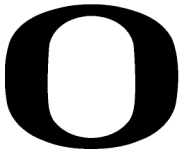

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Using Findability Features on Legislative Web Sites to Meet Constituent Expectations

CAPSTONE REPORT

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Abstract

for

Using Findability Features on Legislative Web Sites to Meet Constituent Expectations

Although legislative Web sites first appeared during the 1990s, constituents still have difficulty finding legislative information (Jambois, 2005; Peterson, 2002). A checklist is created for designers of legislative Web sites, based on analysis of literature published between 1995 and 2006 in the areas of constituent expectations for legislative sites and Web findability features. This checklist details Web site features that improve findability in ways that better meet the expectations of constituents who use these sites.

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Chapter I. Purpose of the Study

Brief Purpose

The purpose of this study is to develop a checklist of Web design features for people who design and control the content of information presented on state or federal legislative Web sites. This checklist provides a set of features based on concepts from the larger study of information architecture (Rosenfeld & Morville, 2002) pertaining to Web site design, specifically related to the concept of findability (Morville, 2005). The intent is that the checklist of features can be applied to improve findability of legislative bill information and legislator information.

In this study the term "findability" refers to the ability to locate the desired information on a legislative Web site (Morville, n.d.). The goal of this study is to provide an opportunity for a more effective and informative legislative Web site visit for constituents in relation to understanding the bill legislation process and voting records of legislators (Jenks, 2006). To this end, constituents should be able to more readily find information in an e-government context in order to improve their understanding of how they are being represented by state legislators (Thomas & Streib, 2005, p. 261).

Literature review (Leedy & Ormrod, 2001) is the larger method of study. Selected literature published from 1995 to 2006 is collected, assessed, and organized for further evaluation (Leedy & Ormrod, 2001). The literature collection focuses on two key areas: 1) the reported expectations held by constituents for information presentation on a legislative Web site; and 2) Web design findability literature.

Data analysis spiral (Creswell, 1998) is selected as the approach to data analysis and focuses in two key areas: (1) documentation of what constituents say they want to see on legislative Web sites; and (2) an analysis of findability options that can be applied to the design

of legislative Web sites. The first area of data analysis reveals a list of constituent expectations when visiting legislative Web sites, such as: inclusion of relevant content; presentation of content in a straightforward manner; and incorporation of easy to use/find features (McGovern & Norton, 2002, p. 55; National Conference of State Legislatures [NCSL], 2006). The second area of analysis identifies a list of features related to Web site findability (Morville, 2005). Preliminary review of the literature reveals the followings few examples: search engines (Computer Language Company, 2006), breadcrumbs (Rogers & Chaparro, 2003), and controlled vocabularies (Rosenfeld & Morville, 2002, p. 48).

The results of content analysis (Leedy & Ormrod, 2001) are compiled in the form of two lists: one that reports specific information constituents seek during a Web site visit; and a second list that defines Web site features that reportedly improve a visitor's ability to locate information on the Web (Morville, n.d.). The final outcome of this study is a merger of the two lists into a checklist of findability features that could potentially be used by Web designers of legislative Web sites to support selected constituent expectations to find information concerning the bill legislation process and voting records of legislators (Jenks, 2006). Actual application of findability features must be done with consideration to specific contextual conditions.

Full Purpose

This study falls within a larger study area known as e-Government. *Government Technology Magazine* defines e-Government as "the use of information technology to open government and government information to the public and to enable government agencies to share information for public benefit, to enable online transactions and to enhance democracy" (Government Technology Magazine, n.d.). As the uses of government Web sites steadily increase (Thomas & Streib, 2005, p. 276) the ability for these sites to change the way people "live, work, communicate, shop, pay, and play " (Sterne, 2002, p. 2) will also increase in importance.

As noted by Grossman (1995, p. 149), government Web sites have great potential to change the way government operates, but only if constituents are able find the information they seek. Information on legislative Web sites can be difficult to find (Ferber, Foltz, & Pugliese, 2003; NCSL, 1997) and can be quite confusing to understand for the common constituent due to highly specialized legal terminology (Ferber et al., 2003). The purpose of this study is to identify and describe common practices in findability (Morville, n.d.) that enhance the constituent's ability to understand specific aspects of the legislative process and therefore better understand how they are being represented.

"Despite its importance, the legislative process is a mystery to most" (Peterson, 2002). For example, a few legislative Web sites in the United States offer some type of *online bill tracking* (Jambois, 2005; Peterson, 2002), although the definition of online bill tracking varies greatly between states (Jambois, 2005). Online bill tracking on some legislative Web sites simply means that the Web site has a page that displays the current status of a bill. In other states online bill tracking is used for comprehensive personalized systems that not only help organize

legislation for a specific visitor, but send e-mail updates according to activity on that visitor's list of bills (Jambois, 2005). Wilson (2003) reports on the first Digital Legislatures Survey, designed to examine models for best practices among the 50 state legislative Web sites. Other Web site features that are used as criteria for determining the top "digital legislatures" also focus on providing information about legislative proceedings: streaming video for committee meetings, legislator information, and bill search features (Peterson, 2002; Wilson, 2003).

The study is designed as a literature review that uses the gathered resources to "evaluate, organize, and synthesize what others have done" (Leedy & Ormrod, 2001, p. 77). The earliest key resource utilized in this study is the 1995 book by Lawrence Grossman, *The Electronic Republic: Reshaping American Democracy in the Information Age*. Resource collection includes information that reports trends in Web site design related to findability (Morville, 2005). Focus is on selection of materials that address two areas: 1) the reported expectations held by constituents for information presentation on a legislative Web site; and 2) Web design findability literature. The first area of literature, constituent information needs on a legislative Web site, provides material within which to identify a list of expectations that constituents have when they visit a legislative Web site. The second area of literature identifies and describes Web design features that promote findability. The goal is to align selected aspects of these two sets of literature in order to create legislative Web sites that more effectively meet constituent needs.

Content analysis is conducted on selected literature, using a data analysis spiral (Creswell, 1998) to identify 1) constituent expectations of legislative Web sites; and 2) common practices related to Web design findability. The results of this content analysis are presented in the form of two tabular formatted lists. The first table (see Figure 2) consists of three columns: Constituent Expectations, Description of the Expectation in Source, and Source. The first column consists of the title given to the "expectation" such as "Straightforward content". The second

column gives details about the particular expectation; and the third column contains the literature source. The second table (see Figure 3) contains three columns. The first column is titled "Findability Feature." The column data is also similar: feature title; description of the feature; and the literature source.

This study is intended for people who design and control the content of information presented on legislative Web sites. Typically these people hold job titles of Webmasters or information systems managers (Peterson, 2002; Wilson, 2003). The primary outcome of the study is a merger of the two previously mentioned lists into a checklist of findability features for legislative Web sites (see Aligning Constituent Expectations and Findability Features). Since visual presentation is a key component of findability (Krug, 2000), screenshots are provided when applicable. This checklist is designed to provide Webmasters of legislative Web sites with a list of features that improve findability in ways that better meet the expectations of the constituents who use these sites.

Significance of the Study

Even with the advent of the Internet and the creation of legislative Web sites, tracking the legislative process has improved very little (Jambois, 2005). Most Web sites publish bill lists (NCSL, 1997), but the poor design of many of the sites makes it difficult for constituents to stay informed of the legislative process and how they are being represented (NCSL, 1997).

A review of literature reveals that several state legislative Web sites (Jambois, 2005; Peterson, 2002; Wilson, 2003) have found success implementing *personalization* (Allen, 1999) features as a way to improve the ability for constituents to track legislation (Jambois, 2005; Peterson, 2002; Wilson, 2003). However, according to this study's definition of personalization and *customization* (Allen, 1999), these features better fit the definition of customization and will

therefore be categorized as customization features. An example of customization is featured in the 2005 article by Jambois, *Bill Tracking Made Easy*. The featured Personalized Bill Tracking system allows users to log into the legislative Web site and select specific bills to track. On return visits to the Web site, the visitor can find updated information in a succinct list of bills they have selected instead of a list of hundreds of pieces of legislation (Jambois, 2005).

A 2001 study conducted by Congress Online Project states that constituents are very interested in seeing how they are being represented (Johnson, 2001). The study specifically focuses on Congressional Web sites and their ability to provide what constituents are looking for. The constituents were presented with various Web site types, but were universally approving of content rich Web sites that gave them the ability to communicate with their representatives. The surveyed constituents described "content rich Web sites" as sites that answered the following questions: "What is happening on the issues I care about? Where can I go to have a problem taken care of? To whom can I write? What is the telephone number of your district office? How does a bill become a law? What are the important issues facing [the state legislature]?" (Johnson, 2001).

According to the 2001 study conducted by Congress Online Project, legislators influence state laws and spending through the creation, introduction, and shepherding of bills. It is their voting on these bills that determines how they are representing their constituents. However, bills are typically very difficult for the common constituent to understand which opens the doors to misunderstanding (Ferber et al., 2003). This may be a reason why many legislators avoid completing the NPAT (Project Vote Smart, n.d.) provided by Project Vote Smart (Project Vote Smart, n.d.). Legislators may fear that these misunderstandings lead to less control over their campaign message (Project Vote Smart, 2006, para. 7).

Limitations to the Research

Literature collection for this study includes materials published between 1995 through 2006. By 1997 most legislatures were offering only semi-stable basic Web sites (NCSL, 1997). *The Electronic Republic: Reshaping American democracy in the information age* (Grossman, 1995) was already theorizing how Web sites could change the way government operates. Due to continual publication of new information on Web site organizational practices and constituent needs, literature is also collected during the writing of this study through 2007. Higher priority is given to literature focused on constituent opinions of what they would expect and like to see from legislative Web sites (NCSL, 2006). References to Congressional Web sites are also used since both Congressional and state legislative Web sites focus on the legislative branches of government, only on different scales. Higher priority is given to findability focused literature.

Literature searches are conducted through four main sources: University of Oregon online databases, online search engines, books, and trade journals related to government and/or technology. University of Oregon's online databases and the trade journals provide references for the core ideas and references of the study while the online search engines provide global references for many of the definitions found within the study. All references from University of Oregon databases come from three databases within the business category: Web of Science, Business Source Premier, and Lexis-Nexis Academic. Government and/or Technology journals such as Government Technology, National Association of Legislative Information Technology (NALIT) newsletters, and Congress Online Project also contribute sources primarily on governmental use of technology. Several on-hand books provide resources for approaches to organizing and displaying information on Web sites. Finally, online search engines such as

SearchEdu.com, Google.com, and FindArticles.com provide links to several definitions from online dictionaries.

The literature search is focused into two key areas: constituent expectations for finding information on legislative Web sites and tactics for presenting *locatable* and *navigable* information on a Web site (Morville, n.d.). Keywords include: knowledge management, information quality, government technology, e-government, e-democracy, usability, findability, legislative information, constituents, voters, digital legislatures, and legislative information technology. Many sources are found that detail the use of Web sites in e-government, but very few specifically reference Web site usage in a legislative setting. Web sites in an e-government context are generally used to complete tasks such as renewing a vehicle's registration (Ferber, Foltz, & Pugliese, 2004, p. 5).

Literature based from surveys of constituent opinions provides most of the ideas for this study of what constituent expectations are for legislative Web sites. The Congress Online Project conducted a survey in 2001 (Johnson, 2001) to illustrate the needs of constituents at the congressional level. This information is used in this study due to the similarities in state and federal legislative branches (Jenks, 2006). Another survey done at Georgia State University that focuses on identification of the needs of state citizens for information from government Web sites is also used in this study (Thomas & Streib, 2005). This study combines state and federal legislative branch Web sites into one category due to significant similarities (Jenks, 2006).

The research method used for this study is literature review (Leedy & Ormrod, 2005). The approach allows for this study to build on extensive research in two fields: constituent expectations for legislative Web sites and Web design findability literature. Qualitative content analysis is used to identify patterns and themes within the two sets of literature (Leedy & Ormrod, 2005, p. 142). Although this study did not directly participate in observations and

interviews as tools for information gathering, multiple sources contained interviews with samples of constituents in order to gauge constituent expectations of legislative Web sites.

The final outcome of this study results in a pairing between perceived constituent expectations and features that promote Web site findability. Pairings are done by this researcher, based on professional experience in the IT field and three of years of Web designing experience on the legislative Website in the state of Nevada. It should be noted that the pairing process is contextual, and must be driven by specific knowledge of each particular case.

This study does not address the ability for representatives and constituents to improve communications that is typical of e-Democracy (Thomas & Streib, 2005, p. 261). This study also does not include other e-Democracy features designed to allow constituents to present their own opinion: forums and opinion polls. This study also avoids trying to develop Web site content specifically to draw more visitors to legislative Web sites.

For the purpose of this study, a constituent is considered a person who is comfortable using the Internet, but is not likely to have training in the legal processes of a legislative organization. This definition is intended to align with participants selected in the 2001 Congress Online Project study to identify constituent expectations when visiting Congressional Web sites (Johnson, 2001). The study is not intended to represent all constituents represented by state legislators who may prefer to seek information in other ways.

Findability refers to the quality of being locatable or navigable. At the item level, one can evaluate to what degree a particular object is easy to discover or locate. At the system level, one can analyze how well a physical or digital environment supports navigation and retrieval" (Morville, n.d.). For the purpose of this study, the definition of findability focuses on the first statement in Morville's definition: "the quality of being locatable or navigable." This study further refers to findability as the ability for the Web site to present data and features.

For the purpose of this study, *accessibility* features are not covered due to the large number of features that fit within its umbrella. "Web accessibility means that people with disabilities can perceive, understand, navigate, and interact with the Web, and that they can contribute to the Web" (What is Web accessibility, Henry, 2005). Although all users may benefit from implementation of accessibility features (What is Web accessibility, Henry, 2005), it is out of the scope of this study due to the broad range of concepts it covers.

Problem Area

A 2003 study conducted by Ferber et al. points out that the "inferior quality" of some legislative Web sites limit the ability for constituents to participate in government (p. 157). "Lack of content, poor design and the passive nature of many Web sites limit their utility for increasing public participation" (Ferber et al., 2003, p. 157). Although this study does not focus on the ability for the public to participate in government, this statement relays the perception that legislative Web sites have ways in which they can be improved. Ferber et al. (2003) evaluate legislative Web sites in their study and "help define 'best practices' [in regards to citizen participation] and provide suggestions as to how other states' sites might make improvements" (Ferber et al., 2003, p. 157). Part of the purpose of this study is to use current legislative Web site practices as guidelines and to include Web design practices that are universal to all Web sites.

Other studies (Ferber et al., 2003; Harvey, 2004; Johnson, 2001; Pardo, 2000) have focused significantly on legislative Web sites and the promotion of e-Democracy, or interactivity between constituents and representatives (Thomas & Streib, 2005, p. 261). Although e-Democracy regularly comes up when reading articles about Web sites in a legislative context (Ferber et al., 2003; Johnson, 2001; Pardo, 2000), many articles may be skipping a step in the process. E-democracy can only be effective if constituents are properly informed. By providing a checklist of findability features that can be used by Web designers of legislative Web sites to support constituent expectations to find information concerning the bill legislation process and voting records of legislators, it is the intention of this study to help bridge the gap between constituent expectations and the way that information is presented on legislative Web sites. The goal is to improve the likelihood that constituents can make informed choices when communicating with representatives in an e-democracy context.

This study applies several concepts of Web sites findability, usability, and information architecture to solve the specific needs of visitors to legislative Web sites. In the long term, this study is intended to benefit all constituents by improving the means in which they gather information to make informed decisions when it comes to voicing opinions on legislative actions through voting in elections or by simply communicating with representatives about how they wish to be represented. In the short term, this study is intended to solve the questions of legislative Webmasters as to which features to commit resources to when working on legislative Web sites by providing them with a checklist of features desired by constituents.

Chapter II. Review of References

The review of references chapter presents an annotated bibliography in order to summarize, determine contributions to study, and establish credibility of the authors (Stacks & Karper, 2001) on the key resources that serve as the foundation to this study. Each annotation summarizes the specific resource, details where the resource information fits within the study, and identifies the criteria used to select the resource as a reference.

Ferber, P., Foltz, F., & Pugliese, R. (2003). The politics of state legislature Web sites: Making e-government more participatory. *Bulletin of Science, Technology & Society*, *23*, 157-167.

This journal article evaluates 50 state legislative Web sites according to five categories: content, usability, interactivity, transparency, and audience. The article is intended to "help define 'best practices' [in regards to fostering citizen participation] and [to] provide suggestions as to how other state sites might make improvements and possibly increase participation" (p. 157). Four of the categories used within this article are relevant to topics covered within this study: content, usability, transparency, and audience. The authors evaluate these categories, which are all relevant to Web site findability, and provide examples as ways to improve. This article is used in this study as a resource to frame both constituent needs and Web site findability in a legislative context in this paper. Information in this article is also used as a guide to combine the two results lists into the final outcome (see Aligning Constituent Expectations and Findability Features).

The three authors of the article are assistant and/or associate professors at the Rochester Institute of Technology. The article is published in the Bulletin of Science, Technology &

Society which has issues dating back over 25 years and is referenced by the International Association of Science, Technology & Society. The board of this association consists of professors from several universities, such as the University of Toronto, the University of Maryland, and the Rochester Institute of Technology. Articles are reviewed before publication by editors with the assistance of selected referees. A current list of editors is available through Sage Publications at http://www.sagepub.com/journalsProdEditBoards.nav?prodId=Journal200908.

Johnson, D. W. (2001). *Constituents and Your Web site*. Retrieved October 30, 2006, from http://www.congressonlineproject.org/publications.html.

The Congress Online Project serves as a basis for identification of constituent needs on legislative Web sites in this study. One of the purposes of the referenced study is to "identify specific ways in which Congressional Web sites could be improved" (Johnson, 2001, para. 2). The referenced study was conducted using eight focus groups (totaling 80 participants) from which views on Congressional communication were gathered, including views about Congressional Web sites. The report of the referenced study provides lists of specific goals (needs) that constituents reported they have when visiting Congressional Web sites. The report further suggests specific Web sites features that may meet these needs and therefore improve Congressional Web sites. The report is coded as part of the selected data set in data analysis phase of this study (see Appendix A – Constituent Expectations).

The Congress Online project is two-year program funded by an independent nonprofit organization and George Washington University to examine Web site usage and other online communications by congressional offices. The final goal of the project is to "improve electronic communication between Members of Congress and the public" (Congress Online Project, 2004,

para. 1). Although the Congress Online Project focuses on Congressional Web sites, the differences between state and federal (Congressional) legislative functions are minimal (Jenks, 2006) and therefore the constituent needs at the Congressional level should closely match those of state legislative Web sites.

Krug, S. (2000). *Don't make me think: A common sense approach to Web usability*. Indianapolis: New Riders Publishing.

Don't Make Me Think provides information on two topics relevant to this study: visitor Web surfing behavior and Web design findability features. The Web design findability features are coded as part of the selected data set during the data analysis phase of this study (see Appendix B – Findability Features)**.** The reported Web surfing behaviors are used to frame the alignment of the two results list to form the final outcome of this study (see Aligning Constituent Expectations and Findability Features).

It is the professional experience of this researcher that *Don't Make Me Think* is a book that is heavily used by Webmasters. The book is one of the top results for "Web site usability" on Amazon.com and is one of the Amazon.com's top 500 selling books. The book is also cited as a reference in multiple other sources selected for use within this study.

Leedy, P. D., & Ormrod, J. E. (2001). *Practical research: Planning and design.* (8th ed.). Upper Saddle River, NJ: Pearson Merrill Prentice Hall.

Leedy & Ormrod provide the research guidelines selected for guidance in how to conduct a literature review. The book acts as the key reference for developing the research design for this study. *Practical Research: Planning and Design* is a required text within the University of Oregon's Applied Information Management program. The book is published the Pearson Merrill

Prentice Hall company which has published educational textbooks since 1913. The primary author, Leedy, was a former Professor of Education at The American University in Washington D.C. before he died in 2002. The book is in its eighth edition.

Morville, P. (n.d.). *Findability*. Retrieved November 23, 2006 from http://www.findability.org/archives/cat_findability.php.

Morville, P. (2005). *Ambient findability*. Sebastopol, CA: O'Reilly & Associates, Inc..

These two resources (a book and related website) provide information used to define the concept of findability in this study. These two resources provide information on two topics relevant to this study: human behavior when using Web sites and Web design findability features. The Web design findability features are coded as part of the selected data set during the data analysis phase of this study (see Appendix B – Findability Features). The reported categories of "human behavior when using Web sites" (2005, p. 37) are used to frame the alignment of the two results list to form the final outcome of this study (see Aligning Constituent Expectations and Findability Features).

Peter Morville is a well renowned author in the field of information architecture and findability. Morville is a co-author of the book, *Information Architecture for the World Wide Web* (2002), has published in academic outlets, and has been featured in popular outlets including in The Wall Street Journal. He is a professor at the University of Michigan and president of Semantic Studios, an information architecture and user experience consultancy company.

These two resources are listed here together since they function as a set. The Web site also provides updated texts and links to relevant published articles.

Palmquist, M., et al. (2007). Content analysis. Writing@CSU. Colorado State University Department of English. Retrieved November 27, 2006, from http://writing.colostate.edu/guides/research/content/.

This resource provides the guide to conducting content analysis used in this study. The eight steps provided by the resource guide the researcher in conducting the data collection and analysis phases of this paper. The Web site is continuously developed by graduate students taking E600: Research Methods and Theory. The graduate level course is offered by the Department of English at Colorado State University and taught by Mike Palmquist.

Rosenfeld, L., & Morville, P. (2002). *Information architecture for the world wide Web*. Sebastopol, CA: O'Reilly & Associates, Inc..

Information Architecture for the World Wide Web provides detailed information on systems necessary for information architecture. These systems in turn support the processes of findability. A number of these systems (Organization, Navigation, and Search) are findability features. This reference is one of the selected materials in the data set, used during the coding phase of this study (see Appendix B – Findability Features).

As stated in the annotated bibliography for the Morville resources, Morville is a recognized author in the field of information architecture. Author Lou Rosenfeld is an independent information architecture consultant and has contributed to Web Review, CIO, and Internet World magazines. Rosenfeld has an advanced degree in information and library studies from the University of Michigan. The publisher, O'Reilly, has been publishing technology focused literature since 1978 and currently has 58 "Computer & Internet" related books being sold on Amazon.com.

Stewart, D. (2006). *Taxonomies for information management.* Unpublished manuscript.

This resource is a chapter taken from an in-progress book from faculty member Darren Stewart of the University of Oregon AIM Program. The chapter, titled "Findability", provided motivation for this study. The main concept taken from this resource is that even though information is becoming ever more prevalent, the inability for people to find information creates immense inefficiencies information retrieval. This resource is used to develop the significance section of this study and provides findability features that are coded as part of the data set used during the data analysis phase of this study (see Appendix B – Findability Features).

Thomas, J. C., & Streib, G. (2005). *E-democracy, e-commerce, and e-research: Examining the electronic ties between citizens and governments.* Administration & Society, Vol. 37 No. 3. July 2005 259-280.

This journal article provides the distinguishing definitions between two key concepts in this study: e-democracy and e-government. The article also presents a section dedicated to the characteristics of government Web site visitors. Although it does not specifically focus on legislative Web sites, a significant portion of the article focuses on subjects relevant to legislative Web sites. The resource is therefore used to supply key definitions. Both authors of this journal article are professors at Georgia State University and the article was published in the Administration & Society Journal which has issues dating back over 35 years. Journal articles are reviewed before publication by editors with the assistance of selected referees. A current list of editors is available through Sage Publications at http://www.sagepub.com/journalsProdEditBoards.nav?prodId=Journal200755.

Chapter III. Method

The research method used for this study is literature review (Leedy & Ormrod, 2005). A qualitative approach is chosen to explore content relationships within selected literature rather than using a quantitative approach to data analysis (Palmquist et al., 2006, Glossary). Using this "fundamentally interpretive" approach allows the researcher to identify the most significant pieces of literature while eliminating those not relevant to the purpose of the study (Leedy & Ormrod, 2005, 150).

The specific method for organizing and analyzing the data for this study is a data analysis spiral that uses a four step process: organization, perusal, classification, and synthesis (Creswell, 1998 as stated in Leedy & Ormrod, 2005, p. 150). Working through the spiral is an iterative process. Each step is repeated to gain additional insight into the data set.

Literature Collection

Resources are collected for the literature review using the following strategies. The first category of data collection is a collection of resources directly from Web sites of organizations that deal specifically with the use of technology in government: Congress Online Project, Government Technology magazine, National Association of Legislative Information Technology (NALIT), National Counsel of State Legislatures (NCSL), and Project Vote Smart. These Web sites provide recent newsletters, awards, and surveys of current trends in e-Democracy (Thomas & Streib, 2005, p. 261) and e-Government (Edmiston, 2003, p. 20 as cited in Ferber et al., 2004, p. 5). These sites provide several credible resources for the study: *Bill Tracking Made Easy* (Jambois, 2005), *Constituents and Your Web Site* (Johnson, 2001), *There's Lots on the Web* (NCSL, 1997), *Nation's First Voter's Self Defense System* (Project Vote Smart, 2006), and *Top*

10 Digital Legislatures Named in New Survey (Wilson, 2003). Wording on these Web sites also provide valuable search terms that are used in the third category of data collection.

The first category of literature collection focuses specifically on the first primary category of data collection: what constituents expect to find on legislative Web sites. The second category of literature collection starts with an examination of a few books and texts used in coursework for the University of Oregon's Applied Information Management program. These resources include: *Content Critical* (McGovern & Norton, 2002), *Information Architecture for the World Wide Web* (Rosenfeld & Morville, 2002), and *Web Metrics* (Sterne, 2002). Additional Web design resources are collected from the researcher's personal library: *Don't Make Me Think* (Krug, 2000) and *Ambient Findability* (Morville, 2005). These resources provide a list of popular Web design terms such as "usability" (Holzinger, 2005) and "findability" (Morville, n.d.) that are later used as search terms for University of Oregon Library Online databases and other online search engines. The second category of literature collection focuses specifically on the second primary category of data collection: Web design findability literature.

The third category of literature collection uses terms established in category one and two of data collection to search multiple online search engines: FindArticles.com, Google.com, SearchEdu.com, and the University of Oregon's online databases. This category is used to collect resources for both primary categories of data by using different search terms on the same search engine. For example, when searching SearchEdu.com for Web design source, the keywords "usability", "findability", and "Web design" are used. When searching for constituent expectations of legislative Web sites, the keywords, "constituents" and "legislative Web site" are used. A second part to this category includes using these established search terms to re-search previously browsed Web sites. For example, "constituent" and "legislative Web sites" are entered

into the site specific search box on sites like GovTech.com, the Web site for Government Technology Magazine.

The fourth category of literature collection is completed after the initial perusal of sources from previous categories. As more subtopics and categories take shape, references within the initial sources are investigated to establish depth and definitions needed to support the specific focus of this study.

Data Collection and Analysis

Data collected for this study is analyzed by using the data analysis spiral method described in *Qualitative Inquiry and Research Design: Choosing Among Five Traditions* (Creswell, 1998). This method is "equally applicable to a wide variety of qualitative studies" (Leedy & Ormrod, 2005, p. 150) and is divided into four phases: Organization, Perusal, Classification, and Synthesis (Leedy & Ormrod, 2005, p. 151). Implementation of the phases proceeds in an iterative fashion.

The Organization phase involves organizing sources in a manner that makes them more manageable for later phases. For electronic sources this is completed by converting the files, typically Web pages, into PDF files. This is available as a feature of a Full Student Licensed version of Adobe Acrobat 6.0. For non-electronic sources such as books, this is done by highlighting specific chapters of the book relevant to the study. These sources, electronic or not, are then cataloged in an Excel spreadsheet.

The Perusal phase involves gathering "an overall 'sense' of the data" (Leedy & Ormrod, 2005, p. 151). This is completed by highlighting key phrases and typing notes into documents. Key phrases are identified by the researcher according to how subjects are presented within the selected documents. Subjects presented within texts as headings are identified as key subjects.

Key phrases are then identified as those phrases that describe and explain the key subjects. For electronic documents, or documents converted to electronic format, this is done using a Full Student version of Adobe Acrobat 6.0. This version allows for highlighting and note taking on most PDF files. For non-electronic sources such as text books, a highlighter pen and pencil are used.

As a way to organize the coding in the Perusal phase of the Data Analysis Spiral method, data are coded according to the eight "Steps for Conducting Conceptual Analysis" defined in Palmquist et al., (2006).

Step 1. Decide the level of analysis – Coding is conducted based on key selected phrases. Since Step 4 for this study requires a broad amount of interpretation when coding for concepts, the level of analysis is not limited to specific words.

Step 2. Decide on how many concepts to code for - Data are coded using two broadly defined larger key concepts for: (1) Constituent expectations on legislative Web sites and (2) Web design findability features. Using these concepts as interpretive guides allows the researcher to identify a set of related concepts as they emerge during the coding process (Palmquist et al., 2006).

Step 3. Decide whether to code for existence or frequency of the concept - Coding proceeds to identify the existence of instances related to the larger two concepts of constituent expectations or findability features – not for frequency. For example, literature samples are coded according to whether or not they include specific concepts and not how many times each concept appears within the text. Although this limits the number of interpretations possible for the researcher (Palmquist et al., 2006), it allows for more text samples to be coded within the time period of this study.

Step 4. Decide how to distinguish among concepts – A broad amount of interpretation is applied during the coding process. Specific coding is guided by preliminary definitions of each key concept, presented in Figure 1. This approach allows the identification of related concepts that emerge through repeated careful contextual readings of selected materials when using the Data Analysis Spiral method.

Guiding Definition for Coding Constituent Expectations	Guiding Definition for Coding Findability Features
Generalizations of expected information and forms of information when constituents visit a legislative Web Site. Examples: straight forward content, constituent representation, educational components, and up-to-date content.	Web design features that make information locatable, navigable, and searchable. Examples: breadcrumbs, keyword searches, lists, and navigation menus.

Figure 1: Guiding Definitions for Coding Process

Step 5. Develop Rules for Coding Texts - Coding rules are loosely framed initially, based on the two key concept definitions. These become more defined as coding proceeds through several iterations, as described in the Perusal and Classification phases of the Data Analysis Spiral method.

Step 6. Decide what to do with "irrelevant" information – "Irrelevant" information is any information found within literature samples that does not fit within the coding rules defined within Step 5. Irrelevant information is not coded. However, as part of the iterative process within the Data Analysis Spiral method, variances on existing concepts are reexamined in order to determine whether or not current coding rules need to be adjusted.

Step 7. Code the texts – Notes are taken during the perusal of texts. If the texts are in electronic form, notes are taken through advanced features in Adobe Acrobat. Each note is entered into a spreadsheet. Notes on non-electronic texts are taken with highlighters and pencils and input into the same spreadsheet as electronic texts.

This step also incorporates the Classification phase of content analysis, as described in the Data Analysis Spiral. Classification is completed by organizing the resulting data into the two main categories that are the focus of data collection: 1) what constituents expect to find on legislative Web sites (Constituent Expectations); and 2) findability features (Web Design). Data are presented in two tables described in Figures 2 and 3 in Data Presentation.

Step 8. Analyze the results – The final phase in the Data Analysis Spiral process, Synthesis, involves "integrat[ing] and summariz[ing] the data for [the study's] readers" (Leedy & Ormrod, 2005, p. 150). In this case, a final outcome is produced for the audience for this study -- Web designers of legislative Web sites. The final outcome of the study is a synthesized checklist, produced through the merger of the two results lists. More information about the design of this final list is presented in the Data Presentation section of this paper.

Information that is not coded is examined to determine if coding changes are required. If coding changes are required, the new coding changes are applied to all reviewed texts. If no coding changes are required, the information is skipped.

Data Presentation

The results of this content analysis, a set of constituent expectations when visiting legislative Web sites and a set of usable Web site features that improve findability, are presented

as two lists in tabular format. Each table is formatted similarly, as shown in the templates below. The first table (see Figure 2) consists of specific constituent expectations, supported by short descriptions excerpted from the literature. Sources are included. The second table (see Figure 2) consists of findability features, supported by short descriptions excerpted from the literature, followed by the source where the data unit is found. In each table, a row represents an occurrence of a Constituent Expectation/Findability Feature found in a single source. Therefore multiple occurrences of a Constituent Expectation/Findability Feature occur when that Constituent Expectation/Findability Feature is present in multiple sources. Entries are ordered alphabetically in the first column.

Constituent Expectation	Description of the Expectation in Source	Source
Constituent representation	Constituents want to know "how they [are] being represented, including information about where their Member went, what he did, how he voted, and his rationale for key votes" (Summary of Key Findings).	Johnson (2001)
Educational component	"Participants liked and wished to see sites which had an educational component" (Summary of Key Findings).	Johnson (2001)

Figure 2: Template for table presenting a set of constituent expectations

Findability Feature	Description of the Feature in Source	Source
Breadcrumbs	A visual path for users to follow through the structure of a Web site	Rogers & Chaparro, 2003
Controlled Vocabularies	Any feature that allow a Web site's search engine to match what a visitor types into a search box (e.g., car) and map it to the Web site's preferred term (e.g., automobile) (p. 48)	Rosenfeld & Morville (2002)

Figure 3: Template for table presenting a set of findability features

Data are further manipulated to design the outcome of the study, which is a checklist of Web design features that improve findability on legislative Web sites that meet perceived constituent expectations. Based on the results of data analysis, the outcome is developed by taking perceived constituent expectations presented in the first results table and pairing relevant Web site findability features from the second results table. The application of relevant Web site findability features to perceived constituent expectations aligns closely with the overall goal of this study: providing an opportunity for a more effective and informative legislative Web site visit for constituents in relation to understanding the bill legislation process and voting records of legislators. Pairings are done by this researcher, based on professional experience in the IT field and three years of Web designing experience on the Nevada state legislative Web site. However, it should be noted that the pairing process is contextual, and must be driven by specific knowledge of each particular case.

The resulting checklist, titled Aligning Constituent Expectations and Findability Features, is presented in a narrative format, enhanced with visual examples, including screenshots selected from Web sites when applicable and/or available. There are two sections within this format: summary overview and details. The opening summary section describes overall legislative Web site practices that affect findability for constituents. The descriptions are gathered from sources such as *The Politics of State Legislature Web Sites: Making E-Government More Participatory* by Ferber et al. that contain research in evaluating current legislative Web sites and Web site features (2003). The details section is devoted to each perceived constituent expectation, and examines how selected Web site findability features are relevant to that expectation. Supporting data for the alignment of features to constituent expectations is gathered from sources that detail the benefits of the selected feature. Features presented in the details section are in alphabetical order.

This format provides legislative Webmasters with a detailed list of possible Web site enhancements along with descriptions and visuals, demonstrating how to present this type of information in order to improve findability for constituents. This checklist is intended to be used as guidelines for future legislative Web site development projects. For example, a legislative webmaster can compare this list to features currently available on the Web site he/she supervises. If the site currently doesn't provide this feature, it could be added to a future enhancements list.

Chapter IV. Analysis of Data

In the first phase of data analysis selected literature is divided into two data sets. The first is analyzed, selected phrases are coded and results are presented in tables that represent perceived constituent expectations for legislative Web sites (see Appendix A – Constituent Expectations). The second data set is then analyzed and coded for findability features for Web sites (see Appendix B – Findability Features). Results are merged and presented as a checklist of Web design features that improve findability on legislative Web sites that meet perceived constituent expectations (see Aligning Constituent Expectations and Findability Features). Based on the results of data analysis, the outcome is developed by taking perceived constituent expectations presented in the first results table and pairing relevant Web site findability features from the second results table. Pairings are done by this researcher, based on professional experience in the IT field and three years of Web designing experience on the Nevada state legislative Web site. However, it should be noted that the pairing process is contextual, and must be driven by specific knowledge of each particular case.

Appendix A - Constituent Expectations is arranged to show the total number of occurrences for each constituent expectation and brief excerpt from each corresponding source. The table is divided into three columns. The first column states the constituent expectation. Analysis of the selected literature provides nine specific occurrences of constituent expectations, concerning four larger categories which include: constituent representation, educational component, straight forward content and up-to-date content. The second column contains an excerpt that describes the constituent expectation, as cited in the source. Citations are included. Each table row represents an occurrence of a constituent expectation found in a single source. Therefore multiple occurrences of a constituent expectation are listed when that constituent

expectation is present in multiple sources. Entries are ordered alphabetically in the first column. A summary of the constituent expectations shown in Appendix A is available in Figure 4 – Summary of Perceived Constituent Expectations.

#	Constituent Expectation	Description of the Expectation	Number of Sources Cited
1	Constituent Representation	This expectation refers to ability for constituents to see how they are being represented by their legislators. Examples include but are not limited to voting records, activities schedule, platform policies, and	2
2	Educational Component	Educational components consist of any type of Web site feature that teaches visitors about legislative processes and information. Educational components also cover a broad area of visitors from elementary students to adults.	4
3	Straight Forward Content	Straight forward content refers to the ability of an average constituent to understand and easily navigate through a legislative Web site to desired content.	2
4	Up-to-date Content	Providing up-to-date content means that content is updated on a regular basis and visitors have some idea as to when it was last updated.	1

Figure 4: Summary of Perceived Constituent Expectations

Appendix B – Findability Features is arranged in a similar fashion to Appendix A. It consists of findability features (first column), supported by short descriptions excerpted from the literature (second column), followed by the source where the data unit is found (third column). Twenty-three occurrences are explicated in Appendix B, reflecting thirteen distinct findability features listed in Figure 5 – List of Findability Features. These findability features are used in the

final outcome of this study to show ways in which legislative Web sites can better meet the perceived constituent expectations from Appendix A.

1) Breadcrumbs	8) Local Navigation
2) Color Coding	9) Navigation
3) Contextual Navigation	10) Page Name
4) Controlled Vocabulary	11) Personalization
5) Customization	12) Search Feature
6) Global navigation	13) Tabs
7) Labeling System	

Figure 5: List of Findability Features

In both Appendix A and B each table row represents an occurrence of a Constituent Expectation/Findability Feature found in a single source. Therefore multiple occurrences of a Constituent Expectation/Findability Feature are listed when that Constituent Expectation/Findability Feature is present in multiple sources. Entries are ordered alphabetically in the first column in both tables.

Chapter V. Conclusions

Information on legislative Web sites can be difficult to find (Ferber, Foltz, & Pugliese, 2003; NCSL, 1997) and can be quite confusing to understand for the common constituent due to highly specialized legal terminology (Ferber et al., 2003). The purpose of this study is twofold: 1) to identify constituent expectations for information presentation on a legislative Web site and 2) to identify and describe common practices in findability that enhance the constituent's ability to understand specific aspects of the legislative process and therefore better understand how they are being represented. In order to address this purpose, data are collected from multiple resources through a literature review conducted in two areas: 1) the reported expectation held by constituents for information presentation on a legislative Web site; and 2) Web design findability literature. The first area of literature, constituent information needs on a legislative Web site, provides material within which to identify a list of expectations that constituents have when they visit a legislative Web site. The second area of literature identifies and describes Web design features that promote findability. Content analysis is used to identify patterns and themes within the two sets of literature. The outcome is presented later in this chapter as a final checklist titled Aligning Constituent Expectations and Findability Features.

Findings reveal that four different types of constituent expectations are evident: constituent representation, educational component, straight forward content, and up-to-date content (see Appendix A). These expectations are found to include what constituents look for when visiting legislative Web sites and how they expect it to be presented to them. Thirteen different types of Web findability features are found: breadcrumbs, color coding, contextual navigation, controlled vocabulary, customization, global navigation, labeling system, local navigation, navigation, page names, personalization, search feature, and tabs (see Appendix B).

These features cover a broad area of Web design topics from basic presentation to more complex site organization. These two tables provide the information foundation for aligning constituent expectations with Web findability features.

The final outcome of this study is a merger of these two results lists into a final checklist of findability features relevant to each constituent expectation titled Aligning Constituent Expectations and Findability Features. In total, ten alignments were established between the four constituent expectations and the thirteen findability features. Contextual navigation and personalization are established as methods for meeting multiple constituent expectations. Contextual navigation is the most common solution for meeting constituent expectations. It is identified as a findability feature that addresses three constituent expectations: constituent representation, educational component, and straight forward content. Personalization is the only other findability feature identified for multiple constituent expectations: constituent representation and up-to-date content. Other findability features aligned with at least one constituent expectation including controlled vocabularies, breadcrumbs, labeling systems, page names, and customization. Not all findability features are established as methods to improve findability for constituent expectations, including color coding, global navigation, local navigation, navigation (general), search feature and tabs (see Appendix C – Findability Feature Usage in Alignment).

The intended audience for this study, people who design and control the content of information presented on legislative Web sites, can use the final outcome as a checklist of Web site features to add to the legislative Web sites they contribute to. A detailed look into the results tables and the final checklist presents several opportunities for improvement on legislative Web sites. Although the final determination of which findability features to implement on a legislative Web site lies with each webmaster, contextual navigation appears to be the findability feature

with the greatest possible impact on findability. It not only aligns with the most constituent expectations, but the constituent expectations it aligns with appear the most often in data collected during data analysis. However, contextual navigation also covers a broad number of forms which can make implementation significant. This is evident through the different types of examples presented in Figures 6, 7, and 8. Fortunately, each type of contextual navigation implementation is not dependent upon another. Therefore, Webmasters may implement any combination of the presented forms of contextual links depending on the specific needs of their visitors. Personalization appears to be the runner-up for improving findability since it aligns with both constituent representation and up-to-date content. As with contextual navigation, personalization can take many forms on a Web site according to descriptions gather from the final checklist. This results in the same benefits/drawbacks as the implementation of contextual navigation.

The remaining findability features can make significant improvements in the constituent needs they have been aligned with, but may not provide the cross-constituent expectation benefit of contextual navigation and personalization. As with most other types of improvements, Webmasters should consider the maxim that the whole is greater than the sum its parts. Each of the findability features presented on the final list can improve findability on legislative Web sites, but the implementation of multiple features can result in greater overall findability.

The final checklist, titled Aligning Constituent Expectations and Findability Features, is presented below. A definition for each of the four larger categories of constituent expectations identified in this study is presented first, followed by relevant findability features. Each list item describes how the findability feature can assist in meeting the constituent expectation. To view a summary of the headings in this checklist refer to Appendix D – Headings of Final Checklist.

Aligning Constituent Expectations and Findability Features

- A Checklist for Legislative Webmasters -

Expectation category #1: *Constituent Representation*

Summary: The concept behind constituent representation is that people want to know how they are being represented in Washington D.C. or in their local legislature. Legislators can represent their constituents by introducing legislation, voting on legislation, or influencing others in decision making. Most of these methods can be tracked through public records. As noted by authors cited in this study, constituents want to be able to find this information on a legislative Web site.

Relevant Findability Features:

Contextual navigation – When browsing content presented on legislative Web sites, visitors may come across references to specific representatives. Rather than forcing the visitor to figure out how to

> That resolution, drafted by Sen. John Warner (news, bio, voting record), R-Va., stated disagreement to Bush's decision to send 21,500 more troops to Iraq. In a bid to attract more GOP support, Warner added a section promising to protect funding for troops in combat — a promise many House Democrats do not want to make.

navigate to that legislator's information, information should be directly linked at that point. News articles on Yahoo.com currently use this method (See Figure 6).

Personalization – In the context of constituent representation, personalized content means that users are presented information that is relevant to their interests. For example, when a visitor creates an account on a legislative Web site they should be able to enter address information and

topics of interest, such as education and taxes. Subsequent visits to the Web site should produce personalized content to this information, such as relevant bills recently introduced by the visitor's representatives, and recent votes by the visitor's representatives. This assumes that the Web site will be able to identify the visitor's representatives by the address they entered when registering.

Expectation category #2: *Educational Component*

Summary: The level of knowledge in legislative procedures can vary greatly from one visitor to the next, and can span a range from schoolchildren to lobbyists. Therefore multiple sources suggest that visitors should be provided some sort of educational component to better familiarize themselves with legislative processes and terminology.

Relevant Findability Features:

Contextual navigation – Contextual navigation acts as an educational component when it provides definitions or further information immediately following or as part of a keyword. For example, when author Peter Morville mentions "Web 2.0" in his blog (Computer Language Company, 2006) at Findability.org, he links that text to additional information on that subject (see Figure 7). An example within a legislative context could be the status of a bill. A bill status may be "missed deadline". A contextual link to the definition of that status could educate visitors who are not familiar with the specific phrase.

Figure 7: Contextual links used to define terminology

Controlled vocabulary – A controlled vocabulary can assist in bridging the gap between constituents (information consumers) and legislative terminology (information producers) (Stewart, 2006, p. 21). Although there are several different ways that controlled vocabularies can be implemented to assist in developing visitor knowledge, one simple version is by presenting a relevant legislative terminology list to visitors for them to browse. Figure 8 shows that "domestic violence" is the preferred term within the Nevada Legislature concerning issues of "spousal

abuse". Visitors may then improve search results by using the preferred terminology since that is likely to be the text used within legislative documents.

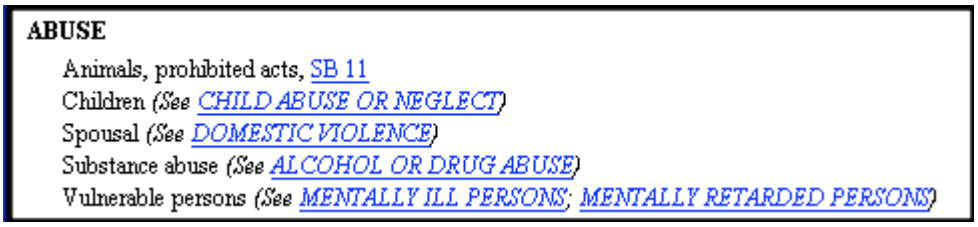


Figure 8: Nevada legislature's subject index

Expectation category #3: *Straight Forward Content*

Summary: The best way to describe straight forward content within a legislative Web site context is "giving visitors what they want". However, due to the varying types of people who visit legislative Web sites, straight forward content may be difficult to implement for all visitors. The first step in accomplishing this may be to consider the maxim that less is more. Krug encourages Webmasters to "get rid of half the words on each page, then get rid of half of what's left" in order to get visitors directly to the information they seek (2000, p. 45). This will reduce the amount of information that all visitors have to go through before (hopefully) finding what they need.

Relevant Findability Features:

Breadcrumbs – By definition, breadcrumbs do not lead visitors to information that they have not already seen. However, breadcrumbs provide a simple way to show visitors how the Web site is organized (see Figure 9) (Rogers & Chaparro, 2003). They also allow a visitor to navigate backwards and travel alternate paths through the Web site. On a legislative Web site this can be useful in several areas. One example could be when a visitor looks at a list of senators, then

views a specific senator, and then views his/her voting record. In this case, if the same visitor wants to view more voting records, he/she can click on the breadcrumb leading back to the list of senators, select a different senator, and view his/her voting record.

Contextual navigation – Contextual navigation refers to providing links to additional information at the point of interest. It may be the most efficient feature to improve straight forward Web content. It may also be the most time consuming to implement for legislative Webmasters since it may mean adding several to hundreds of links within each Web page. However, there are varying degrees of inserting contextual links. Webmasters may phase in the different degrees of contextual navigation in order to make implementation more manageable. This study considers a degree of contextual navigation as a different context in which these links are provided. For example the two examples of contextual links demonstrated in Figures 6 and 7 show two degrees of implementation. Figure 7 presents contextual linking defining key terminology and Figure 6 presents contextual linking relative to legislator names. Another example is seen in Figure 8, where a link to Senate Bill 11 (SB11) is provided after the "animals" keyword. Such contextual links allow visitors to move quickly between pages and therefore avoid and unnecessary page visits.

Labeling system and Page names – Labeling systems and page names improve the straightforwardness of content by allowing visitors to easily identify what type of information is on the Web page without having to read additional text. For example, Figure 10 labels the page of Texas senators "Texas Senators of the 80th Legislature" and the subsequent section displaying the senators.

Figure 10: Labels within the Texas Senate Web site

Expectation category #4: *Up-to-date Content*

Summary: The demand for up-to-date content is common for most types of information. In a legislative context this means that visitors want to be able identify the timeliness of information posted on the Web site.

Relevant Findability Features:

Customization and personalization – Customization and personalization allow for a Web site to provide content according to information provided by the visitor. One way that content can be customized is according to activities on previous visits. For example, Nevada's Personalized Bill Tracking is able to update visitors on the latest status of bills and bill draft requests (BDR) that the visitor had previously identified. In Figure 11 the Web site shows the visitor that BDR 40-6 has been introduced as SB307 since the last time the page was visited.

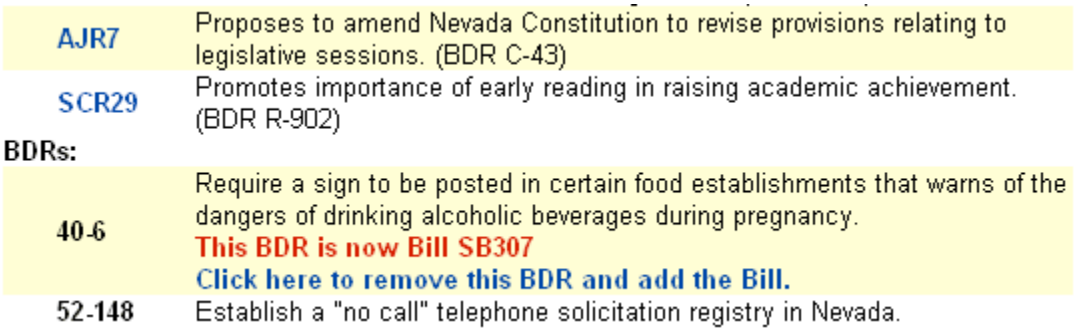


Figure 11: Nevada's personalized bill tracking system

Legislative Webmasters reading this checklist should be able to see opportunities within their current legislative Web sites to implement some of the features mentioned. Some Web sites have already established systems that programmatically scan documents for words and phrases in order to insert hyperlinks. In these cases it would be relatively easy to start expanding these systems to include other linking features mentioned within the checklist. As mentioned previously in this paper, there are many levels to implementation for many of these features. This allows for phased implementation that is more likely to be completed when time constraints come into play.

One issue that legislative Webmasters may face when implementing these features is dealing with voting records. Voting records are a sensitive issue in the legislative arena. Since legislative Webmasters are typically considered part of the legislative staff, any issue features

related to voting records should be dealt with care since inaccurate information can lead to a public relations issue for all involved.

One point not brought up in this study is searching. Some Web site visitors attempt to find information by searching first instead of using established navigation systems. Although search features are important parts of any large Web site, there are many details that go into making a search feature successful. Accurate search features are also often the result of good information architecture. Therefore, improved search features are looked upon in this study as a possible result of adding the features mentioned in the checklist.

There are many excellent resources for further study on the Web design topics covered within this study. A good place to start for finding additional information on Web findability features would the Review of References section of this study. Books such as *Ambient Findability* (Morville, 2005), *Don't Make Me Think* (Krug, 2001), and *Information Architecture for the World Wide Web* (Rosenfeld & Morville, 2002) are popular books in the Web design industry. Many of these books also come with companion Web sites in order to keep up with the ever-changing field of Web design.

Appendix A – Constituent Expectations

Constituent Expectation	Description of the Expectation in Source	Source
Constituent Representation	"…what [constituents] most wanted from a Web site was information about how their Members voted" (Be Accountable: Let Us Know Where You Stand).	Johnson (2001)
Constituent Representation	"Can citizens easily follow online the decisions made by the Legislature" (Introduction).	Peterson (2002)
Educational Component	"Participants felt that Web sites should have an educational element to them. Participants in all eight focus groups thought that educational pages for children were important" (Educate Future Voters).	Johnson (2001)
Educational Component	"For people to participate in the process, they need to be educated" (And the Winner is...)	Peterson (2002)
Educational Component	"Educate users about the different types of documents and the legislative process" (p. 109).	Fagan & Fagan (2001)
Educational Component	"Experts using a site may not need much education, but many users, both adults and children, can learn about the legislature through the Web site" (p. 162).	Ferber, Foltz, & Pugliese (2003)
Straight Forward Content	"Citizens are used to seeing glitzy, interactive commercial Web sites. But this is decidedly not what our participants said they wanted from their Legislators" (Give Us Information, Not Glitz, Fluff, or Self-promotion).	Johnson (2001)
Straight Forward Content	"The language of legislation is usually somewhat troublesome to the average citizen, but when encountering an unfamiliar state government terminology can be an overwhelming barrier" (p. 108).	Fagan & Fagan (2001)
Up-to-date Content	"…focus group participants wanted to see up-to-date material -- that is, information that had been updated within the prior two or three weeks" (Stay Current).	Johnson (2001)

Appendix B – Findability Features

Findability Feature	Description of the Feature in Source	Source
Breadcrumbs	"Breadcrumbs show you where you are [within the architecture of a Web site]" (p. 75).	Krug (2000)
Breadcrumbs	"Breadcrumb trails, such as this from Jakob Nielsen's consulting firm (www.nngroup.com/reports/intranet/design/), are often used to give users a sense of control over their exploration of a new information space" (p. 16)	Stewart (2006)
Color Coding	"Color coding of sections is a very good idea – as long as you don't count on everyone noticing it…Color is a great as an additional cue, but you should never rely on it as the *only* cue" (p. 85).	Krug (2000)
Contextual Navigation	"Some relationships don't fit neatly into the structure categories of global and local navigation. This demands the creation of contextual navigation links specific to a particular pare, document, or object" (p. 116).	Rosenfeld & Morville (2002)
Controlled Vocabulary	"And, we develop controlled vocabularies to manage the ambiguity of language" (p. 129).	Morville (2005)
Controlled Vocabulary	"In many large metadata-driven web sites, controlled vocabularies have become the glue that holds the systems together" (p.176).	Rosenfeld & Morville (2002)
Controlled Vocabulary	"Controlled vocabularies, like Taxonomy and its relatives, are not silver bullets and will not magically cure all information management problems, but they are a critical component of findability" (p. 21).	Stewart (2006)
Customization	"Both personalization and customization can be used to refine or supplement existing navigation systems" (p. 127).	Rosenfeld & Morville (2002)
Global Navigation	"Just having the navigation appear in the same place on every page with a consistent look gives you the instant confirmation that you're still in the same site - which is more important than you might think" (p. 62).	Krug (2000)
Global Navigation	"Because global navigation bars are often the	Rosenfeld &

Findability Feature	Description of the Feature in Source	Source
	single consistent navigation element in the site, they have a huge impact on usability" (p. 113).	Morville (2002)
Global Navigation	"Another aid to navigation found in many states was banners. They presented key choices to users and were especially helpful when they remained with the user throughout various sections of the site" (p. 163).	Ferber, Foltz, & Pugliese (2003)
Labeling System	"[L]abels are often the most obvious way of clearly showing the user your organization and navigation systems" (p. 76).	Rosenfeld & Morville (2002)
Local Navigation	"In many web sites, the global navigation system is complemented by one or more local navigation systems that enable users to explore the immediate area" (p. 114).	Rosenfeld & Morville (2002)
Navigation (general)	"Navigation isn't just a *feature* of a Web site; it *is* the Web Site, in the same way that the building , the shelves, and the cash registers *are* Sears. Without it, there's no *there* there" (p. 59).	Krug (2000)
Navigation (general)	"This strategy of locating information by continually narrowing our search through incremental steps has been dubbed orienteering (though most people call it browsing) and has proven to be the preferred approach to finding information" (p. 14)	Stewart (2006)
Page Name	"Every page needs a name. Just as ever corner should have a street sign, every page should have a name" (p. 72).	Krug (2000)
Personalization	"The promise of personalization is simple: by modeling the behavior, needs, and preferences of an individual, we can serve up customized, targeted content and services" (p. 115).	Morville (2005)
Personalization	"Both personalization and customization can be used to refine or supplement existing navigation systems" (p. 127).	Rosenfeld & Morville (2002)
Search Feature	"…on a Web site there's no one standing around who can tell you where things are. The Web equivalent of asking directions is searching - tying a description of what you're looking for in a search box and getting back a list of links to places where it *might* be" (p. 54). "Given the potential power of searching and	Krug (2000)

Findability Feature	Description of the Feature in Source	Source
	the number of people who prefer searching to browsing, unless a site is very small and very well organized, every page should have either a search box or a link to a search page" (p. 67).	
Search Feature	"Search should be there because users expect it to be there" (p. 135).	Rosenfeld & Morville (2002)
Search Feature	"A keyword search is most often an attempt (usually several attempts, actually) to go directly and instantaneously to the exact location of desired information" (p. 13)	Stewart (2006)
Search Feature	"Provide usable access points for searches, particularly by subject" (p. 113).	Fagan & Fagan (2001)
Tabs	"Tabs are one of the very few cases where using a physical metaphor in a user interface actually works. Like the tab dividers in a three-ring binder or tabs on folders in a file drawer, they divide whatever they're sticking out of into sections. And they make it easy to open a section by reaching for its tab" (p. 79).	Krug (2000)

Appendix C – Findability Feature Usage in Alignment

Features Used in Alignment	Unused Features
1) Breadcrumbs	1) Color coding
2) Contextual navigation	2) Global navigation
3) Controlled vocabularies	3) Local navigation
4) Customization	4) Navigation (general)
5) Labeling systems	5) Search feature
6) Page names	6) Tabs
7) Personalization	

Appendix D – Headings of Final Checklist

Constituent Expectations	Relevant Findability Features to Constituent Expectation
Constituent Representation	Contextual Navigation
	Personalization
Educational Component	Contextual Navigation
	Controlled Vocabulary
Straight Forward Content	Breadcrumbs
	Contextual Navigation
	Labeling System
	Page Names
Up-to-date Content	Customization
	Personalization

Definition of Terms

Term	Definition
Accessibility	"Web accessibility means that people with disabilities can perceive, understand, navigate, and interact with the Web, and that they can contribute to the Web" (What is Web accessibility, Henry, 2005). Web accessibility is not covered within the context of this study.
Blog	Blog is a combination of two words, web and log. "Blogs serve many purposes from online newsletters to personal journals to ranting and raving" (Computer Language Company, 2006, para. 1).
Breadcrumbs	The term “breadcrumb” is taken from the fairy tale Hansel and Gretel (Rogers & Chaparro, 2003). In the story Hansel drops breadcrumbs throughout the woods as a way to identify the path Hansel and Gretel took into the woods. The breadcrumbs then provide a visual path for them to follow when exiting the woods. Figure 9 (in the Conclusions chapter) represents how “breadcrumbs” appear on Web sites. (The breadcrumbs in this figure are highlighted by a green box.) Although there are three types of breadcrumbs used on Web sites (path, attribute, and location (Rogers & Chaparro, 2003)) this study focuses on breadcrumbs as a whole. In this study “breadcrumbs” signify a feature of giving visitors a visual representation of how they arrived to their current page or where they are relative to the structure of the Web site (Rogers & Chaparro, 2003).

Term	Definition
Congress Online Project	"The Congress Online Project is a two-year (2001 - 2002) program funded by The Pew Charitable Trusts and conducted jointly by the George Washington University and the Congressional Management Foundation (CMF) to examine the use of Web sites and other forms of online communications by congressional offices. The goal of the project is to improve electronic communication between Members of Congress and the public" (Congress Online Project, 2004).
Constituent	A constituent is any "resident of a district or member of a group represented by an elected official" (American Heritage® Dictionary of the English Language, 2004). For the purpose of this study a "common constituent" is considered a person that is comfortable using the Internet, but is not likely to have training in the legal processes of a legislative organization. This definition is intended to align with participants selected in the 2001 Congress Online Project study to identify constituent expectations when visiting Congressional Web sites (Johnson, 2001). (*Related terms*: constituent expectation)
Constituent Expectation	For the purpose of this study, constituent expectations are generalizations of expected information and forms of information when constituents visit a legislative Web Site. Examples: straight forward content, constituent representation, educational components, and up-to-date content. (*Related terms*: constituent)
Content Analysis	Content analysis is a detailed and systematic examination of the content

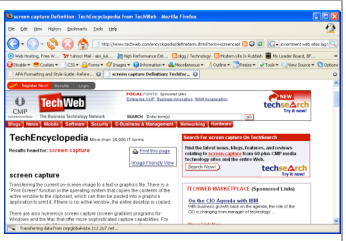
Term	Definition
	of a particular body of material for the purpose of identifying patterns, themes, or biases within that material (Leedy & Ormrod, 2001, p. 108). In the case of this study, "material" largely consists of textbooks, web sites, and trade publications.
Contextual Navigation	"Some relationships don't fit neatly into the structured categories of global and local navigation. This demands the creation of contextual navigation links specific to a particular page, document, or object" (Rosenfeld & Morville, 2002, p. 116). Contextual navigation links can appear at any point within a Web page. (See Figure 7 for example)
Controlled Vocabularies	Controlled vocabularies are "invisible" components of a Web site's information architecture and therefore are never seen by Web site visitors. These components run in the background of Web sites assist in matching metadata to the user's needs. For example, controlled vocabularies allow a Web site's search engine to match what a visitor types into a search box (e.g. car) and map it to the Web site's preferred term (e.g. automobile) (Rosenfeld & Morville, 2002, p. 48).
Customization	Web site customization occurs when a visitor is allowed to tailor the Web sites appearance or content in some fashion (Allen, 1999). Examples of Web site customization include setting up a home page to display a visitor's local weather forecast or a specific list of stock quotes (Allen, 1999, para. 4). In both cases the visitor specified exactly what the Web site needed to return. Customization is not to be confused with

Term	Definition
	Personalization (Allen, 1999). (*Related terms*: personalization)
Cyberdemocracy	See e-Democracy.
Data Analysis Spiral	This method allows the research to move in "analytic circles rather than using a fixed linear approach (Creswell, 1998, p. 142). Creswell explains this approach to deal with the circular nature of qualitative research and allow for data analysis to evolve with the researcher (Creswell, 1998, p. 142).
e-Democracy	"E-Democracy, in turn, refers to citizens going online to communicate opinions or complaints to government related to a public issue, independent of any commercial transaction. Citizens who engage in these online activities join in the democratic process by seeking to shape the development or implementation of public policies" (Thomas & Streib, 2005, p. 261). "E-democracy uses of the Web entail two principal components: (a) offering opinions on public issues and policy questions and (b) voicing complaints about government programs and services" (Thomas & Streib, 2005, p. 261). (*Related term*: cyberdemocracy)
e-Government	"In the simplest of terms, e-government is the electronic government, or the use of digital technology in the management and delivery of public services, predominantly through the Internet" (Edmiston, 2003, p. 20 as cited in Ferber et al., 2004, p. 5). There are few "services" rendered by the legislative branch to constituents. Thus, the e-Government context of

Term	Definition
	this study typically refers to the e-Research context (or information gathering) done by constituents on legislative Web sites (Thomas & Streib, 2005, p. 261).
e-Research	"E-research refers to government Web site visits where the individual seeks information ostensibly independent of either ecommerce or e-democracy" (Thomas & Streib, 2005, p. 261).
Existence (coding for)	During the coding process of content analysis, the researcher may code a piece of text for the existence of specific word or phrase. Coding for existence means that the text will either be true or false for the existence the specific word/phrase regardless of how many times that word/phrase exists (Palmquist et al., 2006, Glossary). (*Related terms*: frequency)
Findability	"Findability refers to the quality of being locatable or navigable. At the item level, we can evaluate to what degree a particular object is easy to discover or locate. At the system level, we can analyze how well a physical or digital environment supports navigation and retrieval" (Morville, n.d.). In this study the definition of "findability" focuses on the first statement in Morville's definition: "the quality of being locatable or navigable". Therefore, this study refers to findability as the ability for the Web site to present data and features. (*Related terms*: findability features, locatable, searchability, navigable, retrievable)
Findability	Web design features that make information locatable, navigable, and

Term	Definition
Features	searchable (Morville, n.d.). Examples: breadcrumbs, keyword searches, lists, and navigation menus. (*Related terms*: findability)
Frequency (coding for)	During the coding process of content analysis, the researcher may code a piece of text for the frequency of specific word or phrase. Coding for frequency means that the researcher will give a value to the total count of occurrences of a specific word or phrase (Palmquist et al., 2006, Glossary). (*Related terms*: frequency)
Legislation	"A proposed or enacted law" or "the act of lawmaking" (American Heritage® Dictionary of the English Language, 2004). This study uses legislation in both contexts.
Locatable	See Findability. (*Related terms*: locatable, searchability, navigable, retrievable)
National Political Awareness Test (NPAT)	"The National Political Awareness Test (NPAT) asks candidates which items they will support if elected. It does not ask them to indicate which items they will oppose. Through extensive research of public polling data, we discovered that voters are more concerned with what candidates would support when elected to office, not what they oppose. If a candidate does not select a response to any part or all of any question, it does not necessarily indicate that the candidate is opposed to that particular item" (Project Vote Smart, n.d.)
Navigable	See Findability. (*Related terms*: locatable, searchability, navigable,

Term	Definition
	retrievable)
Personalization	Personalization of Web site content occurs when Web sites are able to adapt and guide a reader's experience based on that reader's personal profile (Allen, 1999). Personalization is an expansion of customization. For example, a customized Web site includes a specific list of stock symbols and a personalized Web site displays a list of news stories related to those stock symbols. (*Related terms*: customization)
Project Vote Smart	Project Vote Smart is Web site devoted to presenting "access to abundant, accurate, and relevant information" in relation to government elections, voting records, candidates, laws, etc (Project Vote Smart, n.d.). "Most of us at Project Vote Smart are not paid and those who are receive only minimal salaries to cover living expenses. We will not accept funding from corporations, PACs or any organization that support or oppose candidates or issues" (Project Vote Smart, n.d., About Us).
Proximity Analysis	Proximity analysis “is concerned with the co-occurrence of explicit concepts in the text” (Palmquist et al., 2006, Three Subcategories of Relational Analysis). This study uses proximity analysis to analyze texts by determining whether or not certain words can be grouped and therefore coded into a specific category. For example, findability in of itself is not relevant to this study, but if it is within a given length of words from "Web design" it is included as relevant content for this study.

Term	Definition
Legislative Web sites	State Legislative Web sites refer to the Web site specific for the legislative branches of all 50 states and the District of Columbia (NCSL, 2006). The numbers of Web sites vary from state to state depending on organizational structure. For example, the Connecticut Legislature breaks its Web site down by house and party, http://www.ncsl.org/public/leglinks_search.cfm, while other states are consolidated into a single Web site, http://www.leg.state.nv.us/ (NCSL, 2006). This study also includes congressional web sites due to their similarity in structure and process (Jenks, 2006).
Screenshot	A screenshot is an image capture of what is displayed on a computer monitor. A  screenshot may also be called a "screen capture". This is often used to capture what a computer user sees on his/her screen in order to display in another format: graphics program, email, or Microsoft Word document (The Computer Language Company, 2006). This study uses Web site screenshots to display within the document in order provide visual examples of how Web sites present specific features. (See Figure 12)
Search Engine	A search engine is "the software and algorithms used to perform a search" (Computer Language Company, 2006). This study defines a search engine as any type of Web site feature that allows a visitor to

Term	Definition
	search an Web site, or section of a Web site, by typing keywords freely into a text box.
Visitor	A Web site visitor, often referred to as "unique visitor", is the "number of actual individual people, within a designated reporting timeframe, with activity consisting of one or more visits to a site or the delivery of pushed content" (Sterne, 2002, p. 131).

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