Technical Standard

Technology Accessibility for Web Content and Applications

COLORADO
Governor's Office of Information Technolog

Document Owner: Director of Enterprise Architecture		Document ID:	TS-OEA-002
Technical Area: Applications		Effective Date:	2018-04-26
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1. **PURPOSE**

   OIT is statutorily obligated to provide IT support and services to the state and its stakeholders in the most effective and efficient manner possible (as defined by C.R.S. 24-37.5-101 et seq). To satisfy the stakeholder needs surrounding Technology Accessibility for Persons with Disabilities, the following is submitted as the standard for all information technology assets which provide an IT service subject to the scope of this standard.

   The purpose of this document is to communicate the standards that the Governor's Office of Information Technology (OIT) has developed with the intent of providing enterprise standard configurations for technologies which provide service to those with disabilities, in accordance with those objectives and definitions provided by Section 508 of the U.S. Rehabilitation Act of 1973, and pursuant to C.R.S. 24-85-101 to 24-85-104, ARTICLE 85. ("INFORMATION TECHNOLOGY ACCESS FOR INDIVIDUALS WHO ARE BLIND OR VISUALLY IMPAIRED"). Standards are based on a best-of-value decision assessment involving multifarious factors, such as stakeholder needs, hardware configurations that are serviced and supported by OIT, as well as operational and security best practices guidelines.

   The ultimate purpose of the Technology Accessibility for Web Content and Applications standard is to describe the minimum requirements for designing, installing, securing, monitoring, maintaining, protecting, and decommissioning technologies which provide service to those with disabilities.

2. **SCOPE**

   These standards apply to OIT and OIT supported agencies. This Standard shall be used by employees of OIT, agencies supported by OIT, and vendors contracted by OIT or its stakeholders, as a means to facilitate technology implementation and assist in making the usage, support, and/or purchase of technologies more consistent and efficient. It is the intent and aim of OIT to support and work with vendors and other interested parties to implement technology in a manner best positioned for accessible use. In that pursuit (and with respect given to the pace of technology development) it may also be necessary for OIT to engage in research, development and consideration of emerging technologies not yet fully meeting accessibility needs. In pursuit of assistive technology, OIT will engage, consider and implement a wide range of assistive technology solutions, both provided by the private sector and open source.

   This standard shall only be enforceable for all IT information or services made available for public use and in any case wherein state employees or stakeholders exhibit needs for the requirements as defined by Section 508 of the U.S. Rehabilitation Act of 1973, with limitations indicated by the

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provisions of C.R.S. 24-85-104, ARTICLE 85. "INFORMATION TECHNOLOGY ACCESS FOR INDIVIDUALS WHO ARE BLIND OR VISUALLY IMPAIRED", as follows:

"(2) Nothing in this article shall require the installation of software or peripheral devices used for nonvisual access when the information technology is being used by individuals who are not blind or visually impaired. Nothing in this article shall be construed to require the purchase of nonvisual adaptive equipment by a state agency.

(3) Notwithstanding the provisions of subsection (2) of this section, the applications, programs, and underlying operating systems, including the format of the data, used for the manipulation and presentation of information shall permit the installation and effective use of and shall be compatible with nonvisual access software and peripheral devices.

(4) Compliance with the procurement requirements of this section with regard to information technology purchased prior to July 1, 2001, shall be achieved at the time of procurement of an upgrade or replacement of existing information technology equipment or software."

Additionally, the standards assigned and prescribed by this document, instituted for use by the approval of the OIT Architecture Review Board (ARB), should be used to govern purchase and deployment decisions deemed as "go-forward" or "net-new" strategies or implementations, and are not intended for use as retroactively enforceable mandate or policy for immediate conformance (especially in cases where cost implications may be prohibitive).

Any/all standards are predicated with the assumption that there can be no point of enforcement unless and until there is an effort to reprocure, renew (contracts), reconfigure (including upgrades), or redevelop the system. At any time that a decision is made to make an investment of resources in sustaining or improving the system, conformance to existing standards should be part of the assessed level of effort for that investment activity. For guidance (or enforcement) in conformance to standards during any of these types of activities, an email request may be sent to OIT_OEA@state.co.us with the subject line "Request for Architecture Review: <projectName/systemName>"

3. **REFERENCES**
   a. Colorado Information Security Policies (CISPs)
   b. Section 508 of the U.S. Rehabilitation Act of 1973
   c. C.R.S. 24-85-104, ARTICLE 85. "INFORMATION TECHNOLOGY ACCESS FOR INDIVIDUALS WHO ARE BLIND OR VISUALLY IMPAIRED"

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4. **DEFINITIONS**

4.1. **Agency**, **State Agency**: The departments, divisions, commissions, boards, bureaus, and institutions as defined in C.R.S. 24-37.5-102(4).

4.2. **Alternate formats**: Alternate formats usable by people with disabilities may include, but are not limited to, Braille, ASCII text, large print, recorded audio, and electronic formats.

4.3. **Alternate methods**: Different means of providing information, including product documentation, to people with disabilities. Alternate methods may include, but are not limited to, voice, fax, relay service, TTY, internet posting, captioning, text-to-speech synthesis, and audio description.

4.4. **Assistive technology**: Any item, piece of equipment, or system, whether acquired commercially, modified, or customized, that is commonly used to increase, maintain, or improve functional capabilities of individuals with disabilities.

4.5. **Electronic and information technology**: Includes information technology and any equipment or interconnected system or subsystem of equipment that is used in the creation, conversion, or duplication of data or information. The term electronic and information technology includes, but is not limited to, telecommunications products (such as telephones), information kiosks and transaction machines, World Wide Web sites, multimedia, and office equipment such as copiers and fax machines. The term does not include any equipment that contains embedded information technology that is used as an integral part of the product, but the principal function of which is not the acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. For example, HVAC (heating, ventilation, and air conditioning) equipment such as thermostats or temperature control devices and medical equipment where information technology is integral to its operation, are not information technology.

4.6. **Exception request**: A document requesting an exception to a recognized standard, requiring a business or technical justification for granting the exception. Typically an exception request is subject to review and approval by an authority in the area.

4.7. **Information technology**: Any equipment or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. The term information technology includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources.

4.8. **Operable controls**: A component of a product that requires physical contact for normal operation. Operable controls include, but are not limited to, mechanically operated controls, input and output trays, card slots, keyboards, or keypads.

4.9. **Product:** Electronic and information technology.

4.10. **Self Contained, Closed Products**: Products that generally have embedded software and are commonly designed in such a fashion that a user cannot easily attach or install assistive technology. These products include, but are not limited to, information kiosks and information transaction machines, copiers, printers, calculators, fax machines, and other similar types of products.

4.11. **Telecommunications**: The transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.

4.12. **TTY**: An abbreviation for teletypewriter, a special device that enables people who are deaf, hard of hearing, or speech impaired to use the telephone to communicate by typing rather than talking and listening.

4.13. **Undue burden**: Undue burden means significant difficulty or expense. In determining whether an action would result in an undue burden, an agency shall consider all agency resources available to the program or component for which the product is being developed, procured, maintained, or used.

4.14. **WCAG**: Web Content Accessibility Guidelines (https://www.w3.org/WAI/standards-guidelines/wcag)

5. **ROLES & RESPONSIBILITIES**
   - Enterprise Architecture - Director of Enterprise Architecture:
     - Chairs and conducts business of the Architecture Review Board (ARB)
     - Update effective date and/or last review date
     - Publish the ARB approved Standard to the OIT public facing website
   - Architecture Review Board (ARB):
     - Engage stakeholders and subject matter experts to determine standard
     - Review/Approve Standard (this document)
   - Office of Enterprise Architecture (OEA) - Director of Enterprise Architecture:
     - Owner of Standard
     - Engage stakeholders and subject matter experts to determine standard
     - Update document standards and version number
     - Present to Architecture Review Board for approval and adoption
   - Additional Assignments:
     - All OIT staff are responsible to be aware of the existence of this (and all) standard(s) and its purposes of authority and governance in support of OIT's statutorily mandated mission in service of Colorado State Government affairs.

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6.   **STANDARDS**
Web content must align to WCAG 2.1 guidelines and at a minimum must be developed in a manner which prevents the following errors when conducting an accessibility test:

6.1.   Non-text content has no text alternative

6.2.   Prerecorded audio-only content has no text alternative

6.3.   Pre-recorded video-only content has no audio track nor text alternative

6.4.   Pre-recorded mixed media has no captions

6.5.   Pre-recorded mixed media has no audio description nor text alternative

6.6.   Live mixed media has no captions

6.7.   Pre-recorded mixed media has no audio description

6.8.   Information, structure, or relationships conveyed through presentation cannot be determined

6.9.   Incorrect reading sequence affects content

6.10.   Instructions for operating content rely solely on sensory characteristics of content

6.11.   Color is sole visual means of conveying information

6.12.   Audio cannot be paused, stopped, or muted

6.13.   Text has a contrast ratio below 4.5:1, or 3:1 for large-scale or bold text

6.14.   Zooming up to 200% causes a loss of content or functionality

6.15.   An image of text is unnecessarily used in place of text and cannot be visually customized

6.16.   Content is not operable through a keyboard interface alone, and underlying functionality does not require a pointer device

6.17.   Keyboard focus is trapped, and cannot be escaped using standard exit methods

6.18.   Time limit set by content cannot be disabled, adjusted, or extended

6.19.   Dynamically updated content cannot be paused, stopped, or hidden

6.20.   Content flashes more than three times in a one-second period and is above the general flash and red flash threshold

6.21.   Repeated blocks of content cannot be bypassed

6.22.   Web page lacks a descriptive title

6.23.   Component focus order interferes with meaning or operability

6.24.   Link purpose cannot be determined from link text and context

6.25.   Only one way is available to locate a web page

6.26.   Headings and labels are not used, or do not describe content topic or purpose

6.27.   Keyboard focus is not visibly indicated

6.28.   The default human language of a web page cannot be programmatically determined

6.29.   The default human language of a passage or phrase cannot be programmatically determined

6.30.   A component receiving focus initiates a change of context

6.31.   Interacting with an interface component triggers an unexpected change of context

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6.32.   Navigation mechanism repeated across multiple pages has inconsistent order

6.33.   Components with the same functionality are inconsistently identified

6.34.   Automatically detected input error is not described via text

6.35.   Labels or instructions are not provided for content requiring input

6.36.   Automatically provided suggested error resolutions are not described via text

6.37.   Legal commitment, financial transaction, or persistent data modification is not reversible, validated, or reviewable prior to submission

7.   VARIANCES & EXCEPTION PROCESS

Any request to procure or deploy technology that is a variance to the standards and provisions stated within this document must be requested of and approved by the "Owner of Standard" listed in section 5 of this document ("Roles & Responsibilities").

Requests may be acquired by completing the "EXCEPTION REQUEST to Technical Standard" form and including the completed form (including all signatures) along with other documentation required as part of standard procedures when executing a technology procurement or service deployment.

8.   REVISION HISTORY

This procedure is to be reviewed every 12 months by the document owner and remains in effect until otherwise noted.

REVISION DATE	REVISED BY	BRIEF DESCRIPTION OF CHANGES	APPROVED BY	NEXT REVIEW DATE
	ARB Working Group	Draft, Revisions		
04/26/2018	ARB Voting	Review, Voting	ARB	2019-04
08/24/2021	CCarlson, SChumley	updated WCAG 2.0 reference in Section 6 to WCAG 2.1 and updated OIT Logo, doc version	OEA, per email and mgmt decision	As applicable

9.   APPENDIX

None