Response to Request for Research  
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Parliamentary Website Development  
A comparative analysis of parliamentary website project management.  

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Executive Summary

Approximately 70% of IT projects fail or are severely challenged, with costs, schedules, and features failing to match original agreements. Failures in website development are particularly visible to public scrutiny. Government IT development requires strong leadership. *The person ultimately responsible for the execution of IT plans must not only have some technical knowledge, but must also have political clout.* IT projects are unlikely to be successful without planning that involves all stakeholders, sufficient technical expertise to comply with best practices and legal requirements, and the political will to hold stakeholders accountable. *In none of the nations investigated did parliamentary committees develop their own web pages;* but rather, parliamentary websites were found to be unified projects.

Any new IT system requires that business practices be rethought. Successful IT projects do not simply mimic existing processes; but rather, existing processes are redesigned in order to reap the maximum benefit from a new IT system. Since parliamentary websites focus on disseminating information, the processes of information creation must be reviewed and standardized when implementing a new website.

Most parliamentary websites are now *content management systems* (CMS). Parliamentary committees are given access to modify the text and documents presented on their portion of the website, but the committee has no control over the appearance or organization of the website. This empowers committee staff, since the only skill necessary to create website content in a CMS is the use of a common word processing program. The unified face projected by the parliament is also preserved, since both the visual appearance and format of content presented across the entire website is uniform.
Introduction

This report considers best practices for parliamentary website development, with particular attention paid to committee websites. A large number of parliamentary websites were reviewed (see Bibliography), with specific information being obtained about the Czech Republic, Estonia, Finland, and the UK. This review revealed common design elements and common project management practices across most websites. Both areas were found to generally conform to best practices in the private sector.

IT projects are extremely risky. Approximately 70% of information technology (IT) projects fail or are severely challenged, with costs, schedules, and desired features failing to match original agreements. Although these figures are similar for the public and private sectors, the public sector faces unique challenges in pursuing major IT investments. The fast pace of technology change as compared to relatively slow government decision cycles, operating in a complex political environment, and a lack of IT skills among staff can all contribute to public IT projects encountering problems (Pearce 2003). Failures in website development are particularly visible to public scrutiny.

Successful website development in the public sector requires strong leadership. The person ultimately responsible for the execution of IT plans must not only have some technical knowledge, but must also have political clout. IT projects are unlikely to be successful without detailed planning involving all stakeholders, sufficient technical expertise to comply with best practices and legal requirements, and the political will to hold stakeholders to their agreements. In none of the nations investigated did parliamentary committees develop their own web pages, but rather, committee websites were found to be part of larger, unified parliamentary IT projects.
The introduction of any new IT system requires that business practices be rethought. Successful IT projects do not simply mimic existing processes, but rather, existing processes are redesigned in order to reap the maximum benefit from a new IT system. Since parliamentary websites focus on disseminating information, the processes of information creation and delivery must be reviewed and standardized when implementing a new website.

A successful website development project and successful website maintenance are the result of detailed planning and coordination by numerous stakeholders. Successful websites are user-oriented, conform to agreed internal designs and formats, and are compliant with local laws and international technical standards. Failure to employ intentional design practices can lead not only to project failure, but can expose institutions and individuals to significant information security threats and legal liability.

Most parliamentary websites are now content management systems (CMS). In a CMS, layout is divorced from content. These are often referred to as dynamic websites (Wikipedia 2006). Parliamentary committees are given access to modify the text and documents presented on their portion of the website, but (1) that content must comply with standard specifications and (2) the committee has no control over the appearance of the website. This empowers committee staff, since the virtually the only skill necessary to create website content in a CMS is the use of a common word processing program. The unified face projected by the parliament is also preserved, since both the visual appearance and format of content presented across the entire website is uniform.
IT Project Management

Risk
The successful development of any IT project requires a great deal of time, money, and expertise, often much more than initially projected. Research by the Standish Group, an IT performance consultancy in the US, has estimated that only one-third of IT projects are successful, with failed or challenged projects having an average cost overrun of 43% and time overrun of 82%. An Oxford University survey in 2003 suggested that the rate of success may be as low as 15% (Pearce 2003).

Most governments experience problems when implementing large IT projects. Budgets are exceeded, deadlines are over-run and often the quality of the new system is far below the standard agreed when the project was undertaken.

... The inability of governments to manage large public IT projects threatens to undermine efforts to implement e-government. (OECD 2001)

It is sometimes difficult to define what is a “large” project. The size of an IT project will depend on numerous factors, including the budget, time required to complete the project, desired scope of features, number of organizational units affected, and number of clients effected. Thus, a project could be considered large because it will mean a great deal of computer coding, hardware or infrastructure upgrades, changes to business practices, or simply because it is a high-profile project that the public will notice if it goes wrong. Parliamentary websites development and maintenance are large IT projects, if only because they are so visible to the public.

It can be argued that changes to or the addition of a portion of a larger website do not represent a “large” project and thus do not require the same attention as do more extensive projects. This view fails to recognize the complexity and potential difficulties associated with website development. Quoting the OECD:
There is no such thing as an IT project in isolation.

...special standards of accountability and transparency apply to the public sector. This means that failure is often widely publicized and that top-level civil servants and politicians are held accountable for very technical projects...

If one portion of a website is found to be inconsistent with the goals of the website as a whole (e.g. is poorly designed, contains inappropriate or illegal content, lacks proper security), blame will eventually land on those at the top who should have been managing the project, rather than the people lower-down who were left without proper management guidance.

Leadership

The OECD outlines a number of important principles necessary for successful IT projects. These principles are echoed in many IT industry publications.

- Establish appropriate governance structures
- Think small
- Use known technologies
- Identify and manage risk
- Ensure compliance with best practices for project management
- Hold business managers accountable
- Recruit and retain talent
- Prudently manage knowledge
- Establish environments of trust with private vendors
- Involve end-users

Each of these items is discussed in more detail in the OECD publication “The Hidden Threat to E-Government” listed in the bibliography of this report and available on the Internet. This report will focus on only a few of these points that appear repeatedly in other similar publications.
The most important recommendation in terms the regulation of committee websites comes under the heading “Strengthen leadership and accountability, and focus on business change.”

*IT projects are...business projects and must be led by top management and not by IT experts.*

*Leadership is a key issue of project management. Unless a single senior official has final responsibility and is held accountable for the success of a project, the project will most likely fail.*

*An isolated IT office is sufficient for internal technical applications but not for critical business applications that change the face of the agency and that affect critical legal and business issues.*

Particular attention should be paid to this last statement. The website of a governing body is part of the *face* of the institution, and the failure of even a portion of such a website to comply with legal requirements or best practices will be visible to the entire world. While it is necessary for a parliament to have its own IT experts, it is critical that ultimate responsibility and authority over the website rest with a senior official with the proper authority to hold everyone accountable to agreed plans and standards. One difference between public and private IT projects is that in public projects, the project manager tends to be lower down in the chain of command in the organization. This is a cause of higher failure rates of government IT projects. “One of the most effective ways to manage risk is to have a project leader with the necessary skills to match the project needs. Without an appropriate project manager, projects tend to fall apart…given that [public information systems] directors tend to have less authority than their private sector counterparts, the careful choosing of a project leader with both technical knowledge *and political clout* is essential” [emphasis added] (Cats-Baril 1995).
Top-level website design is generally carried out by a working group consisting of representatives from parties that will be affected by changes to the website and who will be responsible for creating/maintaining the website. The plans agreed on by the working group carry the authority of the organs the members of the working group represent. For example, in the Czech Republic, this working group consisted of the IT Department, Parliamentary Library, the Parliamentary Institute, and a private contractor. Each of these parliamentary organs is subordinate to the Chancellery of the Chamber of Deputies. In the Finnish parliament the IT and other information departments answer to the Chancellery Commission, which is made up of members of parliament (currently the president of the Chancellery Commission is former Prime Minister Paavo Lipponen). In Estonia, the IT, Press, and Information departments, which deal with website specification answer to the Secretary General of the Chancellery, who is an appointed official who answers to the Board of the Riigikogu (parliament), the internal governing body which includes the Chairman of the Riigikogu, who directs plenary sessions. Information obtained from Finland indicates that plans drawn up by working groups within the committee information offices went through an official approval process whereby they became official directives of the Chancellery. In each of these cases, it appears that the IT department, working in conjunction with other interested parties, enjoys considerable authority by virtue of the chain of authority leading back to the political leadership of the Chancellery.

Requirements Specifications

The bedrock of IT project design has become the software requirement specification (SRS). There are many general guides to the writing of such documents (Robertson and
Robertson 1999; Lauesen 2002; Wiegers 2003; Wiegers 2006), technical guides for how programmers can use such documents (McConnell 2004), online resources outlining the basic principles of the SRS (Wiegers 1999; Wikipedia 2006), and an applicable IEEE standard (IEEE Std 830-1998). The SRS has been described as follows:

An SRS is basically an organization's understanding (in writing) of a customer or potential client's system requirements and dependencies at a particular point in time (usually) prior to any actual design or development work. It's a two-way insurance policy that assures that both the client and the organization understand the other's requirements from that perspective at a given point in time.

The SRS document itself states in precise and explicit language those functions and capabilities a software system (i.e., a software application, an eCommerce Web site, and so on) must provide, as well as states any required constraints by which the system must abide. The SRS also functions as a blueprint for completing a project with as little cost growth as possible. The SRS is often referred to as the "parent" document because all subsequent project management documents, such as design specifications, statements of work, software architecture specifications, testing and validation plans, and documentation plans, are related to it.

It's important to note that an SRS contains functional and nonfunctional requirements only; it doesn't offer design suggestions, possible solutions to technology or business issues, or any other information other than what the development team understands the customer's system requirements to be.

Before any IT project is begun in earnest, a working group must determine what the new product must be able to do. In the case of a parliamentary website, as any other piece of software, this means analyzing what the parliament needs the website to do, who will maintain to the website (and how they will do so), and so forth. One of the most important steps in this process is the writing of use cases, also known as use scenarios (Cockburn 2001; Wikipedia 2006). A use case is a detailed description of a business task. In the case of a parliamentary website, a use case could describe the creation of a report, the recording and archiving of minutes, or a citizen trying to get information about a committee meeting, for example. Use cases reveal the requirements of an IT system by
describing existing and desired business processes, thus exposing inefficiencies or frustrations users experience and showing what the underlying needs are that current business processes are attempting to meet. For example, in Estonia, when the latest version of the parliamentary website was developed, the website development team conducted interviews with potential users which were then incorporated into a requirements specification. In Finland, the working group included representatives from each committee, who would be using the website, in addition to information management and technology experts.

In 2000, the Inter-Parliamentary Union Council approved a set of recommendations for the design of parliamentary websites (IPU 2000), which is very much like an SRS. Based on an extensive study of existing parliamentary websites and in response to user feedback, this document outlines the basic content and features that should be present on any parliamentary website. While no specific development process is outlined, a number of practical methodological recommendations are made:

- Ensuring that political and administrative authorities are fully aware and supportive of the project;
- Defining the content of the site both from the point of view of targeted audience as well as the capacity of information sources to deliver necessary documents;
- Elaborating a detailed graphical chart of the site;
- Securing adequate financial resources;
- To establish the site creation team and ensure its training;
- Finding an appropriate site-hosting solution;
- Establishing a clear procedure with regard to roles and responsibilities in updating the site's content;
- Promoting the site by means of various Internet tools and options.

All of these recommendations are consistent with the other literature reviewed for this report. The most important observation for committee website development is the underlying assumption in each of these recommendations that the development of a
parliamentary website is a *centralized* activity being carried out by competent IT professionals under the supervision of political and administrative authorities.

Particularly the second and third points imply that a *single plan* regarding what the website will contain and how it will be structured is necessary.

The IPU, along with the OECD, also recommend adhering to best-practices in website coding and other technological choices. A lack of coding standards “has the implication for IT management that poor website coding may hamper future website maintenance activities” (Taylor 2002). “Without appropriate website design techniques…there is a real risk that overly complicated and messy websites will be developed, which may not only frustrate website users, but also may mean that future website maintenance activities may be unnecessarily complex” (Taylor 2002). Web consultancies will often attempt to sell governments state-of-the-art website designs that do not run well on older browsers. “Accommodating diverse users should be a strong concern for most designers since it enlarges the market for commercial applications and provides democratic access to government services” (Shneiderman 1997). This means providing multiple versions of web pages to support legacy (i.e. older) browsers and hardware, making websites accessible for handicapped users, and making code compliant with standards for mobile devices.

This study did not find publicly-available website design plans, although all parliamentary sources contacted mentioned that internal documents approved by important stakeholders had been used in the website design process. Many nations have legislation outlining requirements for accessibility (particularly for disabled citizens), security, and freedom of information, but other than these basic legal requirements
parliamentary websites are internal projects largely unconnected to other government Internet initiatives outside of parliament. In other words, it does appear that the SRS model is being used in parliamentary website development, but SRS documents are not easily available to the public.

Recruiting and Retaining Talent
The OECD recommendations mentioned above also call attention to the special skill set required to manage contracts with outside providers of IT services: “It takes talent and knowledge to procure an IT system and to manager the relationship with the provider.” It is common for public employees to find themselves in a situation of information asymmetry when trying to contract for IT services. Government employees often lack the technical skills and experience necessary to know what services they actually need and many IT providers are only too happy to sell governments expensive, untested technologies. Even when good plans and standards exist for IT projects such as websites, if responsibility for contracting website construction rests with people who do not know about those standards, who have not attained some degree of technical knowledge, failure is likely. “…many failures can be explained by poor compliance with otherwise very good guidelines and existing good practice” (OECD 2001).

Website Maintenance

Content Management Systems
Most parliamentary websites (including that of the Verkhovna Rada) are now content management systems (CMS). In a CMS, layout is divorced from content. These are also often referred to as dynamic websites. The CMS is basically composed of three
components. First, there is a database layer where the text content of the website is stored. This is just text without any information about how it should be presented.

Second, there are a series of computer programs that reside on a web server that make up the ‘brains’ of the CMS. This is just computer code with no content. Third, the web server also contains templates. Templates are also written in computer code, but contain elements of the standard website code language HTML (HyperText Markup Language) (see "HTML", Wikipedia 2006). Imagine a web page with colors, background images, and columns, but no text. This is a template. When a person browsing the Internet accesses a CMS webpage, the person’s web browser first encounters the CMS computer code. These coded programs then go to the database, look up the requested text, and then present that text to the user using the appropriate template. There may be many templates. For example, using exactly the same code files and the same text from the database, a different template could be displayed for different browsers, different types of devices (mobile, laptop, printer), or the text could be presented with no images for users with slow Internet connections. The point is that when the words on a website need to be changed, there is no need to change anything else. The images, colors, and other layout features stay untouched. This also means that very complicated websites can be built as single systems with a small number of files, rather than becoming mazes of loosely-connected files created by many different users that are nearly impossible to upgrade as a whole.

The CMS design concept directly affects how parliamentary committees (and other organs of parliament) interact with the parliamentary website. Parliamentary committees are given access to modify the text and documents presented on their portion
of the website, but (1) that content must comply with standard specifications and (2) the committee has no control over the appearance of the website. These constraints are not the result of rules which must be enforced by someone; but rather, they are inherent in the technology. In Estonia, Finland, and the UK, and presumably elsewhere, each office with a page on the parliament web server has one or two people who have user rights to enter information in the CMS. When this staff member is ready to enter new information, such as meeting minutes, a new report, etc., he or she simply logs in to the website secure area and fills in or uploads the new information using a predefined form. Imagine filling out a job application or other official form on paper: the form fields are already defined; you just fill in the requested information. In much the same way, it is very easy for the committee staff member to enter the correct information in the proper way, since the CMS asks for exactly the information that has been previously agreed should appear on the website. This empowers committee staff, since the only skills necessary to create website content in a CMS are the use of a common word processing program and the ability to fill out a form. They do not need to know anything about website design. Additionally, any information entered into the CMS is stored in a central location (the database) and thus can be reused elsewhere. For example, there is no need for a parliamentary library to archive documents entered in the CMS, since the CMS is an archive. The unified face projected by the parliament is also preserved, since both the visual appearance and format of content presented across the entire website is uniform.

The influence of the CMS is readily apparent if one compares the websites of different committees in a parliament using this approach. They are identical in almost every respect, except for the actual content. The content categories (meeting minutes,
schedules, reports, lists of members) were found to be uniform within each website examined. This suggests that the framework of a general committee website was defined during the website design process, rather than being left to each committee to define.

The case of Estonia is a prototypical example. The Press and Information department is responsible for the so-called “static” content on committee pages, i.e. general information about the purpose of the committee and the menu options. This type of information (and the general structure of the pages) changes very rarely and is handled centrally. For each committee, the description of the committee is different, but the menu options are the same for each committee page (Committee Members and Staff, Bills Under Consideration, Meeting Schedule, Minutes). Information that has to do with the everyday business of the committee, such as the Bills Under Consideration, Meeting Schedule, and Minutes are updated regularly by a committee staff member. This type of division of labor is typical of most CMS implementations. IT professionals set up the system, i.e. the HTML templates, coded programs and databases that define the logical structure, content types and appearance of the website. Then users are able to dynamically add, modify, and delete actual content (text, images, document files) within this structure.

In none of the nations investigated did parliamentary committees develop their own web pages. In all cases committee web pages were found to have been set up by the parliament IT department, often in conjunction with outside contractors, at the behest of parliament as a whole. Parliamentary committees to not commission their own websites. The format and content of these sites closely resembled the recommendations contained in the Inter-Parliamentary Union report discussed previously (see the original report for
content recommendations). The implementation of such a unified system may mean changes to committee processes, as suggested previously. This is not a problem, but rather an opportunity to reap maximum benefit from a new technology. For example, a major part of the development of the current parliamentary website in Finland was unifying the meeting practices of each parliamentary committee so that the same types of documents with the same naming schemes were being produced by each committee. It is widely acknowledged that attempting to adopt new technologies without changing old business practices rarely works (Cats-Baril 1995; Layne and Lee 2001; Pearce 2003), as discussed above under the heading Leadership.

Conclusion

Parliamentary websites are an important tool for members of parliament and staff to interact and access information, as well as being an important source of information for citizens. Failure to pay proper attention to website development planning activities regularly results in embarrassing project failures, breaches of security, and staff and citizen frustration. Established guidelines exist for parliamentary website content and best-practices for website development are also well established. By adhering to public and private sector best practices, international technical standards, and ensuring that website development is supported by top political leadership, parliaments can ensure that their websites remain secure, user-friendly sources of information that strengthen democratic institutions.
Appendix A Correspondence with Sources

In an attempt to the most up-to-date information possible on parliamentary website development, the variations on the following questionnaire were emailed to numerous parliamentary and consular information agencies in each nation under consideration. Responses were received from the Czech Republic, Estonia, Finland, and the UK.

Respondents
Czech Republic: Štěpán Pecháček, Ph.D., Head of General Analyses Unit, Parliamentary Institute, pechacek@psp.cz.
Estonia: Helin Noor, Riigikogu Information Consultant, helin.noor@riigikogu.ee.
Finland: Juha Suomalainen, Head of Information Technology juha.suomalainen@eduskunta.fi.
UK Web Centre, Parliamentary ICT Department, webmaster@parliament.uk.

Detailed information on specific responses is available from the author: owitesma@indiana.edu.

Questionnaire

1. What office is responsible for updating the parliament's website? And committee web pages?

2. When the parliament's website was last redesigned, what office or team lead the design?

3. Are there any planning documents regarding the last redesign that are available? (Underlying question: What was the planning process like?)

4. Do parliamentary committees have any control over what appears on their portion of the website? If so, how does the committee add content to the site?

5. Is there a law or other parliamentary document that defines the standards for the parliamentary website?

6. If the IT office and a committee disagree about what should be on the committee's website, who "wins" (why?)?
Bibliography

Parliamentary websites:


The following parliamentary websites were reviewed for this report:

Canada: www.parl.gc.ca
Czech Republic: www.psp.cz
Estonia: www.riigikogu.ee
Ireland: www.oireachtas.ie
Italy: www.camera.it
Netherlands: www.tweedekamer.nl
Spain: www.congreso.es
Sweden: www.riksdagen.se
UK: www.parliament.uk

Works Cited


