

WEB CONTENT MANAGEMENT

Summary

The impact of technology on government not only affects how government agencies complete tasks internally, it also influences the way those agencies interact with the public at large. The popularity of the Internet has resulted in government agencies growing increasingly reliant on web sites to meet the information needs of citizens. As a result, agencies need to manage their web content effectively to ensure that citizens are able to find the information they want easily as well as determine if it is accurate and current.

Web content management makes government accountable. Because web sites contain records that document government activity and the use of tax dollars, just as any paper record does, government agencies must manage web content with a carefully developed and implemented policy. Therefore, each agency should develop a plan for the management of public records maintained on its web site. The plan should integrate into each agency's overall records management program. Web content must be trustworthy, complete, accessible, legally admissible in court, and durable for as long as an approved records retention schedule requires.

Legal Framework

For more information on the legal framework to consider, refer to the *Records Management in an Electronic Environment* chapter in the Electronic Records Management Guidelines and Appendix A6 of the *Trustworthy Information Systems Handbook*. Also review the requirements of the:

- ◆ Public Records Act [PRA] (*Code of Laws of South Carolina, 1976, Section 30-1-10 through 30-1-140, as amended*) available at www.scstatehouse.org/code/t30c001.htm, which supports government accountability by mandating the use of retention schedules to manage records of South Carolina public entities. This law governs the management of all records created by agencies or entities supported in whole or in part by public funds in South Carolina. Section 30-1-70 establishes your responsibility to protect the records you create and to make them available for easy use. The act does not

discriminate between media types. Therefore, records created or formatted electronically are covered under the act.

- ◆ South Carolina Uniform Electronic Transactions Act [UETA] (*Code of Laws of South Carolina, 1976, Section 26-6-10 through 26-6-210*). Enacted in 2004, UETA facilitates electronic commerce and electronic government services by legally placing electronic records and signatures on equal footing with their paper counterparts. UETA officially repeals the 1998 South Carolina Electronic Commerce Act (*Code of Laws of South Carolina, 1976, Section 26-5-310 through 26-5-370*). The purpose of UETA is to establish policy relating to the use of electronic communications and records in contractual transactions. This law does not require the use of electronic records and signatures but allows for them where agreed upon by all involved parties. While technology neutral, the law stipulates that all such records and signatures must remain trustworthy and accessible for later reference as required by law. Similarly, the federal Electronic Signatures in Global and National Commerce (E-Sign) Act [U.S. Public Law 106-229] encourages the use of electronic documents and signatures, although it goes further to provide some guidelines regarding standards and formats. For more information on UETA see Appendices A6 and A7 of the *Trustworthy Information Systems Handbook*.
- ◆ South Carolina Freedom of Information Act [FOIA] (*Code of Laws of South Carolina, 1976, Section 30-4-10 through 30-4-165*) which supports government accountability by ensuring the right of citizens to inspect or copy public records. The establishment of fees, formal public notification, and restrictions limiting public disclosure of certain records is covered.

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Additional Legal Considerations

◆ **South Carolina Web Accessibility Policy**

www.cio.sc.gov/scea/Web-Accessibility-Policy.pdf

The Division of the State Chief Information Officer [CIO] in South Carolina has issued policy on providing access to agency websites for the disabled. This policy defines the minimum requirements and best practices for web accessibility. It includes a transition plan for making agency websites compliant with federal law established under section 508 of the Rehabilitation Act of 1973, amended 1998 by the Workforce Investment Act.

- ◆ *Open versus restricted records.* Determine which web site records are open and which are restricted. For example, you may gather and store restricted data via a web interface. These data should be protected from unauthorized access.
- ◆ *Evaluating risks.* As an agency's web site becomes more sophisticated, its growing presence makes the agency increasingly visible. Decisions on what records to place on the site, how long to keep them, and when to dispose of them should be based on calculations of business risks in general and on the threat of litigation in particular. Because public records on the web can be admitted into evidence they should be reliable, complete, and accurate. You may have created some records exclusively for the web. Others may be copies of word processing files and other documents that are being maintained in another record keeping system. To sort these out, analyze the content of your web pages, identify those that hold records, then decide which are record copies.
- ◆ *Record copy.* The "official" copy is the record copy. Your agency must decide what record qualifies as the official copy — the document that constitutes the record of a business transaction. It is the record copy that must be retained and disposed of according to properly established record retention schedules. Often the official record is managed separately from the website. In these instances, the website is considered a "convenience copy" and the information can be deleted when no longer needed. Keep in mind that you should never keep convenience copies longer than the official copy.

Internet, Extranets, Intranets

The *Internet* is the vast network of computer systems that enables worldwide connectivity among users and computers. The Internet allows you to send e-mail messages around the world, transfer

large files outside your agency using file transfer protocol (FTP), telnet to another computer, participate in newsgroups, and view the graphical pages of the World Wide Web.

The Internet links a wide variety of resources. There are resources in different formats (e.g., HTML, PDF) using different protocols for access (e.g., HTTP, FTP, telnet), and different resource indicators for locations (refer to the *File Naming* guidelines). Selecting from these options will have consequences that you need to understand and manage.

The technology that enables the Internet to exist also enables extranets and intranets to exist:

- ◆ *Extranet.* An *extranet* is a type of Internet site to which organizations allow only selected external access. For example, a government agency extranet may only allow access by the staff of one other specified agency, or specific government officials.
- ◆ *Intranet.* An *intranet* is an internal Internet site that cannot be accessed by anyone outside the organization. For example, a government agency may have an intranet for sharing internal administrative information.

Web Site Records Management

Your web site may contain public records defined by the Freedom of Information Act and the Public Records Act, including both open and restricted records. You should manage these records as part of your overall electronic records management strategy. Your web content management policy should address web site planning, development, and maintenance with an emphasis on records management. For more information on retention schedules, refer to the *Records Management in an Electronic Environment* section of these guidelines.

Publications

Publications like annual reports, directories, fact sheets, leaflets, newsletters and other serials, research reports, technical reports, and so forth, may appear on web sites. They may or may not be public records. They do, however, usually fall under the South Carolina Depository Library Act [*Code of Laws of South Carolina, 1976, Section 60-2-10 through 60-2-30*]. If you have this material on your web site and it either has not been distributed in print or has been printed but is being updated only

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on the web, you should give the State Documents Depository Library (the State Library) the location of its Uniform Resource Locator (URL) or Internet address. If you remove such material from a web site, you must give an electronic copy of it to the State Library.

Removing Documents

A document may be removed from a website for many different reasons, including:

- ◆ The information or publication no longer reflects your agency's current policy or has been superseded
- ◆ The retention requirements of the publication have been met
- ◆ The publication is perceived as no longer having value
- ◆ There is no place for it on the redesigned web site

When considering removing a document from a web site bear in mind that:

- ◆ Your older documents may be valuable to others for continuing reference, research or may be of historical interest even though you may no longer need them for agency business
- ◆ Official copies of documents that have not met their retention requirements should be stored in an electronic records management system or in a preservation format such as paper or microfilm
- ◆ Links to your documents may exist in other documents as well as in catalogues and indexes
- ◆ Broken links to documents on your site reduce its credibility

Moving Documents

When considering moving documents around a site think about how the proposed changes will affect those who reference your web-based information:

- ◆ Unless measures are taken to point to the new location, all existing links to the document are broken once it is moved.
- ◆ Consider that others may link to or reference your web documents via other web sites and publications, catalogues and indexes as well as in printed reports, studies and memorandums.
- ◆ Consider adding a redirect page or using persistent identifiers to help users find relocated information

For more information on managing file names for Internet resources see the *File Naming* guidelines.

Web Site Snapshots

As your agency expands the role of its websites to conduct agency business, it becomes increasingly important for accountability purposes to document your entire web site as a record. To facilitate this practice, consider taking web site snapshots using a software program to enable you to reconstruct your entire web site. In addition to your official website, all short-term projects with web content should be also captured. For example, an agency that sets up a short-term extranet web site for a legislative initiative that includes a bulletin board for key people to discuss an initiative should, for public records purposes, take web site snapshots that will allow reconstruction of the site completely as it existed at a given time.

Web Content Management Software

As agency websites expand from a few simple pages with static content to active sites with increasingly changing content, they become progressively difficult to administer. Web content management software can assist webmasters in managing large sites including those where many agency departments or individuals may be involved in making content decisions. Various web content management software packages provide the means for web site production, distribution, and version control. However, they may lack the necessary tools for long term and permanent preservation of web site content required by law. Before investing in software, you should adopt procedures for web content management as described in this chapter.

Adopting Web Design Standards

Standardization is an important, yet not always easily accomplished component of web site management. Many different technologies and standards exist. As technology and skill levels improve, agencies will have many choices in building web sites. Choices range from creating simple static pages to producing dynamic sites that make strong use of multimedia applications. Before taking action, first consider how your choices will impact the users ability to find and access the information. Although using the latest technology may seem appropriate, it is wise to use technology that permits the widest accessibility to your website by all users. Referencing standards such as the *World Wide Web Consortium (W3C) Content Accessibility Guidelines* as well as Section 508 of the Federal

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Rehabilitation Act can help achieve the goals of accessibility and aid the long term management of your web content. Additional information on these standards is available in the *Annotated List of Resources* at the end of this chapter.

Involving Stakeholders

The development of your web content management policy should include all those who are involved in web site creation, administration, and use. Key groups and individuals to include are:

- ◆ Content creators
- ◆ Web site technical staff and web masters.
- ◆ Web site internal users
- ◆ Records officers
- ◆ Agency head

Each group should be familiar with:

- ◆ Your policy for web content publication, removal, storage, and disposition
- ◆ How the policy affects their daily work practices, including their roles and responsibilities under the policy
- ◆ Your agency's electronic records management strategy

Internal Communication

Initial and on-going internal communication will be a crucial aspect of your policy, because:

- ◆ Many groups are involved in the creation and administration of a web site.
- ◆ Much of a web site's content is interrelated.
- ◆ Web site content tends to change frequently.

Consider establishing a formal mechanism to keep stakeholders informed of each other's activities related to the web site. This communication allows your agency to control the content and trustworthiness your web site records, since all stakeholders will know when and why content changes. Additionally, it will encourage feedback on what content is appropriate for public release.

Web Content File Naming

Consider establishing a file naming protocol for web pages to help ensure ease of management, usability of the site, and internal communication about contents. For more information about web site file naming, refer to the *File Naming* guidelines.

Web Content Management Policy Components

Consider these ideas as you develop your web content management policy:

- ◆ *Determination of records.* As you develop your policy (and on an on-going basis), you will need to analyze the content of your web site to

determine which elements are official records. Important content on state agency sites includes information on:

- its structure and organization;
 - the legislation it administers, or under which it operates;
 - the functions for which it is responsible;
 - its current public policies, guidelines and advice;
 - its current products and services;
 - and instructions for the access and use of those products and services.
- ◆ *Complete records.* When you capture the record, you must be sure that you capture enough information to preserve the appropriate content, context, and structure.
 - *Content.* Factual information in the record that documents government business
 - *Context.* Information that shows how the record is related to the business of the agency and to other records
 - *Structure.* Technical characteristics of the record (e.g., file format, data organization, page layout, hyperlinks, headers, footnotes)
 - ◆ *Records series and records retention schedules.* As with other records, you should manage records on your web site as records series and develop records retention schedules for each records series, as outlined in the Public Records Act.
 - ◆ *Version control.* Because web sites are updated constantly by different individuals and groups, you should develop a method for designating and controlling versions. This practice will help ensure the trustworthiness of your web site.

Metadata and the Dublin Core Set

As part of ensuring that you capture enough information in a record to demonstrate the record's content, context, and structure, you will need to capture metadata. (For more information, refer to *Section 1.8* of the *Trustworthy Information Systems Handbook* guidelines). Many government agencies have elected to use the Dublin Core Metadata Element Set as a standard (NISO Standard Z39.85; ISO Standard 15836).

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The Dublin Core includes:

- ◆ **Title*. The name of the resource given by the creator or publisher.
 - ◆ **Subject*. The topic of the resource.
 - ◆ **Description*. A short, text description of the resource's contents.
 - ◆ **Creator*. The name of the person who created the resource.
 - ◆ *Publisher*. The name of the entity that published the resource. Note that the publisher is not the person who posted the resource to the web site, but the entity responsible for the publication of the resource, such as your agency.
 - ◆ *Contributor*. Someone aside from the creator who made a significant contribution to the resource.
 - ◆ **Date*. Either the creation date or the publication date. Your agency will need to determine which date to use. (e.g., yyyy-mm-dd)
 - ◆ **Resource type*. The category the resource belongs to, such as committee minutes, press release, or report.
 - ◆ **Format*. The file format of the resource. For more information on file formats, see the *File Formats* guidelines.
 - ◆ **Identifier*. A text string or number unique to the resource, such as a URL or other formal name. See the *File Naming* guidelines for more information on naming web site files for longevity and ease of use.
 - ◆ *Relation*. An element that refers to related resources.
 - ◆ *Source*. Information about the source from which the current resource is derived (e.g., a report which has been abstracted).
 - ◆ *Rights management*. A text statement regarding copyright and use permissions.
 - ◆ *Language*. The language used in the resource (e.g., English, Spanish).
 - ◆ *Coverage*. Either geographic (e.g., South Carolina) or temporal (e.g., the years 2000-2001).
- * Recommended minimum metadata for long term and permanent records.

Additional Suggestions for Better Web Content Management

- ◆ Consider what information citizens will seek on your web site. How can you ensure that the information is easy to find? How can you assure those seeking information of the trustworthiness of the information? Put yourself in the citizens' place, and think about how they will use your web site.

- ◆ Take into account your current use of the web and your expectations for future use. For example, you may currently publish a newsletter in paper format, but in the future, you may publish the same newsletter on the web.
- ◆ Establish the archival responsibilities for all staff members involved in web site development and management, especially the webmaster and content developers. Who will authorize web site content removal? Who will have the responsibility for the physical removal and preservation of web site content?
- ◆ Review pages regularly for quality, accuracy and timeliness.
- ◆ Determine how you can build web content preservation into overall web site management.
- ◆ Consider ways to build staff awareness and compliance with web content preservation procedures.
- ◆ Establish procedures to maintain and update data.
- ◆ Establish controls to ensure updates are undertaken only by authorized individuals.
- ◆ Form a team and discuss website issues. Note the questions posed by the legal framework, including the need for public accountability, managing open and confidential records, and following records retention schedules. Issues include:
 - Changes to content, organization, or administration
 - Transactions completed via the web site
 - Communication that takes place via the web site (e.g., bulletin boards, live chats, e-mails posted)
 - Development of web site
 - Versions and history of web site development

Technical considerations

- ◆ The site should be accessible to most common browsers
- ◆ Regularly back up the site to a secondary medium. This is not equivalent to archival preservation of the site.
- ◆ When possible, choose formats that are standard, open, and non-proprietary
- ◆ Maintain a site index

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Annotated List of Resources

Primary Resources

Archiving Websites. Canberra, Australia: National Archives of Australia, Commonwealth of Australia, 2000.

www.naa.gov.au/recordkeeping/er/web_records/intro.html

These web pages are the official policy of the National Archives of Australia for web site content management as it relates to records management. However, the pages provide a comprehensive overview for the general reader of the records management aspects of managing and archiving a web site.

Guidelines for Electronic Records Management on State and Federal Agency Websites. Syracuse, NY: National Historical Publications and Records Commission, 1997.

web.archive.org/web/*/http://http://istweb.syr.edu/~mcclure/guidelines.html

These web pages, which are now only accessible through the Internet Archive's Wayback Machine www.archive.org, provide the initial findings of a research project that set out to develop a records management strategy for state and federal agency web sites. The web pages offer a series of assumptions (e.g., what a record is) as well as a discussion of such topics as the relationship of web site records management to other policies, exposure analysis, and guidelines for web site management for state and federal agencies.

Additional Resources

Boiko, Bob. *Content Management Bible*. Wiley. 2001
www.wiley.com/WileyCDA/WileyTitle/productCd-076454862X.html

This book describes the various components of content management systems and the processes used to create such a system. It also includes a primer on identifying information from data and defines in detail how a system can manipulate information into usable formats.

Managing Web Content. Santa Clara, CA: Intel Corporation, 2001.

www.intel.com/eBusiness/business/manage/2/hi15039.htm

These web pages, adapted from the article "Basic Elements and Best Practices for Web Sites" by PricewaterhouseCoopers LLP, provide an information technology and business process management approach to managing live web content.

McCluskey-Moore, N. "Untangling Web Content Management." *Intranet Design Magazine*. April 18, 2000.

idm.internet.com/articles/200004/im_04_18_00a.html

This article, published in the online Intranet Design Magazine, discusses the development and implementation of a process for managing live web content. The article analyzes the benefits of systematic web content management, describes the desirable characteristics of a web content management strategy, and outlines the process of developing a web content management strategy.

Section 508. Washington DC: General Services Administration, Center for IT Accommodation, 2004.
www.section508.gov/index.cfm

In 1998, Congress amended the Rehabilitation Act to require Federal agencies to make their electronic and information technology accessible to people with disabilities. This web site provides information and assessment, including the latest news and links, on Section 508 of the Federal Rehabilitation Act.

State of South Carolina Office of the Attorney General. *Public Official's Guide to Compliance with South Carolina's Freedom of Information Act*. April 2004.

www.scpres.org/foia/FOI%20BOOK%204-04.pdf

This publication provides an introduction to the South Carolina Freedom of Information Act. It includes guidance on how to respond to a FOIA request; as well as how to determine which records must be made available for public inspection from those that are exempt from disclosure.

South Carolina Department of Archives and History. *Trustworthy Information Systems Handbook*. Version 1, July 2004.

www.state.sc.us/scdah/erg/tis.htm

This handbook provides an overview for all stakeholders involved in government electronic records management. Topics center around ensuring accountability to elected officials and citizens by developing systems that create reliable and authentic information and records. The handbook outlines the characteristics that define trustworthy information, offers a methodology for ensuring trustworthiness, and provides a series of worksheets and tools for evaluating and refining system design and documentation.

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South Carolina Depository Library Act:
www.scstatehouse.net/code/t60c002.htm

This South Carolina law recognizes the South Carolina State Library as the official state depository for all state publications. It also defines the requirements that state agencies must meet regarding the long term preservation of agency publications.

SC State Documents Depository Program Manual for State Agencies

www.state.sc.us/scsl/stdocs/manual.pdf

A guide to the South Carolina Depository Library Act designed to facilitate agency compliance with the law.

South Carolina Web Accessibility Policy

www.cio.sc.gov/scea/Web-Accessibility-Policy.pdf

Describes South Carolina policy on providing access to agency websites for the disabled. This policy defines the minimum requirements and best practices for web accessibility. It includes a transition plan for making agency websites compliant with federal law established under section 508 of the Rehabilitation Act of 1973, amended 1998 by the Workforce Investment Act.

Web Content Accessibility Guidelines 1.0. World Wide Web Consortium. Edited by Wendy Chisholm, Gregg Vanderheiden, Ian Jacobs, May 5, 1999.

Resulting from the W3C's Web Access Initiative, this guideline addresses accessibility considerations for web authoring, web browsers and technology development within the W3C. Each guideline is categorized as either Priority 1 — must, Priority 2 — should, or Priority 3 — may.

Managing Web Records. Washington DC: National Archives and Records Administration, 2005.

www.archives.gov/records_management/policy_and_guidance/managing_web_records_index.html

These web pages are the official policy of the U.S. National Archives and Records Administration for web site content management as it relates to records management in federal agencies.