

COMMONWEALTH OF VIRGINIA



ENTERPRISE TECHNICAL ARCHITECTURE

WEBSITE TOPIC REPORT

APPLICATION DOMAIN

Virginia Information Technologies Agency

Prepared by:
Website Topic Report Team

Website Topic Report - 2014

Jim Adams	Virginia Information Technologies Agency
Janice Akers.....	Virginia Information Technologies Agency
Diane Attuso	Department of Fire Prevention
Dorothy Bernstein	Virginia State Police
Charmaine Bigby	Department of Emergency Management
Mark Buff	Department of Fire Prevention
Joshua Cane	Virginia Department of Taxation
Roger Christman	Library of Virginia
Maurice Dalton.....	Department of Agriculture and Consumer Services
Melissa Dedie.....	Virginia Department of Taxation
Mary Kate du Laney.....	Department for Aging and Rehabilitative Services
Emily Dursa	Department of Education
Anastasia Flegas	Department of Environmental Quality
Thomas Garner.....	Virginia Employment Commission
Annetta Hall	Department of Environmental Quality
Steve Hawks	Department of Conservation and Recreation
John Hewitt.....	Virginia Retirement System
A. J. Hostetler.....	Department for Aging and Rehabilitative Services
Kathy Jones.....	Department of Corrections
Todd Kissam.....	Virginia Information Technologies Agency
Jere Kittle	Department of Education
Bolling Knowles.....	Virginia Information Technologies Agency
David Murr	Department of Game and Inland Fisheries
Diane Powers.....	Department of Health Professions
Joann Robinson.....	Department for Aging and Rehabilitative Services
Daniel Ross	Department for Aging and Rehabilitative Services
Wayne Scarberry.....	Virginia Department of Transportation
Emily Seibert.....	Virginia Information Technologies Agency
Charles Sheldon.....	Department of Motor Vehicles
Doug Shore	Virginia Department of Corrections
Mike Treagy.....	Virginia Information Technologies Agency
Jerald Veneziano	Virginia Department of Taxation
Linda Wettstone.....	Senate of Virginia
Koury Wilson	Virginia Information Technologies Agency
Eric B. Perkins (Team Facilitator)	Virginia Information Technologies Agency

Website Topic Report - 2012

Janice Akers.....	Virginia Information Technologies Agency
Dorothy Bernstein	Virginia State Police
Charmaine Bigby	Department of Emergency Management
Roger Christman	Library of Virginia
Emily Dursa	Department of Education
Annetta Hall	Department of Environmental Quality
Steve Hawks	Department of Conservation and Recreation
John Hewitt.....	Virginia Retirement System
Karen Jackson	Deputy Secretary of Technology
Todd Kissam.....	Virginia Information Technologies Agency
Jere Kittle	Department of Education
David Murr	Department of Game and Inland Fisheries

Pat Paquette Department of Health Planning
 Joann Robinson.....Department of Rehabilitative Services
 Daniel RossDepartment of Rehabilitative Services
 Wayne Scarberry..... Virginia Department of Transportation
 Emily Seibert Virginia Information Technologies Agency
 Charles Sheldon Department of Motor Vehicles
 Doug Shore Virginia Department of Corrections
 Mike Treagy..... Virginia Information Technologies Agency
 Wettstone, LindaSenate of Virginia
 Eric B. Perkins (Team Facilitator) Virginia Information Technologies Agency

Website Topic Report - 2011

Janice Akers.....Virginia Information Technologies Agency
 Dorothy BernsteinVirginia State Police
 Charmaine BigbyDepartment of Emergency Management
 Roger ChristmanLibrary of Virginia
 Anastasia Flegas Department of the Treasury
 Annetta Hall Department of Environmental Quality
 Steve Hawks Department of Conservation and Recreation
 John Hewitt Virginia Retirement System
 Karen JacksonDeputy Secretary of Technology
 Jere KittleDepartment of Education
 Beth McChesney Virginia Interactive
 Dana Metheny Virginia Interactive
 David Murr Department of Game and Inland Fisheries
 Pat Paquette Department of Health Planning
 Joann Robinson.....Department of Rehabilitative Services
 Daniel RossDepartment of Rehabilitative Services
 Wayne Scarberry..... Virginia Department of Transportation
 Emily Seibert Virginia Information Technologies Agency
 Charles Sheldon Department of Motor Vehicles
 Doug Shore Virginia Department of Corrections
 Mike Treagy..... Virginia Information Technologies Agency
 Michael Ware Virginia Interactive
 Eric B. Perkins (Team Facilitator) Virginia Information Technologies Agency

Website Topic Report - 2009

Helen Baker..... Virginia Interactive
 Charmaine Bigby..... Virginia Department of Fire Programs
 Daniel Boersma.....Governor's Office, Virginia Enterprise Application Program
 Debbie DodsonVITA Enterprise Application & Architecture Solutions
 Lynn DuBard Virginia Interactive
 Mike Gallini..... Virginia Department of Health Programs
 Greg GarnerGovernor's Office, Virginia Enterprise Application Program
 Sean Harris Virginia Department of Social Services
 Hal Hughey VITA Customer Account Management
 Jere Kittle Virginia Department of Education
 Darlene Lee..... Mental Health, Mental Retardation and Substance Abuse Service
 Emily Lockhart Council on Virginia's Future, Virginia Performs
 Michael Logan.....VITA Enterprise Application & Architecture Solutions
 Dana Metheny Virginia Department of Education

Janet Riddick Governor's Office
 Daniel Ross Virginia Department of Rehabilitative Services
 Wayne Scarberry Virginia Department of Transportation
 Rose Schooff Library of Virginia
 Emily Seibert VITA Communications
 Charles Sheldon Virginia Department of Motor Vehicles
 Chris Snyder VITA Enterprise Application & Architecture Solutions
 Chuck Tyger VITA Policy, Practice and Architecture
 Mike Treagy VITA Enterprise Application & Architecture Solutions
 Aaron Wagner Virginia Department of Environmental Quality
 Peggy Ward Commonwealth IT Security & Risk Management
 Michael Ware Virginia Interactive
 Cindy White Virginia Interactive
 Marcella Williamson VITA Communications
 Anne Wilmoth State Compensation Board
 Eric B. Perkins (Team Facilitator) Virginia Information Technologies Agency

Website Standard - 2007

Julie Byrne Office of the Governor
 Mathew Davis Small Business Administration
 Jamie Habecker Department of Motor Vehicles
 Steve Hawks Department of Conservation and Recreation
 Todd Kissam Virginia Information Technologies Agency
 Michael Logan Virginia Information Technologies Agency
 Michael Treagy Virginia Information Technologies Agency
 Dennis Unger Department of Health Planning
 Eric B. Perkins (Team Facilitator) Virginia Information Technologies Agency

Website Standard - 2006

Debbie Dodson Department of Education
 Lynn DuBard Virginia Interactive
 Greg Garner Virginia Interactive
 Jere Kittle Department of Education
 Emily Lockhart Virginia Interactive
 Michael Logan Virginia Information Technologies Agency
 Daniel Ross Department of Rehabilitative Services
 Wayne Scarberry Virginia Department of Transportation
 Emily Seibert Virginia Information Technologies Agency
 Charles Sheldon Department of Vehicles
 Doug Shore Virginia Department of Corrections
 Mike Treagy Virginia Information Technologies Agency
 Michael Ware Virginia Interactive
 Eric B. Perkins (Team Facilitator) Virginia Information Technologies Agency

Website Standard - 2005

Dan Aunspach Computer Solutions, Inc
 Mark Best Department of Education
 Linda Broady-Myers Department of Rehabilitative Service
 Rick Davis Department of General Services
 Debbie Dodson Virginia Information Technologies Agency

Jay EppersonVirginia K-12 Education
David Froggatt..... Virginia Information Technologies Agency
Peggy FieldsDepartment for the Blind & Vision Impaired
Linda Harris..... Tidewater Community College System
Jere KittleDepartment of Education
Ken Knorr Virginia Assistive Technology Systems
Emily Lockhart..... Office of the Governor
Michael Logan..... Virginia Information Technologies Agency
Paul Lubic Virginia Information Technologies Agency
Monica Marchand Virginia Information Technologies Agency
Margret Massy Norfolk State University
Tim Mauney..... Virginia Information Technologies Agency
Deborah NickersonVirginia Department of Agriculture & Consumer Services
Christopher O'Kennon Virginia Interactive
Pat Paquette..... Department of Health Professionals
Joe Parr Virginia Information Technologies Agency
Suzanne Piland Virginia Information Technologies Agency
Daniel RossDepartment of Rehabilitative Services
Janice Scales Department of Mines, Minerals & Energy
Emily Siebert..... Virginia Information Technologies Agency
Scott Somerhalder Virginia Interactive
Diane Stottlemeyer Virginia Assistive Technology Systems
Harry Sutton Department of Social Services
Michael Treagy..... Virginia Information Technologies Agency
Marl Willis Virginia Commonwealth University
Forrest Wilson..... Department of Social Services
Eric B. Perkins (Team Facilitator) Virginia Information Technologies Agency

Publication Version Control

Questions related to this publication should be directed to VITA's Policy, Practice, and Architecture (PPA) Division. PPA notifies Agency Information Technology Resources (AITRs) at all state agencies, institutions and other interested parties of proposed revisions to this document.

Website Topic Report: Version History		
Revision	Date	Description
1.0	04-01-2009	This <i>Website Topic Report</i> combines information from the <i>Website Policy</i> (ITRM GOV105-00), <i>Website Standard</i> (ITRM GOV106-01), <i>Website Guideline</i> (ITRM GOV107-00) and the <i>Internet Privacy Guideline</i> (SEC2001-02.1) into a single topic report. NOTE: The numbering scheme for Principles, Recommended Practices and Requirements in this topic report is sequential. Each Principle's, Recommended Practice's and Requirement's number is unique and will not be reassigned if a Principle, Recommended Practice or Requirement is superseded or rescinded.
2.0	10-19-2011	This revision of the <i>Website Topic Report</i> updates technical requirements and recommended practices to reflect current trends in website design including the requested use of horizontal navigation, introduces social media and mobile applications, and temporarily exempts the Commonwealth of Virginia Web portal from implementing the template requirements.
3.0	01-13-2013	The Website Topic Report was revised to address evolving Web technology and usage with respect to Virginia common page elements, site design considerations, site content, mobile sites and mobile applications.
4.0	12/23/2015	<i>This update of the Website Topic Report addresses evolving Web technology including mobile websites, social media, user experience and user experience testing.</i>

Identifying Changes in This Document

- See the latest entry in the revision table above.
- Vertical lines in the left margin indicate the paragraph has changes or additions. Specific changes in wording are noted using italics and underlines; with italics only indicating new/added language and italics that are underlined indicating language that has changed.

The following examples demonstrate how the reader may identify requirement and recommend practice updates and changes:

EXA-R-01 Example with No Change – The text is the same. The text is the same. The text is the same.

EXA-R-02 Example with Revision – The text is the same. *A wording change, update or clarification is made in this text.*

EXA-R-03 *Example of New Text – This language is new.*

~~**EXA-R-03** **Technology Standard Example of Deleted Standard** This standard was rescinded on mm/dd/yyyy.~~

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Executive Summary of ETA Website Topic

The *Enterprise Technical Architecture (ETA) Website Topic Report* is a subset of the [ETA Application Domain Report](#). The Application Domain provides agencies with a foundation of development and support platforms, tools, processes, practices and requirements that can be used to implement business processes and meet the commonwealth's ever changing business needs.

The application architecture promotes common presentation standards to facilitate rapid training and implementation of new applications and functions. Good application architecture enables a high level of system integration, reuse of components and rapid deployment of applications in response to changing business requirements. As a topic of the ETA Application, this report expands on the principles, requirements and recommended practices presented in the ETA Application Domain report.

The *ETA Website Topic Report* provides a common website template for all Agencies. All principles, requirements and recommended practices identified in this report are adopted as ITRM standards in the current version of the EA Standard (ITRM EA225). This includes, but is not limited to standards from the [World Wide Web Consortium \(W3C\)](#), the [Web Accessibility Initiative \(WAI\)](#), and other standards bodies referenced, such as [Section 508 of the Rehabilitation Act of 1973](#), as amended.

A "checklist" of the website principles, requirements and recommended practices will also be posted on the "[IT Accessibility Standards, Website Standards & Website Guidelines](#)" page of the VITA website and on the Department of Rehabilitative Services' "[Web Accessibility and Training Guide](#)" (WATG) website.

Introduction

Definition of Key Terms

This document presents architecture direction for agencies when planning or making changes or additions to their information technology through:

- Principles – high-level fundamental truths, ideas or concepts that frame and contribute to the understanding of the ETA.
- Requirements – statements that provide mandatory Enterprise Architecture direction.
- Recommended Practices – statements that provide guidance to agencies in improving cost efficiencies, business value, operations quality, reliability, availability, decision inputs, risk avoidance or other similar value factors. Recommended Practices are optional.
- *Advertising: Any exchange of money, goods or services between Virginia government entity and an outside entity solely for visibility on a state website.*
- *Mobile website – A website specifically designed for the smaller screens of mobile devices, such as smart phones and tablets. Mobile websites are typically platform independent (i.e., "device agnostic").*
- *Mobile app – A software application written to run on mobile devices, such as smart phones and tablets.*
- *Viewport - Responsive Web design accommodates as many different devices, screens and resolutions as possible. By placing the viewport meta tag in the <head>, plus the @viewport rule into the CSS creates a flexible layout.*

Glossary

As appropriate, terms and definitions used in this document can be found in the COV ITRM IT Glossary. The COV ITRM IT Glossary may be referenced on the ITRM Policies, Standards and Guidelines Web page at <http://www.vita.virginia.gov/library/default.aspx?id=537>.

Information Scope

- Website Technical Components
- Virginia Common Template – Page Elements
- Virginia Common Template – Site and Application Content
- Virginia Common Template – Site Design Consideration
- Technology Component Standard
- Website Compliance Tools on Statewide
- Implementation
- Appendices

Website Topic Scope

The purpose of the website topic is to encourage greater efficiencies and effectiveness in the use of technology to accomplish government business. This report provides guidance and direction to assist agencies in developing a common look and feel to all agency public websites. By creating a new accessibility template and requirements, this report helps website developers to make the user's experience as pleasant and trouble-free as possible.

The topic brings together relevant requirements established by the *Code of Virginia*, the Governor, the Secretary of Technology, and the Chief Information Officer of the Commonwealth that affect website services provisioned by agencies. The goals of this topic are to create a useable and accessible template and set of requirements for all agencies to implement and to establish specific content and update requirements. Achieving these goals will move Virginia government from the "stovepipe" designs of the last decade to a truly unified "one government" of the 21st century. The topic ensures websites follow basic rules of proper design. A site that is badly designed may be complete with valuable information, but if people cannot easily (without detailed knowledge of the structure of government) access the information they will go elsewhere and valuable IT dollars will have been wasted.

The topic makes use of a wide body of research and studies, including those guidelines established by the World Wide Web Consortium ([W3C](#)), the Web Access Initiative ([WAI](#)), as well as [Section 508](#) guidelines from the Architectural and Transportation Barriers Compliance Board ([Access Board](#)) of the U.S. Federal Government. The Website Topic Report focuses on the design requirements directly related to websites.

Overall Website Topic Scope

This topic report addresses accessibility, template and implementation requirements and agency plans for implementing those requirements. The report has been organized in sections as follows:

- Those items to be addressed on every agency Web page
- The site and application content to be included on every agency website
- The design considerations for every agency website
- The external content to be included on every agency website
- The implementation and ~~Web 2.0~~ *of new and developing Web technologies considerations* for every agency
- *The principles for user interface design.*

Agency Exception Requests

Agencies that want to deviate from the requirements and/or technology standards specified in COV ITRM Standards may request an exception using the *Enterprise Architecture Change/Exception Request Form*. All exceptions must be approved prior to the agency pursuing procurements, deployments or development activities related to technologies that are not compliant with the standard. The instructions for completing and submitting an exception request are contained in the current version of *COV ITRM Enterprise Architecture Policy*. The policy and exception request form is on the ITRM Policies, Standards and Guidelines Web page at <http://www.vita.virginia.gov/library/default.aspx?id=537>.

The following entities are considered to be exempt from implementing the template requirements.

- The Virginia Tourism Corporation
- The Library of Virginia
- Museums
- Institutions of Higher Education

All other agencies are to implement both the template and the accessibility and usability requirements. If an agency believes it should be exempt or be granted an exception, the agency is allowed the option of applying to be exempt or for an exception from the template implementation as described above.

Future Website Initiatives

Future website related topics include the development of additional principles, requirements and recommended practices for Web audio/video, website translation engines and other emerging Web technologies.

Topic-wide Principles, Recommended Practices and Requirements

The following principles, recommended practices and requirements pertain to all components, in all situations and activities related to the ETA Applications Website Topic. Component specific principles, recommended practices and requirements will be discussed in the next section of the report.

Topic-wide Principles

The following are website topic-wide principles:

- WEB-P-01: User-Centric Approach** – The commonwealth’s portal and all agencies within the portal shall have websites that are intuitive, easy to use, and accessible to all users. Jargon, program names and acronyms shall be avoided or explained when they would be confusing to visitors.
- WEB-P-02: Accessibility Principle** – Agency websites shall be made accessible to all citizens and employees with disabilities to the same or an equivalent level of access and use that is available to citizens and employees without such disabilities.

The following are 10 usability principles for user interface design developed by the Nielsen Norman Group¹:

¹¹ 10 Usability Heuristics for User Interface Design Nielsen Norman Group. <http://www.nngroup.com/articles/ten-usability-heuristics/>. Reterved 09/19/2014

- WEB-P-03:** **Visibility of system status** – The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.
- WEB-P-04:** **Match between system and the real world** – The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.
- Web-P-05:** **User control and freedom** – Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.
- WEB-P-06:** **Consistency and standards** – Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.
- WEB-P-07:** **Error prevention** – Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.
- WEB-P-08:** **Recognition rather than recall** – Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate².
- WEB-P-09:** **Flexibility and efficiency of use** – Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.
- WEB-P-10:** **Aesthetic and minimalist design** – Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.
- WEB-P-11:** **Help users recognize, diagnose, and recover from errors** – Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.
- WEB-P-12:** **Help and documentation** – Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

² Memory Recognition and Recall in User Interfaces, Nielsen Norman Group, <http://www.nngroup.com/articles/recognition-and-recall/>. Retrieved 09/19/2014

The *Virginia Information Technology Accessibility Standard* provides direction and requirements to agencies to develop agency websites that enable Virginia citizens and commonwealth employees with disabilities to have access to and use of information and data comparable to the access and use by commonwealth employees and Virginia citizens who do not have disabilities.

For details on any of the Web content accessibility guidelines, please see the referenced checkpoint in the World Wide Web Consortium's (W3C) Web Accessibility Initiative's (WAI) Web Content Accessibility Guidelines 1.0 (WCAG). Please see WCAG checkpoints: <http://www.w3.org/TR/WCAG10/full-checklist.html>.

Topic-wide Recommended Practices

The Website Topic Report team identified the following topic-wide usability best practices.

- WEB-RP-46** **User-focused Design:** Website developers and managers should strive to achieve the 10 widely accepted usability heuristic principles as part of website builds, redesigns and optimization activities. The 10 principles are outlined in WEB-P-03 through WEB-P-12 above.
- WEB-RP-47** **Identify Your Users:** Consider all of the different types of users who access your site, their characteristics, such as educational level and location, and their needs for information and services when visiting the website. Creation of use cases is a helpful exercise.
- WEB-RP-48** **Plain English:** Can your user understand the content you provide? Consider adoption of simple language, short sentences and jargon-free content for best impact. Use active verbs wherever possible. Write text at an educational level proven or surmised for your audience. Avoid "government speak." Readability, scannability and information load should be considered. (For references see [Appendix B](#))
- WEB-RP-49** **Progressive Testing:** Usability testing with repeatable use cases should be undertaken with actual users, ideally presenting iterative rounds of design to the same testers during the design and development cycles. Developers and business owners should consider participating in these processes.
- WEB-RP-50** **Analytics:** Webmasters should consider installing a tool to track traffic, users, page views, exit points and other desired metrics. Information gathered should be used to initiate data-driven optimization of a site and its content.

Rationale:

Usability is a journey, not a destination – and its implementation provides benefits to the website owner as well as the user. The goal of enjoying usability

best practices is to enable users to easily understand and consume information needed to complete their desired interactions with government.

Topic-wide Requirements

There are no website topic-wide requirements at this time.

Website Technical Components

Each agency is responsible for ensuring that all public content and Web applications related to their agency adhere to the website related requirements identified in this document and adopted as COV ITRM requirements in the ETA Standard. This requires that any Service Level Agreements (SLA) entered into by an agency will outline the responsibility of ensuring that all content and Web applications related to their agency adhere to the template requirements.

Sharing recommended practices related to the functions of websites may aid agencies in reducing cost, improving management practices, and improving services and tools for the government and its citizens. Website architecture should be an enterprise solution that focuses on the needs of citizens and businesses. Its design should be intuitive, easy to use, and accessible, without jargon, confusing program names, and acronyms.

The following requirements address a common Web template for publicly accessible state websites and the state Internet Portal. Standardization with respect to these requirements provides a user-focused Web presence for the commonwealth. The Web Accessibility and Template Guide (WATG) is located at <http://www.vadsa.org/watg/> and is available to assist developers in implementing the website requirements.

The checkpoints referenced in this report are recommendations published by the World Wide Web Consortium (W3C). The W3C is an industry consortium which seeks to promote standards for the evolution of the Web and interoperability between WWW products by producing specifications and reference software. Although W3C is funded by industrial members, it is vendor-neutral, and its products are freely available to all. The direction provided by the checkpoints in this report is considered incorporated into the recommended practices and requirements in the report.

Virginia Common Template – Page Elements

These elements provide a common Web template and corresponding guidance and direction related to all the components an agency must put on every page of its website. The guidance and direction is provided in the form of recommended practices and requirements that bring together relevant best practices that affect website services provided by state agencies. For additional guidance, a Web Accessibility and Template Guide (WATG) were created by the Department of Rehabilitative Services to assist agency developers in implementing the requirements identified in this report. That guide can be accessed at: <http://www.vadsa.org/watg/>.

An important objective of the common template requirement is to create a user³ focused, or "user-centric," Web presence for the commonwealth, including a common look and feel to all agency websites. This objective is addressed by creating a template and set of website requirements for all Agencies to implement that assist in making the agency Web pages accessible and usable. An essential objective of this requirement is to assist in making the website user's experience as pleasant and trouble-free as possible. It also includes putting government services and content where citizens can easily find them, and in a format that is easy to use.

Code containing the "Commonwealth Banner," all links contained within the banner, sample template code and specifications are located at the WATG site: <http://www.vadsa.org/watg/>. All approved requirements are built into the template, but each agency is responsible for its content and ensuring that the content it adds remains compliant with the Common Template requirements identified in this report and the [Virginia Information Technology Accessibility Standard \(ITRM GOV103-00\)](#).

The *Department for Aging and Rehabilitative Services* maintains a site that provides statistical analysis for accessibility (WCAG 1 / Section 508) and detailed reporting for all commonwealth executive branch agency websites. This site is located at: <http://www.vadsa.org/scorecard/>

All approved requirements are built into the template, but each agency is responsible for its content and ensuring that the content it adds remains compliant with the Common Template requirements identified below.

Virginia Common Template

The Virginia common template is a visual arrangement of Web page elements. It specifies where common items should appear so users know where to look for them and to have a unified look-and-feel across Virginia government websites.

- WEB-R-05: Virginia Common Template** – All Executive Branch agencies shall use the Virginia Common Template for public websites and Web applications, except the following exempt entities:
- The Virginia Tourism Corporation
 - The Library of Virginia
 - Museums
 - Institutions of Higher Education

Extranets and Intranets are not required to follow any website requirements, but still shall comply with the current version of the COV ITRM Accessibility Standard (GOV103).

All requirements in the Website Topic Report apply to both the primary agency website and the mobile version, except as noted herein.

³In the case of government websites, a "user" is any visitor to that site, targeted or untargeted. It is possible for a user base to have several sub-groups of users, in which case it is acceptable to target specific user groups. If specific user groups are targeted for a public-facing site, there must be a clear distinction made to visitors when they leave the public user site and enter more specific targeted sections.

Rationale:

Standardization with respect to this requirement provides a user-focused Web presence for the commonwealth.

Commonwealth Banner

The Commonwealth Banner is the black bar that appears at the top of Virginia government Web pages. It contains links relevant to all agencies.

WEB-R-01: Commonwealth Banner Code, Content and Location –**Agency Sites**

The code containing the black "Commonwealth Banner" shall be used on all agency websites and is available on the VITA site (<http://www.vita.virginia.gov/library/default.aspx?id=6442469717>).

- "Skip to Content" -(skip-nav) shall be hidden within the code of the Commonwealth Banner to allow screen reader access at the beginning of each page.
- "Virginia.gov" logo – left align and link to the Virginia.gov portal
- "Agencies" – left align
- "Governor" – left align
- "Search Virginia.gov" – right align text link
- The "Commonwealth Banner" shall be black and posted above the "Site Banner" area at the top of every page of each site. It shall be 40 pixels in height in its default mode. Please note that this area shall be permitted to grow to accommodate changes in font sizes through user specification or scripting such as CSS and/or JavaScript that allow font sizes to change. This section shall be scalable, but always default to no more than 40 pixels in height with standard font sizes.
- The "Commonwealth Banner" for the agency sites shall contain the agency search feature which shall allow users to access this functionality across the agency site. The agency site search link shall contain the text "Search for information and Services" and shall be right aligned to clearly identify its function.
- The "Commonwealth Banner" shall be black and posted above the "Site Banner" area at the top of every page of each site. It shall contain the enterprise search feature which shall allow users to access this functionality across all state sites. The statewide search link shall contain the text "Search for information and services" to clearly identify its function.

Rationale:

To bring statewide functionality relevant to all agency websites and visitors to one common location.

To concentrate in one location the requirements related to the "Commonwealth Banner."

Mobile Sites

- On mobile sites' home page, For mobile sites, on the home page the Commonwealth Banner shall be:
 - Posted above the site banner at the top;
 - Black;
 - at least ~~20~~ 15 pixels high;
 - contain the Virginia.gov logo left-aligned.
- The virginia.gov logo shall link to the Virginia.gov portal.
- The other standard site Common Banner requirements are optional for mobile sites.
- On subpages, the Commonwealth Banner is optional. If the Commonwealth Banner is not shown, the Virginia.gov logo shall appear in the Page Footer.
- For the definition of Mobile Website and Mobile App see [Key Definations](#) above.

Virginia.gov Portal

The Virginia.gov portal shall comply with the most recent requirements in the Website Topic Report, except as noted herein.

The Virginia.gov portal website shall comply with the WEB-R-01 requirements except as noted below:

- Instead of the Virginia.gov logo, the Virginia.gov Commonwealth Banner shall have the text "The official website of the Commonwealth of Virginia" left-aligned.
- The Virginia.gov portal website shall have the "Agencies" and "Governor" links right-aligned.
- The Virginia.gov portal website shall have a "Help" link right-aligned.
- The Virginia.gov portal website is not required to contain the "Search Virginia.gov" text link.

Rationale:

To avoid presenting duplicate links and text on the Virginia.gov portal website.

WEB-RP-36: Mobile Sites – For all mobile site recommended practices, please refer to the latest version of Mobile Web Best Practices 1.0: <http://www.w3.org/TR/mobile-bp/>

Mobile Applications (Apps) – For all mobile apps recommended practices, please refer to the latest version of Mobile Web Application Best Practices: <http://www.w3.org/TR/mwabp/>

~~**WEB-R-02: Commonwealth Banner Location**~~ – This requirement was combined with WEB-R-01 on 10/19/2011.

~~**WEB-R-03: Commonwealth Banner Height**~~ – This requirement was combined with WEB-R-01 on 10/19/2011.

~~**WEB-R-04: Commonwealth Banner Height**~~ – This requirement was combined with WEB-R-01 on 10/19/2011.

Text Only Site

A “Text only site” is a version of the main site that uses only text. Every Web page has an alternate Web page with the same content and text descriptions for visual information (graphics, charts, etc.).

- WEB-R-06: Text Only Site** – If an agency uses a text-only site, that link shall be hidden in the code prior to the Commonwealth Banner of the template and the text-only site shall be updated at the same time as the standard site.

Site Banner

The Site Banner is the area below the top black Commonwealth Banner and above the Navigation Trail. It contains the agency name and often contains graphics related to the agency.

- WEB-R-07: Site Banner** – Each agency shall create its own Site Banner for use in the template; it shall be 100 pixels high and able to accommodate screen resolutions 1024 and wider gracefully.
- The Site Banner shall contain the full agency name or site name and be created in one of the specified standard fonts.

Mobile Sites

- For mobile sites, there shall be a Site Banner. It has no height requirements.
- The mobile Site Banner is required on all subpages. The Site Banner shall identify the agency by containing the approved agency name, site name, agency ~~aeronym~~ *abbreviation*, or logo. A “Back” or “Menu” link shall be displayed in the Site Banner on any page that does not explicitly list the main navigation links.

If top navigation with dropdowns is used, the dropdowns may temporarily overlap the Navigation Trail and content area as long as the dropdowns can be closed so users can access the Navigation Trail and content area.

Other items, design or functional, may be used in this area based on each agency’s business needs.

- WEB-R-43: Enterprise and/or mandated graphic and other independent links** – Enterprise and/or mandated graphic and other independent links shall be prominent and visually separated and below the navigation links to avoid user confusion and do not count towards the 12-link limit. Examples include graphic links to agency-specific reports on Commonwealth Data Point and Virginia Performs. These graphic links shall be clearly delineated from the primary navigation to assist the user; they may or may not appear on each page beyond the home page, as determined by the agency. The Virginia Information Technologies Agency (VITA) shall approve exceptions prior to site redesign implementation.

WEB-R-08: Site Search – If a site contains more than 36 pages it shall provide an agency site search box which shall appear on every page and be located in the upper right quadrant of the page but not in the Commonwealth Banner.

Mobile Sites

- If the mobile site contains more than 36 pages, the mobile version shall also provide a search feature. Placement is at the discretion of the agency.

WEB-RP-01: Real-time Customer Service – Agencies that deal directly with a large group of constituencies on a regular basis should consider implementing real-time, online customer service.

Navigation Trail

The Navigation Trail or “breadcrumb trail” appears below the “Site Banner.” It shows the route from the homepage to the page the visitor is on. Using the Navigation Trail links, visitors can return to previous or parent pages. The links can help orient a user. In the Common Template, the Navigation Trail also contains a link to the agency Contact Us page and the site-wide search box.

The following are requirements related to Navigation Trails:

WEB-R-09: Navigation Trail Bar Location - A “breadcrumb” navigation trail bar shall be located below and contiguous to the “Site Banner” in the template. If the primary navigation is horizontal, the “breadcrumb” navigation trail shall be placed immediately above or below the primary navigation.

Mobile Sites

- For mobile sites, the Navigation Trail Bread Crumb is optional.

WEB-R-10: Navigation Trail “Bread Crumb” Text Location – The breadcrumb text shall be located on the left side of the navigation bar. See [Glossary](#): “breadcrumb”

Mobile Sites

- For mobile sites, the Navigation Trail “Breadcrumb” text is optional.

WEB-R-11: Navigation Trail Height & Resolution – The Navigation Trail shall not exceed 25 pixels in height in its default mode. This area shall be permitted to grow to accommodate changes in font sizes through user specification or scripting such as CSS and/or JavaScript that allow font sizes to change. This section shall be scalable, but always default to no more than 25 pixels in height with standard font sizes. *If breadcrumb text wraps to a second line, the breadcrumb bar can become taller to accommodate it.*

Mobile Sites

- For mobile sites, there are no requirements for Navigation Trail Height and Resolution.

~~**WEB-R-12: Navigation Trail "Contact Us" link**—This requirement was superseded by WEB-R-17 on 10/19/2011.~~

~~**WEB-R-13: Navigation Trail Agency Search**—This requirement was superseded by WEB-R-08 on 10/19/2011.~~

The following are recommended practices related to Navigation Trails:

WEB-RP-02: Provide Navigation Mechanisms – Provide access to content through a variety of navigation mechanisms, including sequential navigation, direct navigation, searches and structured navigation, as appropriate.

Rationale:

Users should be able to navigate to important pieces of content within a configurable view, identify the type of object they have navigated to, interact with that object easily (if it is an [enabled element](#)), and review the surrounding context (to orient themselves). Providing a variety of navigation and search mechanisms helps users with disabilities, as well as users without disabilities, access content more efficiently. Navigation and searching are particularly important to users with [serial access](#) to content or who [navigate sequentially](#) (by moving the [focus](#)).

Direct navigation is important to users with some physical disabilities (who may have little or no manual dexterity and/or increased tendency to push unwanted buttons or keys) and to users with visual disabilities. Expert users also will benefit from direct navigation. Direct navigation may be possible with the pointing device or the keyboard (e.g., keyboard shortcuts).

User agents should allow users to navigate to content known to be structurally important, such as blocks of content, headers and sections, tables, forms and form elements, enabled elements, navigation mechanisms and containers.

WEB-RP-03: Orient the User – Provide information that shall help the user understand browsing context.

Rationale:

All users require clues to help them understand their location when browsing: where they are, how they got there, where they can go and what is nearby.

Navigation Links

Navigation Links refer to the main links on the left side *or top* of agency Web pages. They generally link to major areas or categories on a site.

WEB-R-14: Primary Navigation Links

- If the primary navigation is vertical, it shall be located on the left side of the page immediately below the Navigation Trail "Breadcrumb" Bar.
- If the primary navigation is vertical, no more than twelve main navigation links shall be used.
- If the primary navigation is in the Site Banner, it shall be placed immediately above or below the Navigation Trail "Breadcrumb" Bar.
- If the primary navigation is horizontal, no more than eight main navigation links shall be used.
- If a site uses both a left column of navigation and a top navigation bar, the primary links shall only appear in one of the two locations. A site shall *may* have (but is not required to have) both a left column of navigation and a top navigation bar.
- Primary links shall remain the same throughout the site.
- Graphics and other links on the left side of the page shall be visually separated and below navigation links to avoid user confusion.
- The Virginia Information Technologies Agency shall consider approval of requests for exceptions prior to site redesign implementation.

Mobile Sites

- A mobile site's primary navigation shall appear immediately above or beneath the Navigation Trail Bar (if any). If there is no Navigation Trail Bar then the primary navigation shall appear under the Site Banner.
- On subpages, the Primary Navigation may be replaced with a link to the mobile site homepage or evoked from the Menu button.
 - Mobile sites do not need to include all of the navigation links from the primary agency website.
 - Mobile sites do not need to contain all the content from the primary agency website.

Rationale:

To avoid clutter, apply uniform navigation to improve the usability across all commonwealth websites.

WEB-R-15: Number of Sub-navigation Links – There shall be no more than twelve sub-navigation links for a primary navigation link. Sub-navigation shall be visually distinct from the main navigation links (e.g. indented, fly-out, different color or different location). Sub-navigation links shall be semantically distinct from the main navigation links. Sub-navigation links shall not count towards the

twelve primary navigation link limit, and may vary from page to page.

Rationale:

To permit greater link decomposition and delineation within the primary link area while avoiding confusing clutter.

Content Sections

Content Sections are the one or more areas in the content portion of an agency Web page. This is where the page content goes.

~~**WEB-R-16: Content Sections** – This requirement was rescinded on 01/13/2013.~~

WEB-RP-04: Ensure User Control of Time-Sensitive Content Changes – Until user agents provide the ability to stop auto-redirect, do not use markup to redirect pages automatically. Instead, configure the server to perform redirects. WAI WCAG⁴ checkpoint [7.5](#)

WEB-RP-05: Provide Context and Orientation Information – Divide large blocks of information into more manageable groups where natural and appropriate. WAI WCAG checkpoint [12.3](#)

WEB-RP-06: Ensure User Access to All Content – Ensure that users have access to all content, notably conditional content, such as the “alt” and “label” attributes that may have been provided to meet the requirements of the Web Content Accessibility Guidelines 1.0 [[WCAG10](#)]

Page Footer

The Page Footer is the area at the bottom of an agency Web page. It contains specific standard information about the site.

WEB-R-17 Page Footer - Each page shall have a footer containing, at a minimum, the following information:

- Agency name
- Copyright information
- Text or an approved icon link stating WAI compliance.
- Link to the agency’s Internet Privacy Policy Statement.
- “Contact Us” link (Agencies may add other “Contact us” links as desired; only this one is mandated.)

Mobile Sites

- For mobile sites subpages without the Commonwealth Banner, the Virginia.gov logo shall appear in the Page Footer.

⁴ The World Wide Web Consortium (W3C) is the main [international standards organization](#) for the [World Wide Web](#) (abbreviated WWW or W3). It is arranged as a [consortium](#) where member organizations maintain full-time staff for the purpose of working together in the development of standards for the [World Wide Web](#). As of February 2008, the W3C had 434 members.

Language Translation

Language Translation refers to links to versions of a given page in other languages. Generally the translation is automated on the fly, but agencies could link to hand-crafted translations of select pages.

There are several free language translators available today that automatically translate the HTML content on a website. These translators allow the non-English speaking user of the website to understand the general intent of the site, but do not provide a polished translation of the site. For the best results the English text should use proper grammar and punctuation, and avoid the use of slang and complex or lengthy sentences.

An alternative solution to automatic translation services is to provide just the most essential information from your site into the different preferred language(s) by means of an actual human language translator. This option may be possible since this shall not require the entire site being translated.

The website should caution that the translators are offered as a service to non-English speaking users and are provided "as is." No warranty of any kind, either expressed or implied, is made as to the accuracy, correctness or reliability of any translations made from English into any other language, or translations from any foreign language into English. Some pages may not be accurately translated due to the limitations of the translation software, such as dynamic or interactive pages.

Automatic language translators can have a difficult time translating graphical elements, so forethought should be taken in utilizing these elements, especially when they contain important and essential information for the user. This also applies to PDF documents. If you have important and essential information in this format alone, you should also provide an HTML text equivalent for the automatic language translators to read and interpret.

WEB-RP-08: Language Translation – Agencies should consider providing an automatic translation service for the HTML content on the agency website as a potential aid to non-English speaking users in understanding the general intent on the site.

Rationale:

For consistency and ease of use, all Commonwealth of Virginia sites should place automated translators in the same place on their sites. The footer is an easy to find place that doesn't distract from the main content of the page.

Virginia Common Template – Site and Application Content

This section identifies the various items that an agency shall address or add to their website and application content.

WEB-RP-07: Advertisements or Commercial Banners – should not appear unless authorized by the Commonwealth of Virginia or the agency.

WEB-RP-51: Plain language - Plain language (also called Plain English) is communication the audience can understand the first time they read

or hear it. Written material is in plain language so your audience can:

- Find what they need;
- Understand what they find; and
- Use what they find to meet their needs.

There are many writing techniques that can help achieve this goal. Among the most common are:

- Logical organization with the reader in mind
- "You" and other pronouns
- Active voice
- Short sentences
- Common, everyday words
- Easy-to-read design features

Background of Plain Language: It's the federal law

President Obama signed the [Plain Writing Act of 2010](#) on October 13, 2010. The law requires that federal agencies use "clear Government communication that the public can understand and use." On January 18, 2011, he issued a new Executive Order, "E.O. 13563 - [Improving Regulation and Regulatory Review](#)." It states that "[our regulatory system] must ensure that regulations are accessible, consistent, written in plain language, and easy to understand."

Web Content Accessibility

Web Content Accessibility refers to coding practices that aid in accessing online content.

~~**WEB-RP-09: Accessible Version of the User Agency Documentation**—This recommended practice was rescinded on 00/00/2015.~~

~~**WEB-RP-10: Accessible Features Documentation**—This recommended practice was rescinded on 00/00/2015.~~

~~**WEB-RP-11: Centralized View of Accessible Features**—This recommended practice was rescinded on 00/00/2015.~~

WEB-RP-12: Design for Device-Independence – Create a logical tab order through links, form controls, and objects. WAI WCAG checkpoint [9.4](#)

Rationale:

Although it is possible to make most content accessible, however, if an accessible page cannot be created, a link should be provided to an alternative page that uses W3C technologies, is accessible, has equivalent information (or functionality), and is updated as often as the inaccessible (original) page. *What this typically means is that interfaces should be built so that visually handicapped people can navigate and use them with a keyboard, and so that the results are readable by a synthesized voice program.*

WEB-RP-13: Use Interim Solutions – Until user agents, including assistive technologies, render adjacent links distinctly, agencies should include

non-link, printable characters (surrounded by spaces) between adjacent links. WAI WCAG checkpoint [10.5](#)

WEB-RP-14: Support Input and Output Device-Independence – Ensure that the user can interact with the [user agent](#) (and the [content](#) it renders) through different input and output devices.

Rationale:

Since people use a variety of devices for input and output, user agent developers need to ensure redundancy in the [user interface](#). The user may have to operate the user interface with a variety of input devices (e.g., keyboard, pointing device, and voice input) and output modalities (e.g., [graphical](#), speech, or Braille rendering). Though it may seem contradictory, enabling full user agent operation through the keyboard is an important part of promoting [device independence](#) in [target user agents](#).

WEB-RP-15: Clear Link Target Information – Clearly identify the target of each link. WAI WCAG checkpoint [13.1](#)

WEB-RP-16: Clear Site Layout – Provide information about the general layout of a site (e.g., a site map or table of contents). WAI WCAG checkpoint [13.3](#)

WEB-RP-17: Observe Operating Environment Conventions – Observe operating environment conventions for the [user agent user interface](#), documentation, input configurations and installation. Part of user agent accessibility involves following the conventions of the user's operating environment, including:

- Following [operating environment](#) conventions for [user agent user interface](#) design, [documentation](#) and installation.
- Incorporating [operating environment level](#) user preferences into the user agent.

WEB-RP-18: Provide Alternate Information Delivery – To enhance a user's experience with a website, Webmasters should implement features that allow a user to request high-contrast colors (for users with low vision) or graphical rendering of audio cues (for users with hearing disabilities).

WEB-RP-19: Consistent Navigation Mechanisms – Use navigation mechanisms in a consistent manner. WAI WCAG checkpoint [13.4](#)

WEB-RP-20: Allow Configuration Not to Render Some Content that May Reduce Accessibility – Ensure that the user may turn off rendering of content (e.g., audio, video, scripts) that may reduce accessibility by obscuring other content or disorienting the user.

Rationale:

Some content or behavior specified by the author may make the user agent unusable or may obscure information. If you offer audio or video content, allow the user to manually start the content. Do not have audio and video content start automatically when a page loads.

For instance, flashing content may trigger seizures in people with photosensitive epilepsy, or may make a Web page too distracting to be usable by someone with a cognitive disability. Blinking text can affect screen reader users since screen readers (in conjunction with speech synthesizers or Braille displays) may re-render the text every time it blinks. Distracting background images, colors, or sounds may make it impossible for users to see or hear other content. Dynamically changing Web content may cause problems for some [assistive technologies](#). Scripts that cause unanticipated changes (e.g., [viewports](#) that open without notice or automatic content retrieval) may disorient some users with cognitive disabilities.

~~**WEB-R-18: Central Repository of Forms** This requirement was rescinded on 10/19/2011.~~

Contact Instructions

Contact Instructions provide information to visitors that enable them to contact the agency for help, for example by phone or e-mail.

WEB-R-19: Contact Instructions – The Contact Us page is accessible from the page footer *and* shall include, at a minimum, the agency’s:

- Mailing address;
- FAX number;
- Phone number, including a toll-free number and/or, TTY number if available; and an
- Email link to an agency contact.

Custom 404 Error Message

A Custom 404 Error Message is a customized message returned to website visitors when a requested Web page is not found.

~~**WEB-R-20: Custom 404 Error Message** This requirement became a recommended practice on 10/19/2011~~

WEB-RP-35: Custom 404 Error Message - Agencies should implement a custom 404 error message page. Whenever possible, have the server redirect the user to the new page.

Rationale:

The 404 Error Message is the frequently seen Hypertext Transfer Protocol (HTTP) status code that informs a Web user that a requested page is "Not found." By creating custom contents for a 404 status code page and substitute it for the 404 page that the browser usually provides, the Webmaster can personalize the message and encourage the user to notify the Webmaster so that the situation can be fixed and provide the user other ways to find the information they’re looking for (e.g. a link to the site map page or a site search box)."

Search Engine

A search engine allows visitors to search online content. Public agency sites shall have a site-specific search (to search the current website) and a link to commonwealth search (to search all state agency sites).

WEB-R-24: Public Search Engine Compatibility – All public content posted on a Virginia government website shall be searchable and discoverable through public search engines.

WEB-R-25: META Tags – Every page on an agency website shall contain an accurate meta description in order to ensure any search engine (agency, statewide search, or public search engine such as Yahoo or Google) can display meaningful search results.

Rationale:

To assist search engines in indexing or “crawling” the dynamic content on a government website. The description meta tag is generally shown beneath the links in search results. Having meaningful description meta tag text helps search engine users choose the correct link to find the information they are looking for.

WEB-R-21: Sitemap XML File – Each agency shall include an XML sitemap at the root level of the site to facilitate statewide search.

WEB-R-22: Sitemap XML Schema – The sitemap XML shall follow the XML schema standard as defined on the [WATG](http://www.vadsa.org/watg/) site (<http://www.vadsa.org/watg/>).

WEB-R-23: Updating Sitemaps XML Files – Agency Webmasters shall update their agency XML sitemap on a regular basis as substantial updates are made to the site and particularly if a large number of new URLs representing significant new content are added. New sitemap files are not needed to reach content changes on existing URLs.

Rationale:

By updating the search sitemap in this manner, the users will experience a better, more accurate search.

WEB-R-26: Periodic Search Testing – All webmasters shall test search results relevant to their agency name and content on a regular basis.

~~**WEB-RP-21: Usable Search Engines Results**~~ – The recommended practice was combined with WEB-R-25 on 10/19/2011

~~**WEB-RP-22: Audience Focused Search Engines Results**~~ – Websites should use a search engine technology that is able to handle the needs of their audience.

~~**WEB-RP-23: Variable Data and Search Engine Results**~~ – Webmasters should take particular care to examine and include in their XML sitemap schema those URLs behind database content and interactive forms, as these are historically more difficult for search engines to index.

Internet Privacy Policy Statement

The Internet Privacy Policy Statement tells visitors how any collected personal information is handled on the site. It also contains other information about the site.

- WEB-R-27: Internet Privacy Policy and Statement** – To comply with Code of Virginia, § [2.2-3803](#) (B) at a minimum each agency shall:
- Develop an Internet privacy policy and an Internet privacy policy statement that explains the policy to the public; and,
 - Tailor the policy and the statement to reflect the information practices of the individual agency.

- WEB-R-28: Internet Privacy Policy and Statement - Collection of Information** – To comply with Code of Virginia, § [2.2-3803](#) (B) at a minimum, the Internet Privacy Policy and Internet Privacy Policy Statement shall address:
- What information, including personally identifiable information, shall be collected, if any;
 - Whether any information shall be automatically collected simply by accessing the website and, if so, what information;
 - Whether the website automatically places a computer file, commonly referred to as a "cookie," on the Internet user's computer and, if so, for what purpose; and,
 - How the collected information is being used or shall be used.

Except for those systems listed in the Code of Virginia, § [2.2-3802](#), as exempt, the following also shall be included:

- A prescribed procedure for an individual to learn the purpose for which information has been recorded and particulars about its use and dissemination; and
- A clearly prescribed and uncomplicated procedure for an individual to correct, erase or amend inaccurate, obsolete or irrelevant information.

Rationale:

Modern information technology tools have the potential to extend the meaning of "personal information" to include the Web browsing habits of users of the Internet. Web browsers have been designed with the ability to collect and pass potentially identifying information via "cookies" of which the user may not even be aware. Internet servers collect very specific information necessary to allow the transfer of information between computers.

- WEB-R-29: Internet Privacy Policy Statement – Link Location** - A link to the Internet Privacy Policy Statement shall be featured in a conspicuous manner on the website home page, in the page footer.

- WEB-R-30: Internet Privacy Policy Statement – Data Retention** – The statement shall state that any personal information that is collected and retained is maintained in compliance with the *Code of Virginia*, §§ [2.2-3800](#) and [2.2-3803](#).

WEB-R-31: Internet Privacy Policy Statement – Freedom of Information Act (FOIA) – The statement shall remind users that information collected on this site may be provided to anyone that requests it under the Virginia Freedom of Information Act.

WEB-R-32: Internet Privacy Policy Related Requirements – All agency websites shall have a Web policy. The Web policy shall include the following:

- Disclaimer – a statement that indemnifies the commonwealth from responsibility for third party or externally linked content
- Link policy – a policy stating the criteria that allows a link to be placed on the site.
- FOIA – a statement that explains the agency’s Freedom of Information Act policies and contacts.
- Plug-ins – a list of links visitors can use to download any plug-ins used by the site. (e.g. Macromedia Flash, Adobe Acrobat Reader)
Note that pages that use plug-ins also must link to required plug-ins.

Rationale:

This section provides agencies with Internet websites direction for developing an Internet Privacy Policy and an Internet Privacy Policy Statement in compliance with the *Code*.

Citizen Cyber Security Awareness Banner

The Citizen Cyber Security Awareness Banner is a warning to users that appears above online requests for personal information or passwords. It contains a link to VITA’s online guide to protecting personal information.

WEB-RP-24: Due to the ever-increasing threats posed by malware running on citizen computers, it is suggested agencies utilize the cyber security awareness banner from the Cyber Security Toolkit on all Internet facing citizen and partner applications where authentication is required, or where any personally identifiable information may be exchanged between the agency and your customers. Agencies are strongly encouraged to further promote the banner on their sites in October and provide a link to the CSRM toolkit.

Rationale:

To assist all agencies in their efforts to increase Cyber Security Awareness, the Virginia Information Technologies Agency has made a Cyber Security Toolkit available online. This toolkit was produced by the Multi-State Information Sharing and Analysis Center (MS-ISAC) in collaboration with the U.S. Department of Homeland Security and the National Cyber Security Alliance as part of the National Cyber Security Awareness Month Campaign.

The toolkit is designed to help promote the delivery of a consistent cyber security awareness message and can become a cost efficient component of an agency's Cyber Security Awareness Program. Instructions for printing and branding are also included. The toolkit may be accessed online at:

<http://www.vita.virginia.gov/security/default.aspx?id=5146>

For questions or more information, please contact VITA Security Services at:

VITASecurityServices@VITA.Virginia.Gov

Example of the Citizen Cyber Security Awareness Banner:

The security of your personal information is important to us!

Diligent efforts are made to ensure the security of Commonwealth of Virginia systems. Before you use this website to conduct business with the commonwealth, please ensure your personal computer is not infected with malicious code that collects your personal information. This code is referred to as a [keylogger](#). The way to protect against this is to maintain current [anti-virus](#) and [security patches](#).

For more information on protecting your personal information online, refer to [Guide to Online Protection](#) and the [Online Protection Glossary](#).

Virginia Common Template – Site Design Considerations

This section addresses various considerations related to the design of an agency website, including site scalability and the use of fonts, frames, and style sheets.

Site Scalability

Site Scalability refers to the ability of the site to become narrower or wider depending on the visitor's browser's window width.

WEB-R-33: Site Scalability - Agency Sites shall be able to accommodate screen resolutions of 1024 pixels wide and greater gracefully (without horizontal scrolling) and stretch from margin to margin so as to be attractive and be consistent. Site margins are permitted.

WEB-R-34: Browser – All template sites shall display and operate within most common browsers in a consistent manner. ~~The most common browsers include, but are not limited to, Explorer, Mozilla/Netscape and Firefox.~~

Rationale:

Use of common browsers ensures access to state websites by the largest segment of users.

WEB-RP-25: User Control of User Interface Behavior – Permit user control of the viewpoints or warn the user about the behavior of viewports, including those that may be manipulated by the author (e.g., through scripts). *For*

example, use an alt or title tag with the text "Opens new browser" to warn users when a link will open a new browser window or tab.

Rationale:

Visitors now use many different devices to access websites, from desktop to tablet to mobile phones. To best accommodate this wide variety, webmasters are encouraged to employ responsive design techniques and HTML5 tools.

Control of [viewport](#) behavior is important to accessibility. Unexpected changes to the point of regard — what the user is presumed to be viewing — may cause users to lose track of how many viewports are open, or which viewport has the current focus. If carried out automatically, these changes might go unnoticed (e.g., by some users with blindness) or be disorienting (e.g., to some users with a cognitive disability).

Mobile Sites

WEB-RP-52 **Mobile Responsive Web Design** – Agencies developing a mobile website are encouraged to employ a responsive design approach, which allows for content to properly display and scale regardless of device viewport.

Rationale:

Responsive-design websites are more efficient, automated and easier to maintain than are separate full and mobile versions of a website.

Definition: A website development process that dynamically changes content according to the screen size and orientation of the user's device.

Font Families

Font Families refers to the font types used to display text (Arial, Times Roman, etc.).

WEB-R-35: Fonts:

- Menu and body type must use either serif or sans-serif typefaces. Script, ornamental display and black-letter typefaces are prohibited.
- All fonts used in a font-embedding solution must be properly licensed.

WEB-RP-44: CSS Font Stack – All website type should include a full CSS font stack that includes Web safe fonts.

Rationale:

Using serif and sans-serif fonts increases legibility, especially for users with vision impairments. The additional san-serif and serif fonts permit more variety among highly legible fonts and the explanatory language clarifies the compliant font families and font type.

WEB-RP-42: Typographical Rules and Recommendations Primary body type should be at least 12px (computed size).

- Headers and body type should use easily distinguishable fonts.
- The number of fonts used on a page should be less than three.
- If it is decided to use a font-embedding method, it is recommended to use fonts from a site or service that provides proper licensing details for embedded font use.

Frames

Frames refer to dividing the screen into areas each of which draws content from a separate file and has independent scrollbars.

WEB-R-36: Frames – The use of HTML frames is prohibited; however, the use of Inline Frames (IFRAMES) is permitted if the W3C recommendations (see: <http://www.w3.org/TR/html4/present/frames.html#h>) are fully compliant, which allows authors to insert a frame within a block of text.

Rationale:

Although not expressly prohibited by Level A, the use of HTML frames poses a significant barrier to usability and accessibility and is prohibited by the current version of the Virginia IT Accessibility Standard (ITRM GOV103) for sites using the Virginia Common Template. IFRAMES provide Webmasters with the ability display content in frames while making the content accessible to assistive technology.

Style Sheets

Style Sheets, also known as Cascading Style Sheets (CSS files), are used to control the appearance of Web pages.

WEB-R-37: Style Sheets – Agencies shall use style sheets to control the website layout whenever possible. Tables shall not be used for layout unless they make sense when linearized. WAI WCAG checkpoint [3.3](#)

Rationale:

Using tables for layout can confuse screen readers if the content does not make sense when linearized (read left-to-right, top-to-bottom). CSS allows you to put content in <div>s and position <div>s so both visual layout and read order can be controlled.

WEB-RP-26: Mark-up Language Use – When an appropriate markup language exists, use markup rather than images to convey information. WAI WCAG checkpoint [3.1](#)

WEB-RP-27: Mark-up Language Attribute Use – Use relative rather than absolute units in mark-up language attribute values and style sheet property values. WAI WCAG checkpoint [3.4](#)

WEB-RP-28: Mark-up Language List Item Use – Mark-up lists and list items properly since ordered lists help non-visual users navigate. WAI WCAG checkpoint [3.6](#)

~~**WEB-RP-29: Tables Transform** – This recommended practice is stated in WEB-R-37 and was rescinded on 10/19/2011.~~

WEB-RP-30: Data Tables Summaries – Provide summaries for data tables. WAI WCAG checkpoint [5.5](#)

WEB-RP-31: Transformation of Pages Featuring Applets and/or Scripts – For scripts and applets, ensure that event handlers are input device independent. WAI WCAG checkpoint [6.4](#)

WEB-RP-32: Validate to Published Formal Grammars – Create pages that validate ~~tables that are published~~ to formal grammars. *Identify the grammar using the !doctype declaration/tag.* WAI WCAG checkpoint [3.2](#)

Rationale

Validating to a published formal grammar and declaring that validation at the beginning of a document lets the user know that the structure of the document is sound. It also lets the user agent know where to look for semantics if it needs to. [The W3C Validation Service](#) validates documents against a [whole list of published grammars](#). Developers can identify a page's formal grammar by using the !DOCTYPE tag.

Link Modification

Link Modification refers to the process of alerting the Virginia.gov portal of new, updated or outdated links to agency websites.

Each agency's Webmaster is required to notify Virginia.gov of link changes. Due to the complexity of the Virginia.gov portal, it is critical that each agency be held accountable for the content found on its individual websites. This agency accountability is the only way the Commonwealth of Virginia can provide the public with the most current and accurate information.

WEB-R-38: Webmaster Registration - Each agency's webmaster shall be registered in the Virginia.gov webmaster registry. For information on registering, contact virginiawebmaster@vita.virginia.gov.

~~**WEB-R-39: Link Modification Requirements: Change Request Form: Agency's link added, modified or deleted** – This requirement was rescinded on 12/17/2012~~

WEB-R-42 Social Media – The use of social media is an agency business decision.

- Agencies choosing to use social media sites and accounts are responsible for acceptable use, internal processes and ongoing monitoring.

- Agencies which choose to participate in social media initiatives are responsible for risk management and must consult with agency security personnel and develop agency specific policies for acceptable use.

New and Developing Web Technologies ~~Web 2.0~~

With new and developing Web technologies ~~2.0~~ is an approach to Web design where, instead of maintaining tight control of content and data access, access to content and data is freely given and encouraged. Content is often created by users. ~~Web 2.0~~ This can include technology and systems that enable collaboration such as AJAX, APIs, mashups, data feeds, shared user-generated content and user generated tagging.

WEB-RP-33: New and Developing Web Technologies ~~Web 2.0~~ – For all ~~Web 2.0~~ items on an agency website, there should be an alternative method for users with disabilities to obtain the information presented.

Rationale:

New and developing Web technologies ~~Web 2.0~~ is a very broad term that encompasses a wide variety of website items and functionality, many of which may not work for different disabled users.

RSS (Really Simply Syndication)

RSS is a Web feed format. An RSS file can be automatically read by a visitor's RSS software if the visitor "subscribes" to the RSS feed. Usually RSS feeds are used to publish timely information (such as news, job openings, updated information, events, etc.).

WEB-RP-34: RSS – Provide RSS feeds to facilitate the ease of users subscribing to changing news items or information from your agency website.

Rationale:

RSS feeds are useful for such items as press releases, alerting subscribers when new items have been added to the site or of updates to the site.

WEB RP-35: Mobile Applications – If an agency chooses to implement mobile applications, they should be checked through the agency information security officer and also echo agency branding as practicable.

Technology Component Standard

For information regarding browser technology components standards please refer to the table for Productivity/Management Software Technology Component Standard [PLA-S-07](#) in the Platform Domain Report. To access the report click here: [Platform Domain Report](#) or copy the following URL into your browser:
<http://www.vita.virginia.gov/uploadedFiles/Oversight/EA/ETAPPlatformDomainReport.pdf> .

Website Compliance Tools on Statewide Contract

To assist an agency in developing or remediating its website to comply with the website requirements in this domain topic, please refer to the website and IT accessibility section of the VITA website. To access this section click here: [Website and IT accessibility](#) or copy the following URL into your browser: <http://www.vita.virginia.gov/library/default.aspx?id=663>.

Implementation

Native and Mobile Application Development

As noted in the ETA Applications Domain (APP-P-02) agencies should first consider the reuse of existing applications and system components. If no components exist, purchased solutions (COTS) should be explored. Applications or systems that can provide automation of agency core business functions that have unique processes, yield competitive advantages, or have demonstrable cost savings and/or enhanced value should be the only candidates for in-house development by the Commonwealth.

“Mobile applications (i.e. apps) are built in standards-based technologies such as HTML5, CSS3 and other modern Web technology. Without any special translations, conversions or re-programming, a Web app can run on pretty much any platform with a modern, standards-compliant Web browser.’

“Native applications primarily work on the one platform they were built for and they take longer and cost more to build than a mobile application, i.e. apps. However, Current technology makes native apps a superior experience - but this is the case only for as long as we're stuck with current technology. A few advances here and there, and pretty soon native apps will go the way of desktop apps⁵.”

WEB-RP-45: Mobile or Native Application Development – Agencies should consider whether to implement a mobile or native based solution based on due diligence and their business requirements. Preference should be given to a mobile rather than a native solution.

Rationale

Once a Web app is launched, users on iPhones, iPads, Android phones, the Kindle Fire and Windows Phones can all access the same app and run it equally well on any other platform.

WEB-RP-43: Mobile Application Development – For all Web 2.0 items on an agency *mobile app* website, there should be an alternative method for users with disabilities to obtain the information presented.

⁵ Mashable.com, *Web Apps Will Crush Native Apps*, retrieved 09/12/2012 <http://mashable.com/2012/09/12/web-vs-native-apps/>

Agency Implementation Plan

An Agency Implementation Plan documents the results of the agency's analysis of its website for compliance with the requirements identified in this document and as needed, how the agency plans to bring the current information on its website into compliance with those requirements and how the agency shall ensure that future content is also compliant.

WEB-R-40: Agency Implementation Plan – Each agency shall develop a plan describing how and when it intends to meet the website related (all “WEB-R-*nn*” labeled requirements, where “*nn*” is the specific requirement number) requirements identified in this document and update the plan when there is a subsequent material change to the plan.

The agency plan shall contain an analysis of the website for compliance with the related requirements identified in this document, identify by requirement number all current non-compliant items, identify agency plans and schedules for correcting all non-compliant pages, and identify the agency's process and procedures for ensuring future Web content is compliant. (Note – Appendix A of the current Website Topic Report provides additional guidance in developing agency implementation plans).

WEB-R-41: Implementation Plan Submittal – Each agency shall provide an electronic copy of its current agency implementation plan (initial and revised) to the VITA's Policy, Practice and Architecture Division. Electronic copies should be submitted to: EA@vita.virginia.gov

Appendices

Appendix A: Implementation Plan

Implementation Plan Questions

(a) Plan Strategy

Describe how the agency addresses each of the following:

(i) The agency's overall effort:

- Who will lead the compliance effort? (name, title, phone & e-mail);
- Who will lead the Web conversion or clean-up effort? (name, title, phone & e-mail);
- To whom does that person report? (name, title & email);
- Who will educate the agency on the need to comply with the *Website Topic Report*?

(ii) The agency's plans for producing new, compliant pages.

- Who has development access rights to the Web servers and websites or the number with such access?
- How will you avoid adding non-compliant pages to the website?

(iii) The agency's plans for checking existing pages for compliance problems.

- How will the agency check for non-compliant pages?
- Who will do the compliancy checking?
- How will the agency prioritize its Web work? Possible options to consider:
 - the entire site at once,
 - the most popular (highest hit) pages,
 - pages that are of most interest to your disabled audience,
 - by folder or feature,
 - by a specific number of levels deep from your main home page,
 - by file type (HTML, PDF, other), or
 - a combination of the above

(iv) The agency's plans for converting non-compliant pages.

- How will the agency prioritize your work?
- How will staff be allocated to this phase? (Will they be assigned specific areas of the website? Will they be given production quotas?)

(b) Plan Milestones

Provide information in a table with a column for *Milestones* and a column for *Target Dates*, as illustrated in the example below:

Milestone	Target Date

(c) Existing Web Page Count

- (i) Provide the number of Web pages/files on the agency's website(s) and Web based-applications.
- (ii) Explain how and when the agency will obtain the number.

(d) Staff Resources

Show the amount of staff resources to be assigned to the agency's site modifications in any of the following manners.

- (i) Number of staff times the average number of hours each will work per month.
- (ii) Number of FTE's to be assigned to the modification effort.

(e) Future Staff

Indicate any substantial changes to staff resources anticipated over time, and how your plan will manage the changes.

(f) Signature

The plan must be signed and dated by the agency head or equivalent. Please print the individual's title. Plans must be submitted by e-mail to EA@vita.virginia.gov.

Appendix B: Resources and Links

Additional resources and information (validation information, accessibility requirements information, compliancy information, code examples, etc.) may be found on the [WATG site \(www.vadsa.org/watg/\)](http://www.vadsa.org/watg/).

Plain Language:

Plain Language.Gov (federal gov't initiative): <http://www.plainlanguage.gov/index.cfm>

Federal Plain Language Guidelines (March 2011):

<http://www.plainlanguage.gov/howto/guidelines/FederalPLGuidelines/TOC.cfm>

Plain language guidance and manuals:

<http://www.plainlanguage.gov/howto/guidelines/index.cfm>

Quick Reference Tips: <http://www.plainlanguage.gov/howto/quickreference/index.cfm>

Toolkit: [http://www.cms.gov/Outreach-and-](http://www.cms.gov/Outreach-and-Education/Outreach/WrittenMaterialsToolkit/index.html?redirect=/WrittenMaterialsToolkit/)

[Education/Outreach/WrittenMaterialsToolkit/index.html?redirect=/WrittenMaterialsToolkit/](http://www.cms.gov/Outreach-and-Education/Outreach/WrittenMaterialsToolkit/index.html?redirect=/WrittenMaterialsToolkit/)