



## Section 508 Checklist for §1194.21 Software Applications and Operating Systems

For more information on the Standard refer to the United States Access Board description at the following URL:  
<http://www.access-board.gov/sec508/guide/1194.21.htm>.

ID	1194.21 Standard Criteria & Checklist Questions	Evaluation
(a)	<b>When software is designed to run on a system that has a keyboard, product functions shall be executable from a keyboard where the function itself or the result of performing a function can be discerned textually.</b>	
a.1	Can you navigate and use all aspects of the application with the keyboard?	
a.2	Does the program provide clear and precise instructions for use of all keyboard functions as part of the user documentation?	
a.3	Does the tested application provide hotkeys for commonly used shortcuts within menus? For example, can a user quickly navigate menus with hotkeys and commonly used commands?	
a.4	Does the tested application provide hotkeys to controls within a screen when the control provides a useful benefit and does not conflict with menu hotkeys? For example, can commonly used menu or other controls on-screen be accessed via keyboard?	
a.5	Can mouseover functions be used with a keyboard?	

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a.6	Does the application use industry standards when assigning keyboard equivalent shortcut or hotkeys? For example, does the program insure that the shortcuts used do not conflict with commonly used keys like Ctrl+C for copy?	
a.7	Does the software have a logical tabbing order among fields, text boxes, and focal points? For example, when tabbing, does the tab order go from the top of the screen to the bottom of the screen from left to right?	
a.8	Can toolbar functionality be accessed via menus, hotkeys, or keyboard shortcuts?	
a.9	Can all items be selected, whether it is a list box, radio button, or checkbox without auto-selection? For example, if focus is placed on a checkbox, is the checkbox automatically selected?	
a.10	Is it possible for a user to become stuck on a control? For example, if focus is placed on a control via the keyboard, is a keyboard user able to move focus away from the control without the use of a pointing device?	
a.11	Are there alternative methods for displaying tooltip information via the keyboard?	
a.12	Can a keyboard user access all dialogs and window system menu functions that provide moving, sizing, restoring, minimizing, maximizing, and closing capabilities?	
a.13	Does focus properly track keyboard operations? For example, when a user presses tab, shift tab or arrow keys, does programmatic focus follow keyboard use?	
a.14	Can arrow keys or tab keys navigate in the specified controls?	
a.15	Are any application assigned hotkeys conflicting with system hotkeys? Hotkeys must be assigned to commonly used control elements or tabs to provide comparable mouse access.	

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a.16	Is there tabbing which results in excessive keystrokes to activate an element?	
a.17	Are hotkeys assigned to links used repeatedly on more than one screen or identical links used as templates for multiple applications?	
a.18	Does the software support existing accessibility features built into the operating system (e.g., sticky keys, slow keys, repeat keys)?	
a.19	Are all dynamically produced text and controls accessible with the keyboard?	
a.20	Are reserved words avoided in the application? For example, browser reserved words, like but not limited to Help, Favorites, and View, if used within the application must have a modifier word providing voice input users a unique command. (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
a.21	Are buttons accessible through voice commands? Screen text cannot differ from button title attributes. (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
(b)	<b>Applications shall not disrupt or disable activated features of other products that are identified as accessibility features, where those features are developed and documented according to industry standards. Applications also shall not disrupt or disable activated features of any operating system that are identified as accessibility features where the application programming interface for those accessibility features has been documented by the manufacturer of the operating system and is available to the product developer.</b>	
b.1	Does this application interfere with the normal operation of assistive technology? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	

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b.2	Can assistive technology operate within all other open applications? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
b.3	Can built in accessibility features operate with assistive technology?	
b.4	Does the application honor operating system settings?	
b.5	Does the application disable the ability to use operating system selectable colors?	
b.6	Can a user control the size of the objects on the screen?	
b.7	Is it possible to resize windows? For example, are there options for either scaling the contents or displaying more information?	
b.8	Can a user use scroll bars when the content will no longer fit?	
b.9	If the application produces a sound, the sound must not be used as the only indicator?	
b.10	Does the software support the "show sounds" feature or equivalent where it is built into the operating system?	
b.11	Can the user disable or adjust sound volume?	
b.12	If information is provided in an audio format, is it also capable of being displayed by the user in a visual format?	

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(c)	<b>A well-defined on-screen indication of the current focus shall be provided that moves among interactive interface elements as the input focus changes. The focus shall be programmatically exposed so that assistive technology can track focus and focus changes.</b>	
c.1	Does the application have well defined focus?	
c.2	Do interface elements (e.g. button/link) move focus when selected to the resultant action of that element (e.g. selecting a folder moves focus to Open File dialog box)?	
c.3	Does the focus move to the results of a search? The next tab must move to the first successful “hit” or back to Search files if no hits are found.	
c.4	When using the Help utilities (where frames are used), does the focus move to the contents frame/pane when keywords or content subjects are selected?	
c.5	Is there logical navigational capability to move using keyboard/voice commands from frame to frame and/or control to control? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
c.6	Can keyboard/voice commands control focus to usable parts of an application/screen? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
c.7	Does focus only change in one place at a time on the screen? Focus cannot be changed in two places concurrently. For example, does filling in a checkbox change the focus on the screen without notifying the user?	
c.8	If data is auto-populated based on a selection made, does the new or changed data occur after the event that caused the change, and not above it, and is the user of assistive technology notified of the change?	

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(d)	<b>Sufficient information about a user interface element including the identity, operation and state of the element shall be available to assistive technology. When an image represents a program element, the information conveyed by the image must also be available in text.</b>	
d.1	Do images that represent program elements such as controls, have textual equivalents?	
d.2	Are all controls such as checkboxes, menus and toolbars available to the users of assistive technology (e.g. screen readers, voice recognition technology)?	
d.3	Does navigation to controls result in appropriate speaking of labels, data and cues by a screen reader? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
d.4	Is a meaningful and descriptive title assigned to every window (including dialog boxes)?	
d.5	Does navigation to controls track with screen magnifiers? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
(e)	<b>When bitmap images are used to identify controls, status indicators, or other programmatic elements, the meaning assigned to those images shall be consistent throughout an application's performance.</b>	
e.1	Do individual icons have the same meaning and use throughout the application?	
e.2	Does the software have a user selectable option to display text on icons (i.e., text only icons or bubble help)?	
e.3	Are menus with text equivalents provided for all icon functions or icon selections on menu, tool, and format bars?	

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(f)	<b>Textual information shall be provided through operating system functions for displaying text. The minimum information that shall be made available is text content, text input caret location, and text attributes.</b>	
f.1	Is all text presented in the application readable by assistive technologies? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
f.2	Can screen readers speak all significant text displayed? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
f.3	Can assistive technology attain focus to textual elements in order to speak or gain focus? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
f.4	Are all windows and dialog boxes rendered to meaningful text?	
(g)	<b>Applications shall not override user selected contrast and color selections and other individual display attributes.</b>	
g.1	Does the software not override the users color and contrast settings?	
g.2	Can users change colors on the screen to high contrast or any other color combination desired?	
g.3	Can users change colors from operating system display settings in applications on client, server, or mainframe?	
(h)	<b>When animation is displayed, the information shall be displayable in at least one non-animated presentation mode at the option of the user.</b>	
h.1	If animated objects exist, does the information conveyed by the animated object exist in another method?	
h.2	Can screen readers speak any animation or describe the animation that is displayed? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	

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h.3	Does animation speech conflict with a screen reader's speech engine, voice input or other assistive technology? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
h.4	Do assistive technology users have the ability to change text size and colors of any text associated with animations?	
h.5	Can assistive technology users easily stop animation and access a non-animated mode?	
h.6	If speech accompanies an animation, are there synchronized captions that are equivalent to the spoken script for users who are deaf/hard of hearing? Speech and text must appear on the same screen and be synchronized.	
h.7	Can Voice Recognition users control the animation? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
h.8	Is equivalent functionality provided by all alternative presentation modes to animation?	
(i)	<b>Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.</b>	
i.1	If color is used to convey information, is the information displayed in another method?	
i.2	Do users of screen readers have access to alternative text that indicates a condition of color? Any indication of color as a means of conveying information must contain a text alternative. (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	

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(j)	<b>When a product permits a user to adjust color and contrast settings, a variety of color selections capable of producing a range of contrast levels shall be provided.</b>	
j.1	If users can adjust color and contrast settings, is there a variety of color and contrast settings available?	
j.2	Do all colors depicted for color choices have accompanying text descriptions?	
j.3	Does the application support user-defined color settings system-wide?	
j.4	Is highlighting also viewable with inverted colors?	
j.5	Is the software application free of patterned backgrounds used behind text or important graphics?	
(k)	<b>Software shall not use flashing or blinking text, objects, or other elements having a flash or blink frequency greater than 2 Hz and lower than 55 Hz.</b>	
k.1	If any flashing or blinking objects exist, are the frequencies less than 2 Hz and greater than 55Hz?	
k.2	Can any on-screen flashing/blinking be disabled?	
k.3	Does any flashing/blinking that conveys meaning have an accessible text alternative?	
(l)	<b>When electronic forms are used, the form shall allow people using assistive technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.</b>	

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I.1	Can all areas of the form be completed, and can the form be submitted using only a keyboard?	
I.2	Does the tab order proceed in a logical manner and follow the flow of the form?	
I.3	Are control groups on a form labeled correctly and available to assistive technology?	
I.4	Are radio button groups correctly formed and available to assistive technology?	
I.5	Do all form elements have meaningful names that are accessible to assistive Technology?	
I.6	Can screen readers speak all controls, labels, directions, and cues in a logical order? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
I.7	Can keyboard users get focus in a logical order to all controls, directions, and cues in the form?	
I.8	Does all error information receive focus? Is navigation to errors easy with a keyboard and productive with a minimum of keystrokes?	
I.9	If pop-up errors are displayed, do they receive focus and are they accessible to assistive technology such as screen readers? Do other indicators of errors have a well-defined visual focus, and are they accessible to assistive technology?	
I.10	Do voice recognition users have access by voice command to all menus, toolbars, and field elements? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
I.11	Do all pop-ups speak immediately through a screen reader? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
I.12	Do pop-ups receive focus for screen magnification software? (Note this is a function of <b>§1194.31 Functional Performance Criteria</b> )*	
I.13	Does text in a pop-up increase in size through operating system settings?	

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I.14	If there are errors does focus move to the error display?	
I.15	Are errors displayed at the top of a page with indication of the number and links to these errors for easy navigation with a keyboard? Is there a way to get consecutive errors with the keyboard?	
I.16	If timed responses are present, is a warning available to assistive technology?	
I.17	If timed responses are present, does the form allow the user to modify the timing parameters of any required timed responses?	
I.18	Are form field instructions clearly presented in an accessible manner?	
I.19	When returning to a form, is focus returned to the last focused element?	
I.20	Are dynamic changes to the form accessible to assistive technology?	
I.21	Are there alternative methods to indicate completion of a form or form field errors that include audio, visual or other means of communication?	

**\*§1194.31 Functional Performance Criteria**

- (a) At least one mode of operation and information retrieval that does not require user vision shall be provided, or support for assistive technology used by people who are blind or visually impaired shall be provided.
- (b) At least one mode of operation and information retrieval that does not require visual acuity greater than 20/70 shall be provided in audio and enlarged print output working together or independently, or support for assistive technology used by people who are visually impaired shall be provided.
- (c) At least one mode of operation and information retrieval that does not require user hearing shall be provided, or support for assistive technology used by people who are deaf or hard of hearing shall be provided.
- (d) Where audio information is important for the use of a product, at least one mode of operation and information retrieval shall be provided in an enhanced auditory fashion, or support for assistive hearing devices shall be provided.
- (e) At least one mode of operation and information retrieval that does not require user speech shall be provided, or support for assistive technology used by people with disabilities shall be provided.
- (f) At least one mode of operation and information retrieval that does not require fine motor control or simultaneous actions and that is operable with limited reach and strength shall be provided.

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