an SVG user agent rendering an SVG image with embedded graphical links is required to highlight each graphical link that may be rendered independently according to the SVG specification.

- Checkpoint 10.5 Outline view. (P2)
  1. Make available to the user an "outline" view of content, composed of labels for important structural elements (e.g., heading text, table titles, form titles, etc.).
  2. What constitutes a label is defined by each markup language specification. A label is not required to be text only.

- Checkpoint 11.2 Current author bindings. (P2)
  1. Provide a centralized view of the current author-specified input configuration bindings.
  2. The user agent may satisfy this checkpoint by providing different views for different input modalities (keyboard, pointing device, voice, etc.).

  For all content.
- Checkpoint 11.3 Override bindings. (P2)
  1. Allow the user to override any binding that is part of the user agent default input configuration.
  2. The user agent is not required to allow the user to override conventional bindings for the operating environment (e.g., for access to help).
  3. The override requirement only applies to bindings for the same input

modality (e.g., the user must be able to override a keyboard binding with another keyboard binding).

For user agent features.

- Checkpoint 11.4 Single key access. (P2)
  1. Allow the user to override any binding in the user agent default keyboard configuration with a binding to either a key plus modifier keys or to a single-key. In this checkpoint, "key" refers to a physical key of the keyboard (rather than, say, a character of the document character set).
  2. For each functionality in the set required by checkpoint 11.5, allow the user to configure a single-key binding (i.e., one key press performs the task, with zero modifier keys).
  3. If the number of physical keys on the keyboard is less than the number of functionalities required by checkpoint 11.5, allow single-key bindings for as many of those functionalities as possible.
  4. The single-key binding requirements may be satisfied with a "single-key mode" (i.e., a mode where the current bindings are replaced by a set of single-key bindings).
  5. The user agent is not required to allow the user to override conventional bindings for the operating environment (e.g., for access to help).
  6. This checkpoint does not require single physical key bindings for character input, only for the activation of user agent functionalities.

  For user agent features.
- Checkpoint 11.5 Default binding requirements. (P2)
  1. Ensure that the user agent default input configuration includes bindings for the following functionalities required by other checkpoints in this document:
     - move focus to next enabled element, and move focus to previous enabled element;
     - activate focused link;
     - search for text;
     - search again for same text;
     - increase size of rendered text, and decrease size of rendered text;
     - increase global volume, and decrease global volume;
     - stop, pause, resume, fast advance, and fast reverse selected audio and animations (including video and animated images).
  2. If the user agent supports the following functionalities, the default input configuration must also include bindings for them:
     - next history state (forward), and previous history state (back);
     - enter URI for new resource;
     - add to favorites (i.e., bookmarked resources);
     - view favorites;
     - stop loading resource;
     - reload resource;
     - refresh rendering;
     - forward one viewport, and back one viewport;
     - next line, and previous line.

For user agent features.

- Checkpoint 11.6 User profiles. (P2)
  1. For the configuration requirements of this document, allow the user to save user preferences in at least one user profile.
  2. Allow the user to choose from among available default profiles, profiles created by the same user, and no profile (i.e., the user agent default settings).

  For user agent features.
- Checkpoint 12.4 Document changes. (P2)
  1. Document changes from the previous version of the user agent to accessibility features, including accessibility features of the user interface.
  2. Accessibility features are those defined in checkpoint 12.2.

  For user agent features.
- Checkpoint 12.5 Dedicated section on accessibility. (P2)
  1. Provide a centralized view of all features of the user agent that benefit accessibility in a dedicated section of the documentation.
  2. The features that benefit accessibility are those defined in checkpoint 12.2.

  For user agent features.

Priority 3 checkpoints

- Checkpoint 2.8 No repair text. (P3)
  1. Allow at least two configurations for when the user agent recognizes that conditional content required by the format specification is present but empty:
     - generate no repair text, or
     - generate repair as described in checkpoint 2.7.

  For all content.
- Checkpoint 2.9 Render conditional content automatically. (P3)
  1. Allow configuration to render all conditional content automatically. The user agent is not required to render all conditional content at the same time in a single viewport.
  2. Provide access to this content according to format specifications or where unspecified, by applying one of the techniques described in checkpoint 2.3: 1a, 2a, or 1b.

  For all content.
- Checkpoint 2.10 Toggle placeholders. (P3)
  1. Once the user has viewed the original author-supplied content associated with a placeholder, allow the user to turn off the rendering of the author-supplied content.

- Checkpoint 2.11 Alert unsupported language. (P3)
  1. Allow configuration not to render content in unsupported natural languages, when that content would otherwise be rendered. Content "in a natural language" includes pre-recorded spoken language and text in a given

script, i.e., writing system.
2. Indicate to the user in context that author-supplied content has not been rendered.
3. This checkpoint does not require the user agent to allow different configurations for different natural languages.

- Checkpoint 5.7 Manual viewport close only. (P3)
  1. Allow configuration to prompt the user to confirm (or cancel) closing any viewport that starts to close without explicit user request.

- Checkpoint 9.10 Configure important elements. (P3)
  1. Allow configuration of the set of important elements required by checkpoint 9.9 and checkpoint 10.5.
  2. Allow the user to include and exclude element types in the set of elements.

- Checkpoint 10.6 Provide link information. (P3)
  1. To help the user decide whether to traverse a link, make available the following information about it:
     - link element content,
     - link title,
     - whether the link is internal to the resource (e.g., the link is to a target in the same Web page),
     - whether the user has traversed the link recently,
     - whether traversing it may involve a fee, and
     - information about the type, size, and natural language of linked Web resources.
  2. The user agent is not required to compute or make available information that requires retrieval of linked Web resources.

- Checkpoint 10.8 Indicate rendering progress. (P3)
  1. Indicate the viewport's position relative to rendered content (e.g., the proportion of an audio or video clip that has been played, the proportion of a Web page that has been viewed, etc.).
  2. The user agent may calculate the relative position according to content focus position, selection position, or viewport position, depending on how the user has been browsing.
  3. For two-dimensional renderings, relative position includes both vertical and horizontal positions.
  4. The user agent may indicate the proportion of content viewed in a number of ways, including as a percentage, as a relative size in bytes, etc.

- Checkpoint 11.7 Configure tool bars. (P3)
  1. For graphical user interfaces, allow the user to configure the position of controls on tool bars of the user agent user interface, to add or remove controls for the user interface from a predefined set, and to restore the

default user interface.
For user agent features.

References

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

[CSS1]
"CSS, level 1 Recommendation", B. Bos, H. Wium Lie, eds., 17 December 1996, revised 11 January 1999. This W3C Recommendation is http://www.w3.org/TR/1999/REC-CSS1-19990111.

[CSS2]
"CSS, level 2 Recommendation", B. Bos, H. Wium Lie, C. Lilley, and I. Jacobs, eds., 12 May 1998. This W3C Recommendation is http://www.w3.org/TR/1998/REC-CSS2-19980512/.

[DOM2CORE]
"Document Object Model (DOM) Level 2 Core Specification", A. Le Hors, P. Le Hégaret, L. Wood, G. Nicol, J. Robie, M. Champion, S. Byrne, eds., 13 November 2000. This W3C Recommendation is http://www.w3.org/TR/2000/REC-DOM-Level-2-Core-20001113/.

[DOM2STYLE]
"Document Object Model (DOM) Level 2 Style Specification", V. Apparao, P. Le Hégaret, C. Wilson, eds., 13 November 2000. This W3C Recommendation is http://www.w3.org/TR/2000/REC-DOM-Level-2-Style-20001113/.

[RFC2046]
"Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types", N. Freed, N. Borenstein, November 1996.

[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/WAI/UA/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/.