



CDC UNIFIED PROCESS PROCESS GUIDE



SECTION 508

Purpose of the Process Guide

CDC projects are required to comply with various CDC and Federal regulations, mandates, policies, processes, and standards. Information about these requirements is available from various websites and supporting documents. However, this information is often not presented from the perspective of the project team and their roles & responsibilities in complying with these requirements. CDC UP Process Guides provide that perspective.

CDC UP Process Guides help project teams comply with CDC and Federal requirements by:

1. Setting the requirements in the context of their purpose
2. Providing step-by-step instructions for completing the activities required for compliance
3. Illustrating potential integration points between processes
4. Presenting requirements in a concise, easy-to-understand, and consistent format
5. Making that presentation accessible to the CDC community via the CDC Unified Process website

The specific purpose of this Process Guide is to describe the **Section 508** process as it applies to project teams.

Process Overview

Section 508 of the Rehabilitation Act, as amended (29 U.S.C. § 794d) requires Federal agencies to provide employees and members of the public with disabilities access to electronic and information technology that is comparable to the access available to individuals without disabilities. The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology (EIT).

Achieving and maintaining Section 508 compliance requires project team consideration throughout the project lifecycle during EIT design, development, procurement, or implementation activities.

Process Attributes

This section provides a list of process attributes to help project teams better understand the requirements necessary to comply with this process and to determine when and how they may impact their project.

PROCESS ATTRIBUTE	DESCRIPTION
Process Owner(s)	CDC Section 508 Coordinator (Howard Smith, ITSO)
Process Criteria	All projects
Timing of Process in Project Life Cycle	Addressed throughout the project lifecycle beginning during the planning phase. Testing an application for compliance occurs during the execution phase.
Estimated Level of Effort	Dependent upon the type and scope of the project. For example, a simple web page might take 15 – 20 minutes, while a large web-based or client server application would require much more time and effort.
Associated Costs	No cost to the project except the estimated the level of effort described above A cost may be associated with acquiring a tool to evaluate whether the project's EIT is Section 508 compliant
Process Prerequisites	None
Process Dependencies	None



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PROCESS ATTRIBUTE	DESCRIPTION
Related Systems/Tools	Check with your TSE to determine if a testing tool license has been purchased for use within your organization as their preferred assessment tool or for non Internet domain projects. If a licensed application or tool is not available, you may wish to purchase a tool for your project.
Available Training	GSA 508 Universe Training website: <ul style="list-style-type: none">http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_BASIC&contentId=13691&noc=T
Additional Information	<ul style="list-style-type: none">http://508.cdc.gov/http://www.section508.gov/index.cfm?FuseAction=Content&ID=12http://intranet.cdc.gov/accessibility/section508/index.html

Contact List

This section provides a list of individuals and/or offices that are available to assist project team in answering questions regarding the content of this Process Guide and related topics. The information is correct as of this publication. However, due to the ever-changing nature of our work environment it is possible some information may be out of date.

NATIONAL CENTER	ROLE	NAME
Information Technology Services Office	Designated CDC Section 508 Coordinator	Howard Smith
Information Technology Services Office	Section 508 Project Manager	Vicky Turner
Information Technology Services Office	Section 508 Help Desk	508helpdesk@cdc.gov

Key Terms

The CDC Unified Process Team maintains a comprehensive list of key terms and acronyms relevant to all Unified Process artifacts maintained on the CDC UP website. Follow the link below for definitions and acronyms related to this, and other, document.

<http://www2.cdc.gov/cdcup/library/other/help.htm>



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Activities Checklist

This section provides a list of steps outlining the activities associated with complying with this process, who usually performs each activity, and a list of any related documents or tools that may assist in completing the activities.

ACTIVITY	RELATED DOCUMENTS/TOOLS	PERFORMED BY
<p>1. Ensure your project incorporates the following high level requirements during the design, development, procurement or use of electronic information technology (EIT):</p> <p>Software Applications and Operating Systems.</p> <ul style="list-style-type: none"> • 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. • 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. • 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. • 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. • 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. 		Project Manager/ Business Analyst



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<ul style="list-style-type: none">• 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.• Applications shall not override user selected contrast and color selections and other individual display attributes.• When animation is displayed, the information shall be displayable in at least one non-animated presentation mode at the option of the user.• Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.• 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.• 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.• 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. <p>Web-based intranet and Internet Information and Applications.</p> <ul style="list-style-type: none">• A text equivalent for every non-text element shall be provided• Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation• Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup• Documents shall be organized so they are readable without requiring an associated style sheet• Redundant text links shall be provided for each active region of a server-side image map• Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an		



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<p>available geometric shape</p> <ul style="list-style-type: none">• Row and column headers shall be identified for data tables• Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers• A text-only page, with equivalent information or functionality, shall be provided to make a web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes• When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by assistive technology• When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet• When electronic forms are designed to be completed on-line, 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• A method shall be provided that permits users to skip repetitive navigation links• When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required <p>Telecommunications Products.</p> <ul style="list-style-type: none">• Telecommunications products or systems which provide a function allowing voice communication and which do not themselves provide a TTY functionality shall provide a standard non-acoustic connection point for TTYs. Microphones shall be capable of being turned on and off to allow the user to intermix speech with TTY use.• Telecommunications products which include voice communication functionality shall support all commonly used cross-manufacturer non-proprietary standard TTY signal protocols.		



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<ul style="list-style-type: none">• Voice mail, auto-attendant, and interactive voice response telecommunications systems shall be usable by TTY users with their TTYs.• Voice mail, messaging, auto-attendant, and interactive voice response telecommunications systems that require a response from a user within a time interval, shall give an alert when the time interval is about to run out, and shall provide sufficient time for the user to indicate more time is required.• Where provided, caller identification and similar telecommunications functions shall also be available for users of TTYs, and for users who cannot see displays.• For transmitted voice signals, telecommunications products shall provide a gain adjustable up to a minimum of 20 dB. For incremental volume control, at least one intermediate step of 12 dB of gain shall be provided.• If the telecommunications product allows a user to adjust the receive volume, a function shall be provided to automatically reset the volume to the default level after every use.• Where a telecommunications product delivers output by an audio transducer which is normally held up to the ear, a means for effective magnetic wireless coupling to hearing technologies shall be provided.• Interference to hearing technologies (including hearing aids, cochlear implants, and assistive listening devices) shall be reduced to the lowest possible level that allows a user of hearing technologies to utilize the telecommunications product.• Products that transmit or conduct information or communication, shall pass through cross-manufacturer, non-proprietary, industry-standard codes, translation protocols, formats or other information necessary to provide the information or communication in a usable format. Technologies which use encoding, signal compression, format transformation, or similar techniques shall not remove information needed for access or shall restore it upon delivery.• Products which have mechanically operated controls or keys, shall comply with the		



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<p>following:</p> <ul style="list-style-type: none"> ○ Controls and keys shall be tactilely discernible without activating the controls or keys. ○ Controls and keys shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls and keys shall be 5 lbs. (22.2 N) maximum. ○ If key repeat is supported, the delay before repeat shall be adjustable to at least 2 seconds. Key repeat rate shall be adjustable to 2 seconds per character. ○ The status of all locking or toggle controls or keys shall be visually discernible, and discernible either through touch or sound. <p>Video and Multimedia Products.</p> <ul style="list-style-type: none"> • All analog television displays 13 inches and larger, and computer equipment that includes analog television receiver or display circuitry, shall be equipped with caption decoder circuitry which appropriately receives, decodes, and displays closed captions from broadcast, cable, videotape, and DVD signals. As soon as practicable, but not later than July 1, 2002, widescreen digital television (DTV) displays measuring at least 7.8 inches vertically, DTV sets with conventional displays measuring at least 13 inches vertically, and stand-alone DTV tuners, whether or not they are marketed with display screens, and computer equipment that includes DTV receiver or display circuitry, shall be equipped with caption decoder circuitry which appropriately receives, decodes, and displays closed captions from broadcast, cable, videotape, and DVD signals. • Television tuners, including tuner cards for use in computers, shall be equipped with secondary audio program playback circuitry. • All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain speech or other audio information necessary for the comprehension of the content, shall be open or closed captioned. • All training and informational video and 		



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<p>multimedia productions which support the agency's mission, regardless of format, that contain visual information necessary for the comprehension of the content, shall be audio described.</p> <ul style="list-style-type: none"> • Display or presentation of alternate text presentation or audio descriptions shall be user-selectable unless permanent. <p>Self Contained, Closed Products.</p> <ul style="list-style-type: none"> • Self contained products shall be usable by people with disabilities without requiring an end-user to attach assistive technology to the product. Personal headsets for private listening are not assistive technology. • When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required. • Where a product utilizes touchscreens or contact-sensitive controls, an input method shall be provided that complies with §1194.23 (k) (1) through (4). • When biometric forms of user identification or control are used, an alternative form of identification or activation, which does not require the user to possess particular biological characteristics, shall also be provided. • When products provide auditory output, the audio signal shall be provided at a standard signal level through an industry standard connector that will allow for private listening. The product must provide the ability to interrupt, pause, and restart the audio at anytime. • When products deliver voice output in a public area, incremental volume control shall be provided with output amplification up to a level of at least 65 dB. Where the ambient noise level of the environment is above 45 dB, a volume gain of at least 20 dB above the ambient level shall be user selectable. A function shall be provided to automatically reset the volume to the default level after every use. • Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element. • When a product permits a user to adjust color and contrast settings, a range of color selections capable of producing a variety of 		



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<p>contrast levels shall be provided.</p> <ul style="list-style-type: none">• Products shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.• Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following:<ul style="list-style-type: none">○ The position of any operable control shall be determined with respect to a vertical plane, which is 48 inches in length, centered on the operable control, and at the maximum protrusion of the product within the 48 inch length (see Figure 1 of this part).○ Where any operable control is 10 inches or less behind the reference plane, the height shall be 54 inches maximum and 15 inches minimum above the floor.○ Where any operable control is more than 10 inches and not more than 24 inches behind the reference plane, the height shall be 46 inches maximum and 15 inches minimum above the floor.○ Operable controls shall not be more than 24 inches behind the reference plane. <p>Desktop and Portable Computers.</p> <ul style="list-style-type: none">• All mechanically operated controls and keys shall comply with §1194.23 (k) (1) through (4).• If a product utilizes touchscreens or touch-operated controls, an input method shall be provided that complies with §1194.23 (k) (1) through (4).• When biometric forms of user identification or control are used, an alternative form of identification or activation, which does not require the user to possess particular biological characteristics, shall also be provided.• Where provided, at least one of each type of expansion slots, ports and connectors shall comply with publicly available industry standards. <p>Functional Performance Criteria.</p> <ul style="list-style-type: none">• At least one mode of operation and information retrieval that does not require		



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<p>user vision shall be provided, or support for assistive technology used by people who are blind or visually impaired shall be provided.</p> <ul style="list-style-type: none">• 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.• 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.• 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.• 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.• 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. <p>Information, Documentation, and Support.</p> <ul style="list-style-type: none">• Product support documentation provided to end-users shall be made available in alternate formats upon request, at no additional charge.• End-users shall have access to a description of the accessibility and compatibility features of products in alternate formats or alternate methods upon request, at no additional charge.• Support services for products shall accommodate the communication needs of end-users with disabilities.		



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2. Implement appropriate Section 508 Acquisitions activities, including language, exceptions, and proposal review procedures (see http://www.hhs.gov/od/508policy/508_interim_hhs_ar_guidance.html)	HHS Product Assessment Template (to be filled out by vendor/development lead) Available at: http://www.hhs.gov/od/vendors/index.html .	Project Manager/ Business Analyst
3. Develop and execute a testing plan using available tools during all phases of the project to determine if EIT, including any electronic documents, is compliant with Section 508.	Section 508 Acceptance Checklists	Project Manager/ Business Analyst
4. If testing efforts reveal the EIT is not compliant with Section 508, repair barriers to accessibility.		Project Manager/ Business Analyst
5. Re-evaluate compliance with Section 508 whenever a change or update is made to the EIT.		Project Manager/ Business Analyst



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Process Flowchart

This section provides a pictorial view of steps outlining the activities associated with complying with this process and who usually performs those activities.

