

About This Guide

Purpose

The *Internet Guide* supports the Government of Canada's Government On-line (GOL) initiative by giving you a resource to help you put your services and information on-line.

You **must** adhere to a number of government-wide statutes, policies and standards when providing your services and information on-line, such as the *Access to Information Act*, *Privacy and Data Protection Act*, *Official Languages Act*, Security Policy, Communications Policy for the Government of Canada, Use of Electronic Networks Policy, Federal Identity Program, and [Common Look and Feel Standards for the Internet](http://www.cio-dpi.gc.ca/clf-nsi/index_e.asp) <http://www.cio-dpi.gc.ca/clf-nsi/index_e.asp>.

You should use your institution's current best practices and guidelines with the *Internet Guide* to effectively and efficiently place services and information on-line.

Audience

The audience for this guide is primarily those who plan, implement, evaluate and maintain Web initiatives within the Government of Canada. This includes information technology/information management (IT/IM) managers and specialists, communications personnel, Web developers, content providers and anyone else working on the Government On-Line initiative.

Site Overview

This guide is structured around the lifecycle approach to creating, maintaining, managing and preserving a Web initiative. Such work is not linear; it involves moving back and forth among activities. You will need to deal with all the issues, but you will need to return to some issues several times as you acquire more information and experience.

The Guide is divided into four main parts:

[Getting Started](#)

A starting point and a foundation for developing a Web initiative

[Implementation](#)

Ways to make effective use of on-line tools and technology for your Web initiative

[Evaluation](#)

Ways to examine the success of the planning and implementation process of your Web initiative

[Maintenance](#)

Maintenance processes that will help your Web initiative succeed

Getting Started

This section gives you a basis for planning your Web initiative.

When starting a Web initiative, use the Enhanced Management Framework (EMF) as a primary resource for relevant principles, best practices, methodologies, tools, templates, handbooks, guides and standards. Examine this “Getting Started” section of the *Internet Guide*, along with the EMF information, when creating a comprehensive plan.

The Treasury Board has approved the EMF, which you should apply to all projects with a significant information management or technology component.

The EMF is designed to ensure that government information technology projects fully meet the needs of the business functions they are intended to support, that they deliver all expected benefits, and that they are completed on time and on budget.⁽¹⁾

The EMF provides solutions to project management concerns experienced in the federal government. You can learn about these solutions on the [Enhanced Management Framework Web site](http://www.cio-dpi.gc.ca/emf-cag/index_e.asp) <http://www.cio-dpi.gc.ca/emf-cag/index_e.asp>.

The “Getting Started” section has eight parts:

[Government On-line \(GOL\)](#)

Examining GOL key speeches, principles, targets and strategy, and related resources

[Environmental Scan](#)

Studying Canadian and international information technology and Internet news that may affect your institution

[Purpose of the Web Initiative](#)

Developing a value proposition and understanding the objectives of your Web initiative

[Resources](#)

Building a Web team, assessing the skills and expertise needed, and determining financial resources considerations

[Client Analysis](#)

Determining who your client is and the needs of your client

[IT Considerations](#)

Considering hardware, software, services and support needed for your Web initiative

[Interactivity Tools](#)

Investigating on-line tools for consulting clients, surveying clients, disseminating messages and advertising, generating transactions and handling other interactive tasks

[Getting Started Resources](#)

Researching reliable on-line resources to help you plan an efficient Web initiative

Government On-line (GOL)

This section provides information on the Government On-line (GOL) initiative, including foundation speeches, principles, targets, strategy and related resources. It gives institutions a comprehensive, horizontal strategy to ensure that their individual efforts add up to a coordinated, consistent, convenient and citizen-centric on-line service.

This “Government On-line” section has three parts:

[Speeches](#)

Speeches outlining the broad goals of the Government of Canada related to on-line service and the strategy for accomplishing those goals

[Government On-line Principles, Targets and Strategy](#)

Main principles, targets and strategy to ensure that citizens receive value from electronic service delivery

[Government On-line Resources](#)

Sites that describe the Government of Canada’s service delivery vision, in line with information technology

Speeches

This section provides various speeches that outline the broad goals of the Government of Canada related to on-line service and the strategy for accomplishing these goals.

The Government will become a model user of information technology and the Internet. By 2004, our goal is to be known around the world as the government most connected to its citizens, with Canadians able to access all government information and services on-line at the time and place of their choosing.

— Speech from the Throne 1999

Speeches

[Speech from the Throne \(SFT\) 2001: Connecting Canadians](#)

(January 30, 2001)

[Prime Minister's Response to the SFT 2001: Connecting Canadians to the Digital Economy](#)

(January 31, 2001)

[President of the Treasury Board's Response to the SFT 2001](#)

(February 6, 2001)

The Privy Council Office site includes a direct link to the Clerk of the Privy Council's speeches, speaking notes and announcements: <http://www.pco-bcp.gc.ca/default.asp?Language=E&page=clerk>.

The Clerk of the Privy Council discusses issues that affect all departments; the two following links examine GOL initiatives specifically:

- [Opening the E-Government File: Governing in the 21st Century](#) (March 30, 2001)
<http://www.pco-bcp.gc.ca/default.asp?Language=E&Page=clerksspeechesmessages&Sub=ClerksSpeeches&Doc=20010330_egovernment_e.htm>;
- [2004 and Beyond](#) (October 2, 2000)
<http://www.pco-bcp.gc.ca/default.asp?Language=E&page=clerksspeechesmessages&sub=clerksspeeches&doc=2000_gtc_e.htm>.

Speech from the Throne (SFT) 2001: Connecting Canadians

January 30, 2001

This speech reinforces the Government of Canada's initiative to make Canada the most connected country in the world, keeping in mind the fast pace of change, accessibility, safety and security.

The Government has helped to make Canada one of the most connected countries in the world, yet the speed of change continues to accelerate. Canada must continue to develop and strengthen its information infrastructure.

The private sector today is expanding high-speed access to the Internet in many regions. The National Broadband Task Force will advise the Government on how Canadians together can achieve the critical goal of making broadband access widely available to citizens, businesses, public institutions and to all communities in Canada by 2004.

The Government will continue to support the Community Access Program and SchoolNet, ensuring that Canadians, their communities and their schools can have an on-ramp to the information highway. These programs are critical to Canada's effort to close the digital divide, particularly in rural, remote, Northern and Aboriginal communities. The Government will also enhance SchoolNet, focussing on creating more and better learning content on-line.

The Government will continue to work toward putting its services on-line by 2004, to better connect with citizens.

It will also modernize federal privacy law to safeguard the personal information of Canadians and provide better copyright protection for new ideas and knowledge.⁽²⁾

Prime Minister's Response to the SFT 2001: Connecting Canadians to the Digital Economy January 30, 2001

This speech highlights the Prime Minister's response to the 2001 Speech from the Throne, which details information technology commitments and accomplishments of the Government of Canada.

In the new, knowledge economy, the path to national prosperity and personal opportunity travels the Internet.

Building a state-of-the-art, high-speed information infrastructure is as essential to Canadian success in the 21st century as up-to-date roads, bridges, airports and ports were to our success in the 20th century.

Harnessing the potential of the Internet is a global race. To the victor will go the spoils: increased opportunity, good jobs, higher standards of living and a better quality of life.

Our government is committed to building a fast lane for Canada on the Information Highway. We are committed to:

- *giving Canadians the skills and opportunities they need to become the most Internet-savvy people in the world;*
- *making the Government of Canada the most connected government in the world to its citizens;*
- *helping entire communities go on-line to connect with local governments, schools, businesses, citizens, and health and social services;*
- *creating the legal and regulatory framework to make Canada a world leader in e-commerce;*
- *making Canada a natural magnet for investment, research and development;*
- *using the power of the Internet to make Canadians more aware of their unique history, identity and culture.*

Since taking office, we have followed a national vision and strategy called Connecting Canadians. It is based on building new partnerships that make things happen fast—because we understand that speed isn't everything in the knowledge economy, it's the only thing.

A Record of Achievement

Through SchoolNet, we were the first nation in the world to connect all our public schools and libraries to the Internet.

We helped set up over 6500 public Internet access centres in rural and urban communities across Canada.

By March 31, 2001, in partnership with the private sector, we will have provided 250,000 computers to Canada's public schools and libraries.

We introduced legislation to protect personal and business information in the digital world and to recognize electronic signatures—key steps in reassuring Canadians that they can do business on-line with the same expectations of trust, confidence and reliability that now exist in everyday commerce.

*We supported the development of the world's fastest and most advanced optical Internet, CA*net3, which is revolutionizing telecommunications technology.⁽³⁾*

We have launched a redesigned Government of Canada Web site—the first major deliverable in achieving our commitment to be the world’s most connected government to its citizens by 2004. We created a National Broadband Taskforce to advise the government how Canadians together can achieve the goal of making high-speed broadband access available to Canadians in all communities by 2004. High-speed broadband, the next generation of the Internet, will provide the foundation for improved services, such as distance learning and tele-health, and will give small businesses access to broader markets.

2001 SFT Commitments

- *The government will work with the private sector to achieve the goal of making broadband access widely available to citizens, businesses, public institutions and to all communities in Canada by 2004.*
- *The government will continue to support the Community Access Program and SchoolNet, ensuring that Canadians, their communities and their schools can have access to the Information Highway.*
- *The government will continue to support the development of digital content for the Internet and other new media in French and English.*
- *The government will continue putting its services on-line by 2004 to better connect with citizens.*
- *The government will continue to modernize federal privacy law to safeguard the personal information of Canadians and provide better copyright protection for new ideas and knowledge.⁽³⁾*

President of the Treasury Board's Response to the SFT 2001

February 6, 2001

This speech describes and reaffirms the GOL initiative. Included is a section promoting on-line use of official languages to enhance culture within our country.

Equally important is this government's commitment to helping Canadians gain the most from the technological revolution. For our part, we have reaffirmed our commitment to getting our services on-line by 2004, so Canadians can have fast, easy access to the information and services provided by the Government of Canada.

Using technology better also means making that technology available and accessible. We've taken major steps forward toward making Canada one of the most connected countries in the world. And we are committed to continuing to help provide Canadians with access to the Internet and the new world of opportunities it has unleashed for the next generation.

There are incredible opportunities to create more open and citizen-focused programs and services. Our new Canada Web site on the Internet is one example of that, providing quicker and easier access for Canadians to information and services from the Government of Canada, and in the official language of their choice. I am particularly pleased by our government's reiteration of its firm commitment regarding this fundamental part of our Canadian identity.

Official Languages

We will ensure that Government On-line, and other such developments and transformations, do not erode support for both official languages, but rather, that services are enhanced. We will actively promote and assist the development of French on the Internet as one means of maintaining a strong French culture and language within a Canada where linguistic duality is considered a pre-eminent virtue.⁽⁴⁾

Government On-Line Principles, Targets and Strategy

This section outlines GOL principles, targets and strategy. GOL is an opportunity to demonstrate to Canadians the role and value of their government, and to meet citizens' changing expectations. The initiative is designed to place all of the government's information and services on-line by December 31, 2004.

Accordingly, this section is divided into three parts:

Principles

GOL values for you to follow

Targets

GOL dates and expectations

Strategy

GOL methods for meeting targets

Government On-line Principles

Client-driven Service

- Information and services will be grouped according to citizen and business needs.
- Information and services will be intuitive, easy-to-use, relevant, current and reliable.

Convenience and Accessibility

- Information and services will be accessible from home, work or public access site, in ways that accommodate the needs of all Canadians in both official languages.
- Access to information and services will be available 24 hours a day, seven days a week, with live support available during designated business hours.

Consistency

- Information about programs and services will be consistent for all service delivery channels (i.e., telephone, mail, in-person and electronic).

Responsiveness

- Services will have predictable turnaround times based on pre-determined and published program service standards.

Privacy and Security

- Privacy will be respected and protected.
- Security safeguards will be in place commensurate with client requirements.⁽⁵⁾

Targets

Target Date of Achievement: December 31, 2000

- Federal on-line presence that encourages a client-centric approach to presenting information
- Current and reliable on-line information on key federal programs and services
- Downloadable, printable forms related to key programs and services
- Ability to e-mail institutions with an automatic electronic acknowledgement as a result of the e-mail
- A basic search capability on the Government of Canada Web portal and all institutions' Web sites
- Establishment of basic information management principles
- A GoC Portal with Common Look and Feel, basic personalization possible of GoC site and link to institutional sites

Target Date of Achievement: December 31, 2004

- On-line access to key government services, which includes the ability to electronically submit applications, files and inquiries
- Ability to make and receive secure electronic payments
- Ability to make secure e-form transactions
- Access to services and integrated information through client-centric portals
- Advanced search capability
- Common look and feel on all Government of Canada Web sites
- Two-way e-mail communication with predictable response times
- Predictable service standards
- Implementation of a branding strategy
- Possibility of advanced personalization on Government of Canada portals
- Enhanced Management Framework (EMF) principles in place

Target Date of Achievement: 2005 and Beyond

- Inter-jurisdictional electronic service delivery
- Projects to test leading-edge technologies

Strategy

The GOL strategy can be found at the GOL Web site:

<http://www.gol-ged.gc.ca/pub/serv-can/serv-can07_e.asp#strategy>.

Environmental Scan

An environmental scan usually includes an analysis of both the external and the internal issues that are likely to affect your institution.

This section contains Canadian and international media articles related to information technology (IT) and the Internet, including news bytes, analysis and reports. It also includes links to IT innovation sites with information on technological advancements.

This section is divided into four parts:

[Today's News](#)

Daily Canadian and international media reports

[This Week's News](#)

The week's news from Canada and the rest of the world

[News by Month](#)

Canadian and international news archived and sorted by month

[IT Innovation Links](#)

Resources that give you the latest IT and Internet news, which may benefit your institution

Today's News

This section contains a précis of today's Canadian and international news on e-government and technology issues.

The following material originates with an organization not subject to the *Official Languages Act* and is available on this site in the language in which it was written.

This Week's News

This section contains a précis of this week's Canadian and international news on e-government and technology issues.

The following material originates with an organization not subject to the *Official Languages Act* and is available on this site in the language in which it was written.

News by Month

This section contains links to monthly archives of Canadian and international news on e-government and technology issues.

The following material originates with an organization not subject to the *Official Languages Act* and is available on this site in the language in which it was written.

[August 2001](#)

[July 2001](#)

[June 2001](#)

[May 2001](#)

Purpose of the Web Initiative

This section explains why you need a clear purpose for your Web initiative to ensure the project's success. It is divided into three parts:

Institutional Framework

Determining issues to be resolved within the broader context of your institution

Value Proposition

Considering why you should spend time and money on the Web initiative

Web Objectives

Examining objectives your Web initiative may address

Institutional Framework

Review the priorities of the Government of Canada in general. Understand clearly how your Web initiative will fit into this picture. Review the "[Government On-line](#)" section.

Situate your Web initiative within the context of your institution. Review your institutional mandate, mission statement, annual reports and direction statements.

Also examine your branch or directorate's outlook to ensure your initiative fits with your management's agenda. Speak with colleagues, and read speeches and reports from your immediate group. ⁽⁶⁾

Institutions usually consider launching a Web initiative to meet needs associated with their business priorities. Therefore, the initiative must focus on the best way of responding to those needs.

Value Proposition

You need to create and document the value proposition of your Web initiative. A value proposition should state expected benefits and explain the facts, assumptions and perceptions underlying your assessment of the initiative's "value."

In most cases, a value proposition can be stated in a few lines and answers the following questions:

- Why should your Web initiative be implemented?
- What are the objectives of your Web initiative?
- What value does your Web initiative add to the overall institutional framework?

Web Objectives

What are the objectives of your Web initiative? For example, will it help your institution:

- provide general information?
- educate clients?
- provide reference information?
- Support decision makers
- handle transactions?

- interact with the broader community?
- comply with disclosure and legal requirements?
- gain a competitive advantage?
- develop or improve consultation?
- manage information?
- provide institutional information?
- publish institutional information?
- promote the institution's image?
- integrate the wide range of information available across the institution?

Resources

This section describes human and financial resources that you may need to develop a Web initiative. It has five parts:

Web Team

Building a skilled Web team to plan, implement, evaluate and maintain your Web initiative

Skills, Knowledge and Responsibilities

Considering skills, knowledge and responsibilities for your Web team

Job Descriptions

Providing UCS job descriptions for Web-related jobs, such as communications advisors

Financial Resources

Determining financial resources you may need to pay for hardware, software, telecommunications and other items requirements of your Web initiative

Resources

Using links to investigate and select financial and human resources for your Web initiative

Web Team

This section discusses the creation of a Web team. The success of your Web initiative depends largely on a strong team. This team will carry the initiative from the planning stage to the implementation, evaluation and maintenance stages, and will handle a wide range of tasks. To succeed, the team needs to draw on the expertise and enthusiasm of a broad cross-section of your institution's members. To deliver effective service, the team must understand the unique characteristics of on-line services and information, clarify team member roles and provide specialized training.

The early formation of a dedicated and skilled team to create, maintain and operate the Web initiative is critical to the success of any project. If talented people are chosen to put the project together, the project leader will find it easier to manage the initiative.

The project leader will bring together skill sets from both inside and outside the institution. All team members have a valuable contribution to make. If everyone participates early in the project, the initiative will move forward smoothly and important aspects will not be overlooked.

Corporate communications must participate in the project. The Communications Policy of the Government of Canada states that each institution's director general of communications is responsible for electronic communications. Invite representatives from the communications shop, such as the Web manager or Web strategist, to join the team. They will be able to ensure you are moving in the proper direction for your institution and that the project supports government-wide initiatives, such as GOL and "common look and feel" standards. They can help you design the site and ensure that the content reflects your institution's messaging.

Your information management group should also be represented. These members will ensure your Web initiative respects all considerations for managing records, documents and publications. They can also help you organize and manage your information.

People from your information technology group, such as a Web master, should participate too. They will ensure your Web initiative is suitable to the capacity of your institution's technology, and they can advise you on technical aspects of the project.

You will also need a content provider to write and approve material related to the Web initiative.

One of the team's final tasks is to set up a process for maintaining the newly published content.⁽⁶⁾

Skills, Knowledge and Responsibilities

This section details the skills, knowledge and responsibilities your Web team will need. It has two parts:

[General Skills and Knowledge](#)

Examining general abilities and knowledge that a Web team needs

[Responsibilities](#)

Describing tasks your Web team will carry out, in stages, throughout the lifecycle of your Web initiative

General Skills and Knowledge

This section details the various skills and knowledge your Web team requires.

- All Web team members ought to understand the following Government of Canada statutes, policies and standards for on-line service and information: the Common Look and Feel Standards for the Internet, Federal Identity Program, Security Policy, Privacy and Data Protection Policy, Communications Policy, Use of Electronic Networks Policy, *Official Languages Act* and *Access to Information Act*.

Web team members should be able to do the following:

- manage projects;
- advise all levels of management on Web use;
- provide client-oriented service;
- communicate efficiently, verbally and in writing;
- organize and manage time;
- budget for and finance on-line resources;
- manage an institutional Web site; and
- promote and market the Web initiative.

Web team members who are in charge of **design** should have knowledge of the following:

- layout, spacing and colour principles;
- print design;
- information design;
- usability evaluation; and
- information management or architecture.

Web team members who are in charge of **technical** aspects should have knowledge of the following:

- HTML coding;
- operating systems, such as UNIX, Windows NT and Macintosh;
- protocols, such as DNS, FTP and NNTP;
- Knowledge of server software and hardware operations;
- Programming fundamentals
- Processes and technologies relevant to Web sites;
- Multimedia and graphics packages and formats;
- Common industry tools and resources, such as ad servers and auditing mechanisms and Internet hosting options
- Procedural and object-oriented languages;

Responsibilities

This section describes tasks that your Web team members may need to undertake during the phases of a Web initiative. The team will need to set objectives, garner institutional support, perform cost/benefit analyses, analyze and implement security measures, define information content, and design, manage and update the Web site.

This section is divided into four parts:

[Planning Tasks](#)

[Implementation Tasks](#)

[Evaluation Tasks](#)

[Maintenance Tasks](#)

Planning Tasks

This section outlines tasks that your Web team should bear in mind when planning a Web initiative.

When planning a Web initiative **framework**, you should do the following:

- develop a project plan;
- identify institutional goals and direction;
- document goals, benefits, direction, project plan, responsibilities and accountability in terms that all team members can understand;
- identify all constraints and assumptions; and
- develop an internal communications strategy.

Analyse and respond to your **clients' needs** by doing the following:

- performing a needs analysis;
- quantifying what clients want in a Web presence;
- integrating client considerations into all levels of the Web initiative;
- integrating the Web initiative into your institution's traditional advertising; and
- dealing with scope changes and explaining their implications to clients.

Manage **resources** by doing the following:

- budgeting for on-line resources;
- identifying human resource requirements;
- documenting job descriptions;
- communicating internal resource requirements;
- preparing and managing contracts with Web design companies;
- negotiating and securing resources as needed.

Identify **technical needs**, such as the need to do the following:

- connect to a local network;
- obtain a domain name;
- support FTP and mail servers;
- connect your local area network to the Internet;
- set up server hardware;
- verify HTTP daemon behaviour; and
- establish virtual hosting.

Implementation Tasks

This section outlines tasks that you should bear in mind when developing a Web initiative.

Your Web team should do the following when **designing** a Web site:

- foster team collaboration on Web site development;
- prepare a storyboard;
- create a site architecture;
- create layouts of components of Web pages;
- choose layout colours and typefaces; and
- ensure the site can be displayed properly in multiple browsers and that it is available in multiple formats

Your Web team should do the following when **developing content** for a Web site:

- organize files and arrange for translation;
- convert image files into needed formats;
- gather, select, organize and prepare information for inclusion;
- develop text and graphics content, and client-side scripting; and
- develop server-side program content.

Your Web team should do the following when **implementing technical aspects** of a Web site:

- write HTML coding;
- create and integrate scripting codes;
- troubleshoot programming;
- beta-test the site;
- use a graphics package to create 2D imagery or enhance photos;
- optimize graphics for the Web;
- select and use appropriate media;
- embed multimedia for the Web;
- load the site onto the server;
- publish content to the Web;
- mirror content across sites;
- integrate database capability; and
- register the site with search engines.

Your Web team should do the following when **implementing security and privacy procedures**:

- ensure compliance of the Web initiative with security and privacy legislation, policies and standards;
- manage security requirements;
- oversee backup and recovery;
- plan for an increase of Web site traffic; and
- perform disaster recovery procedures.

Evaluation Tasks

Your Web team should do the following when **evaluating** your Web initiative:

- ensure compliance with legislation, policies and standards, and institutional best practices;
- monitor project progress against the plan;
- ensure a usable Web site;
- establish standards for content design and user interfaces;
- inform clients of Web site changes;
- monitor the Web site's key usage and value indicators; and

- develop a Web site improvement plan.

Maintenance Tasks

Your Web team should do the following when **maintaining** your Web initiative:

- resolve variances from the established project plan;
- document new Web site business goals and objectives;
- Incorporate new requirements, business goals and objectives into the most appropriate Web architecture;
- supervise content maintenance;
- update standards for content design and user interfaces;
- respond to e-mail inquiries according to your institution's service standards;
- analyze competitive offerings and new technology; and
- analyze network traffic and monitor network connectivity.

Your Web team should do the following when **maintaining** the information technology for your Web initiative:

- ensure that the network software and hardware that support the Web site are secure, reliable and efficient, in accordance with current technologies;
- ensure that content is transferred securely from clients' browsers to your server;
- ensure that those maintaining the site understand the latest network technologies;
- consider options for virtual hosting, Web server software and extensions, and DNS (Domain Name System) addresses; monitor server performance

Job Descriptions

This section provides Universal Classification Standard (UCS) job descriptions for Web-related jobs. UCS is an approved standard for writing and classifying job descriptions within the federal government. The standard and instructions for applying it are found at the [UCS Web site](http://www.tbs-sct.gc.ca/classification/Index_e.asp) <http://www.tbs-sct.gc.ca/classification/Index_e.asp>.

Examples of job descriptions using the UCS standards include the following:

- [Electronic Communications Manager](#)
- [Electronic Communications Advisor \(similar to e-communications coordinator\);](#)
 - [Communications Advisor \(Content Webmaster\)](#)

Electronic Communications Manager

WORK CHARACTERISTICS

Responsibility

Element 1: Information for the Use of Others

Generates a strategic plan for the Web site, develops proposals to obtain approvals from the Web Advisory Committee and/or from senior management on the strategic plan for the department's Internet presence and the annual electronic publishing plan and schedules. This information is used by senior management to make decisions on future plans for electronic publishing in the department and budget allocation. It is used by staff for guidance in day-to-day activities.

Develops and implements policies, processes and procedures, and establishes departmental Web site quality standards and quality control practices. These are used by Web site managers in the department and by outside contractors in the design of departmental Web sites.

Develops contract requirements and discusses and negotiates resolution of problems with various contractors, such as graphic artists and other partners in production, such as translators and copyright coordinators. This information is used by financial services to control invoice payments, by staff to monitor contract administration, and by providers to adjust their services and to meet client requirements.

Discusses Web projects with various departmental stakeholders, authors and sponsors, and other external contractors providing advice and guidance on appropriateness, format, size of additions to the site and illustrations/photographs. This information is used by them to resolve conflicts in priorities, to understand policy requirements, and to ensure ongoing coordination and cooperation.

Discusses design, hardware and software strategies with representatives from information and technology services and provides direction. This information is used by them to ensure their services will fulfill requirements of the corporate policy and meet the communications division's needs.

Promotes electronic publications to potential users, sponsors and supporting associations. This information is used by them to facilitate access to X institution information and services.

Report minutes and records of decisions of interdepartmental committees dealing with electronic information technology, such as the Treasury Board Working Group on Promoting the Internet and the Working Group on Internet and Consultation of the Privy Council Office, as well as internal committees, such as the access to the law committee, Internet committee and bulletin board system user committee, to senior management for their use in decision making and future planning.

Relays the newest information back to staff, to other Web masters/technical experts and product manufacturers, and to senior management for their use in enhancing the *X institution* Internet site and for planning and budget decision making.

Advises senior management and departmental clients on current practices and potential uses of the Internet, and on opportunities to disseminate X institution-related information to the public and to facilitate the public consultation process.

Designs and conducts training seminars for selected internal and external target groups on the strategic and effective use of the Internet for departmental public consultations and information distribution. This information is applied by participants making Web site or electronic publishing decisions.

Responds to a wide variety of information requests from members of the Canadian public and the international community. This information is used by them to access departmental forms, legislation and other information.

Element 2: Well-being of Individuals

N/A

Element 3: Leadership of Human Resources

Selects and directs staff, establishes policies and procedures, goals and priorities, allocates work, provides guidance and instruction, monitors work in progress, evaluates employee performance, identifies training needs and approves leave. This is a sole responsibility.

Designs and conducts training and information seminars for selected internal and external target groups on the strategic and effective use of the Internet for departmental public consultations and information distribution.

Schedules work of branch Web contractors, monitors activities and approves work on completion. This is a sole responsibility.

Establishes agenda, and plans and chairs departmental and interdepartmental meetings on Internet services. This is a sole responsibility.

Leads department to implement and maintain *X institution* Internet services. Explains responsibilities, schedules work, and sets goals, objectives and priorities. This is a sole responsibility.

Develops contract specifications, selects contractors, sets standards, approves deliverables and invoices for a variety of contracted services. This is a sole responsibility.

Provides functional advice to Web representatives throughout the department. This is a shared responsibility.

Element 4: Money

Budgeting

Identifies, estimates and recommends Internet unit budget requirements to senior management for inclusion in the divisional budget. Provides cost estimates for the operation of Internet services and recommends departmental expenditure levels and budgets to upper management for inclusion in the departmental budget.

Plans and monitors a departmental budget of \$Y. There is some latitude in recommendations, although signing authorities rest with the supervisor.

Managing Cash Flow

Determines cost-recovery fee structure and ensures time spent on creating Web pages, multimedia presentations and so forth for departmental clients is charged appropriately. There are no policies detailing ceilings on the fees that can be charged. There is latitude to decide whether to charge fees for services and products provided.

Spending

Recommends financial expenditures for Web site projects, and for equipment and software to support the Internet infrastructure, through recommendations to the information technology specialists, and for Web site projects through recommendations on the budget. There is latitude to decide which services and products will be acquired.

Monitors contracts with outside service providers. There is latitude for decision making.

Verifies that contractor services are provided in accordance with identified requirements and recommends expenditure payments within budgetary allotment.

Accounts for expenditures while in travel status, and for other expenses such as taxi cabs, telephone charges and credit card charges, in accordance with Treasury Board and departmental travel directives.

Element 5: Physical Assets and Products

Personal use, care and custody of reference material and policy documents (in hard copy and electronic formats), to ensure material is current and readily accessible. These documents can be easily replaced or recreated from existing sources.

Personal use and care of desktop computer and related software (electronic mail, word processing and presentation software) to produce policies, directives, guidelines, documents and presentations valued at up to \$Y. Personal use and care of standard office equipment, furnishings and supplies. This material can be replaced within a few days from departmental assets.

Responsible for custody of shared network printers, including a high quality colour printer valued at \$Y. Higher quality items may be available in departmental stores and take some time to replace due to administrative red tape.

Responsible for preserving Web site original information, when appropriate, by establishing retention and disposal schedules, ensuring server backups, and coordinating departmental Web projects. This information is easy to replace but may require some time of technical staff.

Responsible for ensuring ongoing operation of the *X institution* Web site. The Web site is a primary source of access to Canadian legislation for national and international employees and clients. This position is accountable for usage statistics and user feedback. Server overload may cause slowdowns and frustrate users. The acquisition of a new server may be delayed due to costs and administrative red tape, and installation may require some time of technical staff. This is a shared responsibility with information technology specialists.

Element 6: Ensuring Compliance

Reviews final Web site documents for compliance with departmental Web site quality standards, “house style” and templates, and for adherence to departmental and governmental standards, including accessibility for persons with disabilities, copyright legislation and official languages. Has the authority to delay publication until quality standards are met.

Ensures that Internet products developed outside the department for the department are compliant with contract specifications, including the Internet systems technical specifications. Has the authority to delay payments until specifications are met.

Establishes and monitors quality standards and practices, including maintenance schedules, and retention and disposal policies and procedures, in accordance with government policies and standards. Has the authority to authorize or stop disposal of original information, such as graphics.

Skill

Element 7: Job Content Knowledge

Knowledge is required of:

Project management theories and principles, in order to plan and direct the Web site program, and project management methods and techniques, in order to coordinate departmental activities and to provide direction to the development of Web pages.

Program management, including techniques for evaluating progress, preparing statistical and other reports, making presentations, representing the department with external stakeholders and problem solving.

Theories and principles of automated document management systems and database management for personal use and for the purpose of advising others on additions to the Web site.

Hard copy and electronic publishing and marketing theories and principles, as well as psychological “theories,” such as the instant gratification syndrome and other human expectations and responses that affect Web development and management; and marketing techniques, to promote the use of the Web site.

Telecommunications, including Web site hardware and software operations, such as firewall technology, coding, service providers and communications links.

Web site-related hardware and software applications, capacities and limitations, in order to understand existing systems and to identify requirements for upgrades or changes to hardware or software.

Techniques and practices for developing plans, in order to prepare a comprehensive strategic plan for the department’s Internet presence, input to the annual electronic publishing plan, budget proposals, standards, policies, operating procedures and other management tools.

Production techniques for a Web site, including storyboard development, server and firewall developments, directory structure design, document analysis and site analysis (to maintain logical site organization), programming (including hyper text mark-up language (HTML) codes), Web server site maintenance and other technical requirements.

Legal processes, relevant legal terminology and acronyms, and new concepts and methodologies related to the development and production of public legal information, such as plain language and plain process for Internet audiences, in order to understand and categorize material for the Web, and to understand and answer inquiries.

Supervisory techniques and techniques for providing functional advice and guidance.

Contract administration techniques and methodologies relevant to obtaining special services.

Element 8: Contextual Knowledge

The work requires knowledge of:

Work unit:

Knowledge of roles and responsibilities in own work unit and within the division is required to understand the interrelationship of activities, to plan and schedule work of subordinates and contractors, and to adhere to various administrative practices and procedures.

Department:

X institution, its organization, mandate, programs and services, and the interfacing roles and responsibilities of branches within the organization, in order to design and deliver the Web site program and to respond to information requests received on the Web.

Departmental policies on communicating with the public, including the internal communications policy and the public consultation policy.

X institution’s service delivery and information systems, for use in making current and future plans, and the organization and responsibilities of other service providers, such as information technology, finance, human resources and administration, to acquire services for the unit.

X institution’s internal committees, and their requirements and relationships, to provide advice and input on decision making and future planning.

Other federal departments or agencies:

Current federal government social, economic and political priorities and their relationship to *X institution* issues, for use in deciding on Web site content and helping answer inquiries from the public.

Government publishing policies, including electronic publishing, access to information and official languages policies, to ensure that departmental standards and policies comply with them, and Treasury Board Internet policies and strategic direction, to adhere to them and establish departmental policies.

All federal government departments sponsoring new legislation, for links or for referrals of on-line inquiries.

Federal government interdepartmental Web site committees, and Web site managers, developers and technology providers in other departments, in order to discuss ideas and problems, and to implement new software solutions.

Canadian private sector and other public sectors:

Trends and developments in the private sector related to the advancement of the Internet, Web technology, Web management and intranets, in order to facilitate planning for recommendations on Web site styles, hardware and software, and training needs.

X institution offices in each province and territory, jurisdictional relationships and justice information sources, such as Statistics Canada, in order to establish appropriate links and determine responses to on-line requests for assistance.

Providers of graphics and Web site services, for use in contracting.

The needs of Canadians in relation to their Web site use.

International public and private sectors:

International *X institution* references, Canadian embassies, and cultural and other organizations that are on or planning to be on the Internet, in order to identify potential interfaces and the needs of members of the international public in relation to their Web site use.

Legislation and regulations:

Treasury Board Internet regulations, protocols, rules and regulations, *Official Secrets Act*, departmental enabling legislation, *Access to Information Act*, *Copyright Act*, *Privacy Act*, departmental corporate advertising and communications policies, departmental corporate advertising and communications regulations and guidelines, copyright regulations, security regulations and departmental information holdings, to apply them in the development of departmental policies on Internet services and to ensure that the information published on the Internet satisfies requirements.

Relevant sections of the *Public Service Employment Act*, *Public Service Staff Relations Act*, *Official Languages Act*, collective agreements, departmental human resources policies and departmental administrative orders, to participate on selection boards and to manage the unit.

Element 9: Communication

Communication out:

Writing and verbal skills are required to prepare and deliver progress reports, plans and strategies to immediate supervisor, identifying and articulating issues and concerns. Difficulty is increased by lack of information or the requirement to express highly technical information in simple terms.

Presentation skills are required to report on and promote acceptance of Internet services implementation to senior departmental managers and to advise on corporate communications and electronic publishing issues. Senior managers are not normally familiar with Internet concepts and presentations have to be adapted to ensure a complete understanding of the services.

Writing and presentation skills are required to develop and articulate procedures and guidelines, to train and to give presentations on technical issues for the guidance of departmental employees, who may have a limited understanding of Internet practices.

Writing and verbal skills are required to provide information and training to project team members on a range of project-related issues, such as scheduling, resourcing and work processes, and to outside clients on the strategic and effective use of the Internet for departmental public consultations and information distribution. Explanations are tailored to the knowledge level of participants, some of whom may have limited Internet awareness.

Verbal and written skills are required to develop partnerships, negotiate agreements and maintain close working relations with other parts of *X institution*, Web masters in other departments and private sector organizations.

Verbal and writing skills are required to respond to on-line inquiries submitted by users, who may have a limited understanding of *X institution's* mandate, government practices or Internet practices.

Communication in:

Reading skills are required to understand inquiries from outside sources and to answer them or refer them to the appropriate sources. This involves understanding legal terminology and technical jargon. Some writers may have poor grammar or communications skills.

Listening and interpreting skills are required to understand inquiries, comments and suggestions from team members, from departmental employees, and from participants at meetings, technical committees and ad-hoc work groups, and to perceive, understand and determine related requirements. This involves understanding and interpreting either legal or informatics terminology.

Reading skills are required to review material for discrepancies before uploading it onto the server. Difficulty is increased by legal processes and terminology.

Reading skills are required to understand technical literature on emerging Internet technologies to determine their applicability to the departmental environment and to recommend their acquisition.

Listening skills are required to discuss trends, initiatives and advances with other Web masters, technical experts and product manufacturers. Difficulty is increased by continually changing and growing IT terminology and acronyms.

Element 10: Motor and Sensory Skills

Requires dexterity and precision to operate a computer and keyboard while reviewing Web site content and preparing presentations and reports.

Dexterity is required to connect and operate audio-visual equipment when doing presentations.

Effort

Element 11: Intellectual Effort

Intellectual effort is required to:

Establish and monitor departmental Web site policies, quality standards and quality control practices, which includes developing a "house style," standardizing the use of templates and

specialized software, and ensuring adherence to government standards, including accessibility for persons with disabilities standards and official languages standards; direct the design of the Web service and provide advice to internal and, occasionally, external clients on the appropriate and effective presentation of information on the Web; resolve technical Web site problems; and consult with representatives from information and technology services to discuss designs and developments in the field of Web technology. Difficulty is increased by state-of-the-art practices, continually changing technology, new and changing government policies, practicality and accessibility for special groups, and increasing reliance on and use of the Web by the department, along with limited resources available to meet the needs of all users.

Predict potential difficulties to be encountered by the Web site or server, and remain proactive in solving these potential problems. Difficulty is increased by an infinite number of unknowns when it comes to technology.

Develop production schedules, timing and outputs, monitor progress and resolve issues to maintain time frame. Difficulty is increased by the need to balance needs of a multitude of clients with limited resources, a variety of projects progressing at the same time with different schedules, and stakeholders and deadlines with limited internal staff.

Develop and deliver an effective monitoring program, which includes designing an evaluation framework, and compiling and reporting on various usage and size statistics, quality level or standard violations, technical problems and other issues. Difficulty is increased by the many activities, the lack of models and the barriers to accurate measurement. Research, analyze and assess trends and developments in the field of Web hardware and software to assess and recommend departmental directions and plans. Develop the departmental Web site program. Review progress, evaluate effectiveness, identify long-term corrective action strategies to ensure that Web activities are within the approved plan and meet standards and directions. Resolve technical problems related to size and use of the Web site. Difficulty is increased by the need to identify priorities, design a structure that allows for long-term flexibility within changing technologies, resolve various problems in the design and delivery of the departmental Web site program, and recommend training for branch Web coordinators and other departmental staff.

Analyze corporate objectives, relevant trends, technical developments, new Web site products and tools, actual and projected use, and feedback and survey information. Develop a strategic plan for the department's Internet presence and provide input to the department's annual electronic publishing plan. Difficulty is increased by the wide number of options and the need to forecast in a quickly expanding and changing technical field.

Interpret and review text contained in electronic publications, digital projects and the *X institution* Web site, which includes verifying content for accuracy, consistency and completeness, researching additional information for inclusion, and developing original text to complete the projects. Difficulty is increased by legal process and terminology and by conflicting client needs.

Conceptualize and create the design and layout of electronic publications, digital projects and the *X institution* Web site, which includes the use of illustrations and photographs. Make arrangements for graphic, photographic and translation services. Develop solutions to problems with production schedules. Difficulty is increased by the need to understand and respond to audience needs and to comply with departmental and government policies and standards within specific time frames and budgets.

Element 12: Sustained Attention

Sustained attention is required to create, edit and proofread Internet information policy and other documents for up to 20 hours per week, to ensure that the information on the Web corresponds to standards and to correct discrepancies. There are frequent interruptions from clients, telephone calls and office conversations. Loss of attention results in missing relevant information, having to restart the process or having to re-acquire information.

Effort 13: Psychological/Emotional Effort

Effort is required to:

Maintain a professional attitude and focus when faced with stress from deadlines, constantly changing technologies and conflicting priorities from managers and clients, who are sometimes impatient and irritated when their needs are not met immediately. There is limited control over the frequency or duration of events.

Maintain composure when replying to e-mail and telephone inquiries from irate clients or upset individuals concerning such issues as Web site material, accessibility, technology questions or case law inquiries. These issues must be professionally handled to maintain the reputation of the department. There is some control over the timing of these occurrences.

Effort 14: Physical Effort

Effort is required to:

Sit at a workstation for up to 80 percent of the time, operating a mouse to produce policies, discussion papers, presentations and reports. There is freedom to change positions and movements.

Sit while chairing or participating in meetings or work groups of periods for up to two hours daily. There is freedom to change positions.

Stand for three hours at a time, every two weeks while making presentations. There is freedom to change positions.

WORKING CONDITIONS

Element 15: Work Environment

Psychological:

There is exposure to continuous learning in a constantly changing technical field. There is no control over the evolution of technology and the need to maintain pace.

There is a lack of control over the pace of work. Disruptions to work flow are occasioned by changes to program priorities, specifications or workload, and by the need to respond to senior management requests and to cope with situations over which the incumbent has no control, such as established (imposed) deadlines, multiple and changing priorities, and time pressures.

There is little control over the occurrence of errors and continuous effort is required to remain objective while analyzing facts and developing appropriate solutions.

There is exposure to stress when addressing and resolving problems among departmental staff with conflicting priorities. There is little control over the frequency of these problems.

Physical:

Open office design leads to a lack of privacy and frequent interruptions by colleagues, and results in a loss of concentration, and the requirement to re-do or re-start tasks.

The work requires sitting at a computer workstation for up to 80 percent of the time, resulting in exposure to glare from the computer monitor.

There is a need to travel to attend meetings, trade shows or conferences about three times per year for about three days at a time.

Element 16: Risk to Health

Physical:

Use of computer terminals for up to five hours daily can result in eyestrain, and muscular pain in the back, hands, wrists and fingers while programming and reviewing or editing. Longer-term exposure may lead to carpal tunnel syndrome.

Psychological:

Constant pressure from changing priorities and deadlines, constantly changing technologies and dealing with senior managers under pressure to deliver products within committed time frames can lead to stress-related or other illnesses.

Electronic Communications Advisor

Work Characteristics

Responsibility

Element 1: Information for the Use of Others

Provides input to Internet and intranet policies and makes recommendations for site infrastructure and design to supervisor, which are used by senior management for decision making.

Helps write responses or references for responses to e-mails received from the general public and internal staff, in both languages, concerning issues such as technology questions, Web content, law inquiries, personal questions and feedback. This information is used by internal staff to facilitate access to appropriate information on the operations, programs and services of the department.

Provides technical support for ministerial presentations and advises on formats for presentations that meet requirements for overall visual effects and functionality. This information is used to change presentations to cabinet and caucus meetings to enhance departmental or ministerial reputation and to promote departmental priorities.

Designs, develops and implements Web pages, and integrates multimedia components and publications for presentation on *X institution* Internet and intranet sites, in cooperation with the information management branch. This information is used by internal clients as an information resource in answering operational or questions from personnel.

Provides technical expertise and advice on policies, requirements, designs, graphics and conceptual designs; responds to troubleshooting reports from departmental staff; and provides advice and assistance for ongoing operations of the Internet and intranet sites. This information is used by technical systems support to repair the intranet as necessary, or by Web e-managers to improve their site or to correct oversights or omissions.

Acts as a member of committees; provides input on policy, design, organization of information, effects and image; and makes proposals and develops prototypes for review by the committee. This information will be used to shape the ongoing development of Internet and intranet sites.

Creates statistical reports on Web server activity, provides information on future requirements and resolves technical difficulties. This information is used by the supervisor to ensure the quality of the Web and to plan for the future.

Attends conferences, meetings and new product demonstrations. Reads trade magazines and Internet publications in order to remain up to date with technology and to relay the newest information back to Web support staff and management. Creates technical proposals and recommendations for the purchase of hardware and software upgrades for use by the supervisor. The supervisor uses this as input to recommendations to senior management decision makers.

Element 2: Well-being of Individuals

N/A

Element 3: Leadership of Human Resources

Provides informal one-on-one training to clients and colleagues on how to use and publish to the Internet or intranet. This is a sole responsibility.

Provides one-on-one technical information, implementation advice and guidance to Internet and intranet publishers on general design techniques, format and content. This is a sole responsibility.

Evaluates contract work on Web services and Web development, ensuring the accuracy and quality of services rendered, and verifies the time for services rendered by contractors for use in payment. This is a shared responsibility.

Element 4: Money

Budgeting:

Provides input into budgets, such as costing of technical equipment and software, and technical service requirements for the coming year.

Managing Money Flow:

N/A

Spending:

Acquires information on and evaluates equipment, such as digital cameras and computer overhead projectors; provides references for best choices for technology; provides input on software and other technology related to Web site planning; recommends technology purchases. There is some latitude for recommending action within budgetary limitations. Decisions are made at higher levels.

Verifies time for services rendered by contractors. Provides a recommendation to the supervisor in relation to invoice payments.

Element 5: Physical Assets and Products

Use and care of a personal computer, peripheral equipment such as a digital camera (\$1,000), a projector (\$10,000), two laptops (\$7,000), related software (\$10,000), and technical manuals for Web page design, administration and maintenance. Although most of the equipment and manuals are easy to replace from departmental stores, the higher priced items may subject to delays for outside purchase and administrative red tape.

Responsible for troubleshooting and ongoing maintenance services (Internet/intranet), such as e-management, including structuring the development and production areas, running diagnostic programs and re-linking text. These activities must be performed to verify the continual duration of Internet and intranet programs and sites. These are primary sources of information and valuable research resources for internal use by *X institution* staff and external use by stakeholders and the general public. This is a sole responsibility.

Use and care of standard office equipment and furnishings. These items are easy to replace from departmental stores within a few days.

Responsible for archiving non-current data on Web sites for reference by clients and colleagues, and for preserving Web site original information, when appropriate, by establishing retention and disposal schedules, ensuring server backups and coordinating departmental intranet projects. This information is easy to replace but can require effort from other technical staff for retrieval.

Element 6: Ensuring Compliance

Verifies the presentation of information on Internet and intranet sites for compliance with regulations and standards set by the federal public service. Verifies Web pages from branch Web support staff to ensure adherence to the department's security regulations, data architecture and Web page design standards, to produce consistent quality products. Has the authority to return work for corrections if Web page development doesn't meet the standards. This is a sole responsibility.

Monitors and inspects the work of contracted staff to ensure compliance with the *Copyright Act*, Official Languages Act, Access to Information Act, Privacy Act and Canadian Human Rights Act, and their regulations, as well as contract specifications, in order to ensure that information publishing requirements are met. Non-compliance could result in additional costs and lost time, as well as being a detriment to the delivery of products and services. Has the authority to return work for corrections if Web page development doesn't meet the standards. This is a sole responsibility.

Skills

Element 7: Job Content Knowledge

Knowledge is required of:

Communications and marketing theories, principles, processes and practices, to provide input into corporate electronic publishing policies and procedures, to advise managers and Web site developers, and to apply in the development of Web sites, minister's briefing materials and responses to internal clients' concerns.

Electronic communications, including e-mail, and technological requirements for rating and maintaining Web-based information; electronic publishing (including multimedia) using various authoring tools; operating procedures for peripheral computer equipment, such as scanners, printers, mass storage devices, data projectors and multimedia components; electronic design, including functional design (information organization and storyboarding, accessibility to information), aesthetic design (fonts, graphics, etc.) and adherence to departmental and government-wide standards; print and electronic publishing theories related to user expectations; and conceptual and graphical techniques used in designing Web sites. This information is required to advise others on electronic site design for the Internet and intranets.

Trends and developments in electronic publishing, the Internet, intranets and Web sites as communications tools and in specific software, to advise managers as part of input into policies, procedures and plans.

Basic research, analytical and reporting techniques and practices, in order to analyze content, synthesize information and draw conclusions from a wide variety of information sources; write responses Internet and intranet inquiries; and recommend courses of action. Grammar rules and writing techniques, to write, edit and rewrite portions of Web site documentation to Internet e-mails.

Legal processes, relevant legal terminology and acronyms, and new concepts and methodologies in the development and production of public legal information, to facilitate user access, and to understand and answer inquiries.

Computer software, including Internet browsers (e.g., Netscape, Microsoft Internet Explorer, Lynx); authoring tools (e.g. FrontPage), desktop publishing software (e.g. Ventura, QuarkXPress, Microsoft Publisher, Adobe Illustrator), audio-visual software (e.g., QuickTime, Real Audio, SoundBlaster), graphics software (e.g., Corel Draw, PhotoShop, Microsoft Image Composer, Adobe Illustrator, ACDSEE), file transfer protocol (FTP) software, word processing software (e.g., Microsoft Word) and spreadsheet software (e.g., Microsoft Excel, Lotus 123), on a variety of platforms (e.g., DOS, Windows). This knowledge is required to (1) obtain, analyze and implement information destined for the Web and (2) advise on electronic, Internet and intranet site design in *X institution*.

Techniques for formatting into electronic publications for distribution to the Web including techniques for alternative formats for accessibility for persons with disabilities including sight impairment, hearing impairment and colour blindness. This knowledge is required to advise on electronic/Internet/intranet site design and infrastructure in *X institution*.

Database design, access and manipulation techniques and their presentation on Web sites to advise *X institution* site manager on set-up, client service and support.

Searching techniques for accessing information on the Internet using search engines (such as Lycos, Yahoo and Alta Vista), discussion lists and Usenet groups. This is required to acquire information to respond to Internet requests and to identify potential electronic resources.

Troubleshooting techniques and interpretation of error messages for quick resolution to technical and programming problems in support of the web and in own daily work.

Element 8: Contextual Knowledge

The work requires knowledge of:

WORK UNIT:

Own work unit, the various policies and administrative processes in place to understand, apply and explain them to managers, Web support staff and contractors, and to function as a member of the team.

DEPARTMENT:

The mandate, organization and main programs and services of *X institution* to respond to Internet inquiries, and the strategic plan for the Internet and intranet presence and the annual electronic publishing plan in order to understand the communications and provide service to clients.

Departmental policies on communicating with the public including the internal communications policy, and the public consultation policy in order to advise Web developers of requirements.

Requirements of the *X institution* relating to correspondence control including priorities, interests, tone, and format in relation to subject matter in order to appropriately prepare responses and identify most pressing matters for attention.

Departmental Web committees and their mandates to participate as an active member.

OTHER FEDERAL DEPARTMENTS OR AGENCIES:

Federal Identity Program and Government Communications Policy and standards as they apply to the Web, including access for persons with disabilities and official languages, to apply and to provide advice to others.

Web site co-ordinators, managers and technicians in the department and in other departments and organizations, to clarify and resolve technical problems with hyperlinks.

Operations of the various levels of government, their structure and some of the key contacts in various departments particularly in relation to the justice system to provide access to other related sources of information and to refer inquiries to the appropriate contact.

CANADIAN PRIVATE SECTOR AND OTHER PUBLIC SECTORS:

Other levels of government and sources of information such as Statistics Canada, that are on or planning to be on the Internet in order to identify potential sources of information.

Private sector trends and developments, expert organizations and suppliers related to the advancement of the Internet, web technology, web management, and intranet in order to acquire advice and services, to test software and to make recommendations on Web site styles, hardware and software and training needs.

The needs of the Canadian public in relation to their Web site usage to advise designers and providers of graphics and Web site services for use in contracting.

INTERNATIONAL PUBLIC AND PRIVATE SECTORS:

International *X institutional* resources, Canadian embassies, legal and other organizations that are on planning to be on the Internet in order to identify potential sources of information.

The needs of the international public in relation to their Web site usage, vis-à-vis internal clients' their intranet needs.

LEGISLATION AND REGULATIONS:

The *Copyright Act* and their regulations in order to understand copyright limitations and resolve issues with electronic publishing; the *Official Languages Act*, the *Access to Information and Privacy Act* and the *Canadian Human Rights Act* and their corresponding regulations, in order ensure that information and publishing requirements are met.

Some knowledge of all legislation and regulations for which the department uses when referring inquiries to the appropriate source. Knowledge of proposed legislation that will be before Parliament for presentation on the site and to assist in formatting of presentations to Cabinet or caucus.

Element 9: Communication

COMMUNICATION OUT:

Writing and editing skills are required in order to create, review and amend Web site content to meet departmental and government requirements, "house style," standards and document-load requirements.

Writing and verbal skills are required to assist the Minister and other senior departmental officials by providing input to the format of presentations. Difficulty is increased by the lack of preparation time, lack of full understanding of the topic and the unknowns in the audience. Writing and verbal skills are required to give guidance, advice and direction to individuals seeking information through e-mail or phone calls. Difficulty is increased when tailoring technical Web information for the general public or addressing complex legal or process issues to a wide variety of audiences. E-mail inquiries cover broad variety of subject matters.

Verbal skills are required to discuss, to clarify, to provide direction, instructions and training on new software, and to negotiate improvements to graphic design and other specific Web developments with branch Web support staff and management. Difficulty is increased by complex issues, varying operational needs and levels of technical knowledge.

Verbal skills and writing skills are required to prepare communications to colleagues in information technology, to discuss Web trends and developments plus other technical issues with other departmental and private industry Web site managers and technicians and to document recommendations on new software and marketing opportunities for the Electronic Communications Manager.

COMMUNICATION IN:

Reading and listening skills are required to understand phone calls from the general public and internal staff seeking information, advice and direction. Difficulty is increased by the breadth of subject matters and poor communications skills of some writers.

Listening and reading skills are required to understand non-verbal cues from the Minister, Deputy Minister or other senior officials to better coordinate data protection during Cabinet and caucus meetings. Difficulty is increased by stress of high-level meetings, lack of preparation time, lack of in-depth of the subject matter, off-topic discussions and many people speaking at once.

Listening and reading skills are required to understand the information provided by the Minister or Minister's staff to be able to provide recommendations for improvement to presentation format. Difficulty is increased by the lack of in-depth understanding of the issues and messages.

Reading and comprehension skills are required to understand related legislation such as the *Copyright Act* and the *Official Languages Act*, for use in meeting operating goals.

Listening and reading skills are required to interpret technical requirements and exchange technical information with colleagues and technical support specialists.

Reading and listening skills are required to acquire technical information from trade journals, courses, conferences and seminars to obtain information on evolving techniques, as a part of a program of continuous learning.

Element 10: Motor and Sensory Skills

Requires dexterity, speed and precision to operate computer and keyboard while preparing information for the Web site. Precision is required in implementing the information on the Web site.

Requires auditory and visual skills to develop audio/graphical components for the Web and to detect errors and informational messages, and requires dexterity to operate a scanner and other related peripheral equipment.

Dexterity is required to connect and operate audio-visual equipment when doing presentations the Minister and other senior officials.

Effort

Element 11: Intellectual Effort

Intellectual effort is required to:

Provide input to policies for Internet to management, providing information on Web plans, future requirements and recommendations for site organization and design. Respond to troubleshooting reports from various departmental staff, and provide advice and assistance for ongoing operations of the Web site in order to enable the most effective operation of the department in meeting operational goals. Generate reports such as statistical analysis of Web activity and performance for management usage in decision-making. Difficulty is increased by the wide variety of choices, technological change, increased reliance from the department, and changes in how the department distributes its services and products.

Analyse branch submissions for placement of information within the Web structure and exercise tent quality control; provide advice and assistance to the branch Web support staff and others on design and the development of their Web pages. Effort is increased by the broad subject matter, varying operational needs and the wide variety of audiences.

Analyse policy and presentation material for the Minister, Deputy Minister and other senior officials, and develop recommendations for changes. Difficulty is increased by complex and sensitive subject matters and a need for clear, concise messages within a limited time frame for an audience with many other priorities. Presentations affect the ability of the Minister to advance legislative agenda of *X institution* and the image of the department in Cabinet.

Respond to e-mail received from intranet and Internet sites, in both languages. Difficulty is increased by a wide variety of issues such as technology questions, Web content concerns, law inquiries, personal questions and feedback, research requirements to find the answer and the need

for immediate response due to e-mail expectations. The incumbent represents the department, which affects its reputation as there is no other review made by Executive Correspondence staff or by the supervisor on e-mail responses to the general public.

Monitor departmental Web site policies, quality standards and quality control practices including developing a "house style," standardizing the use of templates and specialized software and ensuring adherence to government standards including overall accessibility, for example for persons with abilities, and official languages; resolve technical Web site problems; and consult with information technology experts to discuss designs and developments in the field of Web technology. Difficulty is increased by state-of-the-art practices, continually changing technology and changing government policies, practicality and accessibility for special groups, and increasing reliance and usage by the department with limited resources available to meet the needs of all users.

Create, modify and test Web pages; analyse requirements, storage space and home page design specifications; create, test and debug code and publish Web documents for public use. Effort increases under pressure of stringent time constraints, conflicting demands, changing priorities, and the importance of introducing new or enhanced programs that satisfy client requirements. Delays adversely impact the cost of development and time to meet product delivery schedules and could impact the services provided.

Investigate the features of new Web software products to improve the production of new Web sites and to create technical proposals and recommendations for the purchase of hardware and software upgrades for approval by management. Effort is required to analyse and compare technical specifications of hardware and software products, evaluate different options and compare cost-benefit justification to support acquisition recommendations to manager.

Develop tracking mechanisms and monitor server performance for signs of degradation to maintain and organize Internet home pages and Web services such as File Transfer Protocol. Effort is required to identify and resolve operational problems and take appropriate action to keep systems running at top efficiency. Effort increases with the requirement to provide Web service twenty-four hours a day seven days a week.

Analyse and evaluate technical solutions, backup/restore or import/export data to meet product delivery commitments and restore normal departmental operations. The resolution of errors can be complex and confusing and require intense diagnostic techniques to isolate and evaluate problems and are often subject to time pressures.

Create and/or convert multi-media such as graphics, photographs, sound and video for the Web by means of digitization using RealAudio software, scanning technology, graphics software such as PhotoShop and QuickTime software; and by resolving issues related to image and sound distortions, download time, file size and so on.

Prepare Web site demonstrations, training outlines and related documentation for the Web Manager who is locating sources of information, analysing, assessing and summarizing relevant information on Web sites and their maintenance management.

Element 12: Sustained Attention

Work requires attention to detail in editing Web pages. This is required on a daily basis for up to two hours to compare versions, and to proofread Web documentation to detect errors. It also

requires focussing on a computer terminal screen to read test data program code while conducting program testing and debugging. The quality of the work influences the department's reputation.

Listening and visual skills are required to understand cues from the Minister or other senior officials in order to better coordinate the projected information. Presentations last for 15–20 minutes, once every two months. Inattention can influence the reputation of the department. Difficulty is increased by lack of preparation time, lack of understanding of material and unclear verbal cues.

Effort 13: Psychological/Emotional Effort

Effort required to:

Remain calm and focussed when aiding the Minister or other senior officials at presentations. This situation presents a lot of stress because of the limited time to prepare, the complex discussion and high-level people involved, and the need to follow the Minister's non-verbal cues.

Maintain a professional attitude and focus when faced with stress from deadlines, constantly changing technologies and conflicting priorities from managers and clients who are sometimes impatient and irritated when their needs are not resolved immediately, and the requirement to explain and re-explain technical requirements to non-technical staff. There is limited control over the frequency or duration of events.

Maintain composure when dealing with irate individuals through e-mail and phone calls covering provide variety of issues. There is no control over the frequency of contact.

Effort 14: Physical Effort

Effort is required to:

Carry the overhead projector between buildings for ministerial/senior level presentations for up to 20 minutes back and forth, bi-monthly.

The work requires sitting at a workstation for up to 90% of the time operating a mouse and board to input and manipulate Web pages, Web code, test pages, and to produce Internet web page documentation which requires constant eye focus and hand and wrist movements. There is freedom to change positions and movements.

Working Conditions

Element 15: Work Environment

Psychological:

There is exposure to a continuous learning in a constantly changing technical field. There is no control over the evolution of technology.

There is a lack of control over the pace of work and disruptions to work flow occasioned by last-minute requests from the Minister or other senior officials for assistance, changes to program priorities, specifications, or workload, and the need to cope with situations over which incumbent

has no control such as established (imposed) deadlines, multiple demands, changing priorities and time pressures.

There is little control over the occurrence of errors and continuous effort is required to remain objective while analysing facts and developing appropriate solutions.

Physical:

Open office design leads to a lack of privacy and frequent interruptions by colleagues, which results in a loss of concentration and the requirement to re-do or re-start tasks.

The work requires sitting at a computer workstation for up to 90% of time resulting in exposure glare from the computer monitor.

Communications Advisor (Content Web master)

Work Characteristics

Responsibility

Element 1: Information for the Use of Others

Concentrating on the Internet/intranet/extranet, analyses the public environment, and provides a technical, concise and complete description of the basic problems, trends and new events in the communications field, as well as the probable attitudes, opinions and reactions of the public and key stakeholders regarding policy and program proposals, initiatives and federal government/*X institution* problems. This activity includes analysing and summarising the sources of public attitudes and reactions; identifying regional and national perceptions, susceptibilities and trends; highlighting the results of opinion surveys, focus groups, consultations and other work connected with official obligations; and defining the appropriate communications positioning, options and methods, taking the results analysis into account. Analyses can determine the amount of attention a question receives from Parliament, interest and lobby groups and the public, as well as the political pressures or relevant situations that will determine the communications techniques and methods used to handle an issue. This information is used by senior managers to obtain information on the overall context and key issues they have to take into account when making decisions on the development of new programs and policies. This information is also used by program managers to establish the parameters of studies assessing the effectiveness and efficiency of their products and services. Finally, several components of this information are conveyed to all *X institution* clients and stakeholders so that they can determine and prepare their positions vis-à-vis *X institution* policies and programs, and handle areas of mutual interest more effectively.

Provides advice on strategic communications (related to the Internet/intranet/extranet). This advice is provided to help the president of the *X institution*, commissioners, branch heads and program managers perform their electronic communications duties, help them promote the *X institution's* vision, mandate, position, programs and services to the public and to respond appropriately to inquiries from clients and stakeholders through Web technology.

Develops communications plans, options and strategies for implementing and promoting *X institution* initiatives and programs on the Web. Provides advice and recommendations to the President, commissioners, branch heads and program managers on the most effective means available to them for resolving problems or critical situations to promote understanding and acceptance by stakeholders and the public of the *X institution* programs and services, or facilitate access to those programs and services through Web technology.

Uses own knowledge of departmental and government communications policies and practices to develop basic messages for *X institution* spokespersons responsible for responding to inquiries on the *X institution* and its programs and policies.

Provides strategic information based on the analysis of events, initiatives, meetings, conferences, information sessions and consultations with stakeholders and other target interest groups through the Web in order to determine needs and the required follow-up, clarify positions and strengthen support for *X institution* policies, programs and services. This advice is used by the President,

commissioners, branch heads and program managers to make strategic decisions and determine the next steps to be implemented.

Prepares analyses and assessments on the achievement of electronic communications objectives and makes recommendations to senior *X institution* managers on the need to change plans and strategies based on the reactions of clients and stakeholders.

Drafts specifications for calls for proposals for communications products and services (i.e., Web site development or redesign, writing for the Web, and facilitating or product design services), which involves analyzing project objectives and the needs of clients and stakeholders. Specifications are used by consultants to prepare their bids, and once the contract is awarded, to ensure that the products provided are of high quality and supplied on time.

Adapts and elaborates on Treasury Board and Government On-Line policies and guidelines, and develops *X institutions* specific policies, directives, procedures, guidelines and standards for the *X institution's* Internet/intranet services. This information is used by all departmental senior management and staff for assistance and guidance when developing input to or accessing Web sites.

Analyses, validates and disseminates monthly statistical information on Web service usage. The information is used by senior management to make decisions on future business plans and projections for human and technical requirements and to assist departmental clients to make decisions, based on the degree and level of usage of their Web sites.

Writes reports concerning the decisions of interdepartmental committee meetings related to Web services. The information is used to inform senior management of governmental direction, trends and developments with respect to various electronic services.

Consults with senior managers of other federal departments, other levels of government, the private sector and members of various advisory committees to share information on best practices and make recommendations to influence federal government policies and systems.

Element 2: Well-being of Individuals

N/A

Element 3: Leadership of Human Resources

Leads, or participates in, intra- and inter-departmental and intergovernmental working groups and committees established to review Internet and intranet network policies and procedures. This responsibility is not shared.

Establishes and directs multi-disciplinary teams composed of communications and program specialists to develop and implement Web communications plans for *X Institution* programs and initiatives, and participates in team meetings. The incumbent is responsible for assigning, scheduling, coordinating and evaluating work; organizing and chairing meetings; establishing objectives and priorities that comply with the organization's values; and recommending resource levels. The team can include employees, seconded employees and contractors from other branches, federal departments, central agencies and organizations outside the *X institution*. This responsibility may be shared.

Assigns work to an assistant who prepares documents for posting on the Internet/intranet sites and who compiles the statistics for the Web sites. This responsibility is shared.

Selects contractors for specific projects, assigns, directs and manages work and ensures that it complies with contract terms and conditions. Service contracts include design services in the following areas: research, writing, Web site design, redesign and production. This responsibility is shared.

Element 4: Money

A. BUDGETING FOR FINANCIAL RESOURCES:

Monitors expenditures for Web communications projects to ensure that funds are spent appropriately and in compliance with the project plan.

B. MANAGING MONEY FLOW:

Negotiates sponsorship and partnership agreements with program managers and other clients to fund joint Web projects.

C. SPENDING FUNDS.

Awards service contracts, selects consultants, advises program clients on the awarding of service contracts or choice of consultants, and uses delegated powers to select the best option or proposal, especially concerning Web design and redesign.

Element 5: Physical Assets and Products

Uses and safeguards a computer, telephone, overhead projectors, laptop computers, camcorders, cassette recorders, presentation material, stands, audio-visual material and presentation systems. Most of these items are fragile and expensive, but can be replaced within a few days from *X institution* inventory or by external suppliers. Some items, such as presentation materials and stands, are often very expensive, and can take up to six months to replace.

Has direct responsibility for assets such as filing cabinets, electronic files, databases, strategies, plans, information manuals, speeches, brochures, posters, and so on. Although relatively inexpensive, these products have a high strategic value and must be protected. Loss of these items during the preparation or approval process could require directorate staff to spend a considerable amount of time in meetings and other activities to develop and publish the appropriate corrections, and control the situation. Databases can be recreated but personal files used to create the databases contain important notes and original analyses that cannot be easily replaced.

Element 6: Ensuring Compliance

Reviews, approves and rejects communications products and concepts developed by *X institution* staff or contractors, both electronic and printed, or recommends changes to ensure that they comply with the following regulatory documents: the Government Communications Policy, the Government On-Line initiative, the Common Look and Feel Standards for the Internet, the Government Contracts Regulations, the government's Internet Guide, the Federal Identity Program, TBS directives on plain writing and using the services of the Canada Communication Group and the production of accessible Web sites (such as access by persons with disabilities and W3C), PWGSC directives on using the services of the Advertising Management Group and public opinion research, the style manual in use in the Government of Canada, the Canadian

Style, Termium, the *X institution* Reference Guidelines on the Elimination of Sexual Stereotyping the Official Languages Act and Policies, the *Privacy Act*, the *Copyright Act*, the policy on diversity, the *X institution's* overall strategy for communications and general messages and programs approved by the *X Institution*. The incumbent must report cases of non-compliance to the appropriate authorities and give advice on the corrections to be made.

Verifies Web pages for Web developers and contractors to assure adherence to the *X institution's* security regulations, data architecture and Web page design standards as well as to the government's Internet Guide and Federal Identity Program (FIP) and the Common Look and Feel requirements to produce consistent quality products. Has the authority to return work for corrections if Web page development doesn't meet the standards. This is not a shared responsibility.

Monitors the *X institution's* web sites in the program branches and in regional offices to ensure compliance.

Skills

Element 7: Job Content Knowledge

The work requires knowledge of:

Information management and information technology including standards, system design, hardware, application software and data communications. The knowledge is required to introduce new systems that are compatible with and meet the information requirements of departmental systems, the systems of other federal departments and of other clients and stakeholders. The knowledge is also required to conduct design work, lead researchers and consultants in the design and implementation phases and develop policies in the area of Internet/intranet services.

Techniques and practices of Internet and Web development, principles of life cycles of EDP applications and programming languages for the creation and maintenance of regional and departmental Web pages.

Network communications concepts to develop client access mechanisms.

Methods and techniques for analysing, evaluating and documenting information requirements and system applications development; cost-benefit analysis; and Web-enabled practices including information system design, application software, operating systems, hardware and Web communications.

Communications management techniques, methods and professional practices is required to assess the public environment and its impacts on a specific initiative or issue, analyse strategic considerations that have an impact on outcomes, develop objectives and messages and recommend activities that will achieve communications objectives. This knowledge is also required to develop strategic and operational communications plans.

Techniques, methods and practices for developing performance indicators and service standards in order to assess and measure the performance and effectiveness of communications plans and strategies.

Methods, tools, practices and techniques for locating, designing, drafting, correcting, revising, producing, preparing or disseminating print and electronic communications products. This knowledge is required to ensure that communications products and services comply with prescribed professional quality standards.

Negotiating techniques and contract management to negotiate with consultants and suppliers for the design, development and delivery of communications products and services at the appropriate time and according to established budgets. This knowledge is also required to ensure a high level of communications quality to support the *X institution's* communications strategies and objectives or programs.

Problem-solving techniques and use of optimization tools to resolve operational problems that adversely affect performance and client access to Web sites.

Presentation techniques is required to present communications plans, strategies and options effectively and to make clear and concise recommendations to the President, commissioners, branch heads, program managers, representatives from other federal departments and central agencies, non-government organizations, interest groups and other stakeholders.

Consultation and facilitation techniques are required to lead meetings, discussion groups and brainstorming sessions. This knowledge is required to encourage participants to reach a consensus on communications approaches.

The operation of special electronic equipment for scanning and recording photographs and other audio and visual recording equipment is required.

The operation of various software to prepare, design, edit and manage Web sites.

The operation of audio-visual systems such as electronic projectors and video and tape players is required to provide information to clients and the public.

Element 8: Contextual Knowledge

A. Own Work Unit:

Knowledge of the mandate, vision, structure, operations, culture, administrative processes, and short- and long-term objectives of the Communications Directorate and external liaison is required to work within a unified communications team.

Knowledge of the policies, standards, procedures, activities and services of the Communications Directorate and external liaison is required to ensure that plans, products and activities are proposed, prepared and approved in compliance with the appropriate procedures and are in line with established budgets.

Knowledge of organizational Web server and home page configuration, management structures of the department and acronyms to respond to client requirements.

B. Own Department or Agency:

Knowledge of the *X institution's* mandate, vision, mission, objectives, structure, culture, legislative and statutory responsibilities, financial and budget situation, policies, programs,

priorities, activities and services is required. This knowledge is required to ensure that communications plans, strategies and advice are provided appropriately and uniformly within the *X institution* and comply with the *X institution's* general and program objectives.

Knowledge of security procedures for Internet/intranet access to monitor Web user activity on behalf of clients and management.

C. Other Departments or Agencies:

Knowledge of the organization, operations, policies and priorities of the Government of Canada is required, specifically the contents of the Speech from the Throne and federal budgets and the government's communications policies and priorities. This knowledge is required to advise the President, commissioners, branch heads and program managers on communications strategies within a federal government context to ensure that communications activities and products fit with the perspectives and priorities of the entire federal government and with the overall context of the *X institution*, and comply with the government's communications policies, guidelines and standards.

Knowledge of the programs, issues and priorities of other central agencies (TBS, PCO, CCG and Leadership Network), the main federal departments operating under the *Public Service Employment Act* and the *Public Service Staff Relations Act*, and other levels of government is required. This knowledge is required to ensure the timely and efficient co-ordination and approval of communications plans, activities and products, and to ensure that those plans, activities and products take into account the policies and programs of other federal departments and government agencies and other levels of government.

Knowledge of the policy development, Treasury Board submission and Cabinet approval processes, particularly with respect to federal, provincial and territorial concerns, issues, developments, considerations and approaches, the structure of *X institution* committees (CCST and COSO) and the consultation structure of associations and unions (Personnel Advisory Board and *X institution* Advisory Board) is required. This knowledge is required to develop communications and consultation strategies, and to recommend recourse or changes to existing processes, procedures and policies.

Knowledge of central agency directives and procedures pertaining to information management, security and reporting requirements. Knowledge of the government's Federal Identity Program, Government of Canada Internet Guide, Common Look and Feel Standards and Government On-Line initiatives to ensure compliance on Web sites and communications materials.

D. Canadian Private and Other Sectors:

Knowledge of the Canadian political system, specifically the roles of Parliament, operations, federal departments and parties, is required. The incumbent must also have knowledge of the relationships between politics and the *X institution*, the positions of political parties, constitutional matters, and the international aspects of policies and programs. This knowledge is required to develop strategic communications plans, products and services in compliance with the policies and expectations of those institutions.

Knowledge of the socio-economic, cultural and demographic factors at play in the public environment, and how government policies and programs are perceived by a very diverse, well-informed, demanding and changing public, is required. This knowledge is required to anticipate

reactions to measures implemented, communicate clearly, and recommend effective means for obtaining public support, participation and mobilization with respect to government initiatives and programs.

Knowledge of the interests, mandate, influence and views of clients and stakeholders is required to take into account the positions of other groups when developing and implementing electronic communications products and services.

Knowledge of the importance, scope and impact of the Canadian media, specifically the print, electronic and specialized (Aboriginal, ethnic, business, etc.) media is required. This knowledge is required to design effective strategies for communicating *X institution* programs and messages.

Knowledge of Canadian communications industry suppliers, specifically private-sector graphics firms, printers and communications consultants, and their operations and ability to perform communications contracts is required. This knowledge is required to meet various communications needs and make informed decisions on the proper combination of communications services provided by federal employees and by contractors.

E. International Private and Public Sectors:

Knowledge of international issues, regulations and agreements that impact the *X institution's* policies and programs is required. This knowledge is required to ensure that program clients are well informed and, where necessary, that international perspectives are taken into account when developing communications products and services. This includes the World Wide Web Consortium (W3C) and its rules on accessibility for the Web.

F. Legislation and Regulations:

Knowledge of the statutes, regulations and agreements that affect the *X institution* (i.e., the *Official Languages Act*, the Government's Internet Guide, the Federal Identity Program, the policy on diversity, the federal government's communications policy, the Government On-Line initiative, the *Access to Information Act*, the *Privacy Act*, the management of information holdings, the *Financial Administration Act*, Memorandums to Cabinet, the Speech from the Throne, collective agreements and the Government Contracts Regulations) is required. This knowledge is required to recommend communications options and to develop communications strategies, products and services that comply with requirements.

Knowledge of the statutes and regulations administered by the *X institution* and the procedures and time frames for preparing new legislation and guidelines is required. This knowledge is required to ensure that all aspects of the legislation are taken into account when developing communications products and to ensure compliance with guidelines and deadlines.

Knowledge of the legislative framework for human resources management in the *X institution*, and the related policies and procedures is required.

Element 9: Communication

A. Communication In:

Listening skills are required to understand and interpret hidden meanings in verbal and written messages and interpret the perceptions and attitudes of audiences using non-verbal indicators.

Also, the ability to interpret sometimes complex and sensitive key points arising from discussion with internal and external clients who often provide incomplete or abridged information is required. Listening skills are required to understand basic points used to prepare communications products and strategies that accurately reflect issues arising from discussions, and to recommend measures that fit with the culture and mood of the public concerned.

Reading skills are required to understand and interpret complex orientation documents and technical documents such as statutes, regulations, policies, guidelines and media products, to present them clearly to clients and stakeholders. Difficulty arises from the need to understand complex and technical language.

Listening skills are required to understand the specific needs in requests for information from the media and the public and to make decisions on the content, timing and means for responding. Requests are generally the result of incomplete or incorrect information on the topic in question. Difficulty arises from the need to persuade the individual making the request to modify or change his/her view by presenting specific facts and information.

B. Communication Out:

Oral communications and writing skills are required to communicate the *X institution's* vision, role, approaches, programs, activities and services within a context of federal communications objectives, to a wide variety of internal and external national audiences: employees, senior managers, the media, private and public sectors, interest groups, associations and the public in general. These skills are required to present information clearly to facilitate understanding, win acceptance for a point of view, and bring about a change in behaviour.

Writing skills are required to create installation documentation for use by technical specialists for installation of software on clients' computers and operational procedures for backup/recovery and importing/exporting data.

Writing skills are required to produce user guides and Web page development standards for non-technical personnel who will use the documentation to create Web pages they will integrate with home pages.

Written skills are required to produce evaluation reports for a variety of audiences, again with varying levels of knowledge, involvement and interest regarding the complex technical projects.

The ability to adapt and interpret complex issues, specifically amendments to statutes, regulations, policies and programs, is required to present them accurately and in an easy-to-understand format, which increases the difficulty of this task.

Element 10: Motor and Sensory Skills

Dexterity and co-ordination are required to use a computer keyboard and draft notes and memos on a daily basis. The incumbent has to type lengthy documents within tight deadlines. The information to be included in documents may be provided by telephone requiring good physical co-ordination and the use of a variety of equipment. This skill is acquired through formal training and practice.

Dexterity is required to operate audio-visual and sound recording equipment appropriately. The incumbent may have to make audio-visual presentations in poor lighting. This skill is acquired through observation, experience and practice. The incumbent generally has control over the performance of this task.

Good eyesight is required to distinguish tones and strong and pale colours, spatial characteristics and texture on computer screens often in poor lighting (either too dark or too bright) to ensure that Web pages contain images that are visually acceptable and fit with product plans, contract specifications, client needs and publication guidelines. This skill is acquired through formal training and experience. Accuracy is important to the overall appearance and cost of the product and to prevent errors.

Effort

Element 11: Intellectual Effort

Creativity and innovation are required to develop communications plans or approaches for specific program, and for branch and *X institution* initiatives involving highly-complex questions and sensitive public issues. Effort is required to: i) identify the issues to be addressed in the communications strategy; ii) identify the risks, challenges or possibilities that may have an impact on communications, iii) research and analyse the scope and impact of issues on communications, specifically the positions of other federal departments, other levels of government, the media and other stakeholders, iv) formulate and recommend communications options and strategies for handling issues (so as to increase public attention from other sources), including designing innovative solutions for solving problems or creating complex messages, products and activities, and v) translate the strategy into a concrete action plan. The incumbent must deal with the following constraints: very short deadlines, difficulty obtaining a consensus among numerous internal and external stakeholders, political considerations, lack of information, limited resources and conflicting priorities.

Effort is required to consider new issues, clarify and interpret communications needs, reformulate and refocus issues by analyzing and summarizing them and determining the relationships between the factors and their impacts. Those factors include: policy and administrative programs, government policies, future initiatives and directions of central agencies such as PCO and TBS, economic and social trends and concerns, the various characteristics of target groups (such as their size, situation, level of education, information needs, perceptions and items to which they are particularly sensitive), communications opportunities, timing, limited resources and issues relating to the product development and delivery schedule. Some of the constraints that can impede the process are urgent and unexpected communications issues that arise in a fast-paced environment involving political interests, media interests, sensitive information, time constraints, numerous stakeholders, conflicting priorities, and a lack of timely and complete information needed to interpret communications needs. This requires the incumbent to sustain attention and be creative (to draft, revise or amend a speech, for example) while dealing with interruptions and distractions.

Work requires analysis of Web site infrastructure, efficient file organization and management, and Web-enabled Information Management Systems to identify weaknesses and develop options for improvement, as well as evaluation of proposed modifications to determine feasibility, related costs, technical implications and training requirements. Results of work are relatively predictable, however working with systems that integrate several distinct software applications and multiple user needs adds to complexity of analysis and implementation functions.

Intellectual effort is required to evaluate policies and directives from the department and central agencies and the implications on the *X institution* Internet/intranet environment and to the clients.

This work includes modifying or adapting the policies and directives to meet specific needs, or in the absence of a policy or directive, developing one.

Investigates the features of new Web software products to improve the production of new Web pages. Effort is required to keep abreast of new developments in Web technology for innovations that could be adapted for use within the *X institution*, to analyze and compare technical specifications of hardware and software products, evaluate different options and prepare cost/benefit justification to support acquisition recommendations to supervisor. Evaluation and verification of a new product will enhance client productivity and job satisfaction.

Effort is required to balance day-to-day work and new priorities that arise unexpectedly, constantly reassess the order of priorities, recognize opportunities for sharing new sources of information in the hands of other stakeholders, federal departments and central agencies and promote information sharing, design options, often by anticipating the steps to be taken, creating new communications and marketing approaches notifying managers of their personal and administrative priorities, and completing project assessments while continuing and completing other projects.

Draws on experience and gives specialized advice on the development of innovative and creative solutions for meeting challenges that cannot always be met using traditional methods. This includes locating individuals with previous experience in certain initiatives, interviewing them, evaluating what works and what doesn't work, maintaining contact with key clients and stakeholders without neglecting others (such as *X institution* employees), and interpreting and then adapting new and complex information using language and presentation formats that are appropriate for various sectors of the public. Potential constraints include budget constraints, deadlines that are too short, differing opinions, personal and professional availability of others, frequent interruptions, the need to help co-workers within a work team context, other operational priorities, and the slow approval process, which often requires calling on partners in the *X institution*, other federal departments, central agencies and committees.

Identifies new issues and needs with respect to communications plans and products, plans for communications resources, reassigns resources, and reviews the schedule of activities and order of priorities which may cause inconvenience to other program clients and for which the incumbent must provide explanations. Main constraints are a lack of detailed information and time, indeterminate or conflicting program priorities, the need to present options and recommendations and the length of the approval process.

Creates various communications products using very technical, complex and sensitive documents, in a style that will be clear to the target audience. These products include folders, brochures, information sheets, Web sites, videos, presentations, audio-visual and multimedia products, speaking notes and information memos. All these documents have specific formats and levels of language and a variety of transmission modes. The incumbent therefore has to determine the target audience and assumed level of knowledge, and adapts the level of language and the presentation format accordingly. Constraints include budget constraints, short deadlines, conflicting opinions and priorities, and the length of the approval process.

Has demanding responsibilities as an independent and objective communications advisor. The incumbent must enhance this function by questioning traditional or narrow perspectives and identifying new approaches. Deals with employees, co-workers and members of multidisciplinary teams over which the incumbent has sole or shared authority. Contested positions are often those taken by specialists or individuals at a higher level. The incumbent has no control over the frequency or timing of these events.

Helps develop policies and design programs that present challenges with respect to identifying and analyzing possible points of view of stakeholders, their reactions and positions and to develop and recommend communications policies, positions, options and strategies. This requires the ability to resolve complex situations that may negatively impact the *X institution*. The inability of managers to arrive at a consensus, their lack of availability, and a lack of information on the position of the President or other sources of information make this task more complicated.

Element 12: Sustained Attention

Sustained visual attention is required from two to six hours at a time every day, very often without a break, to draft, revise, proof-read, correct and review documents and sensitive texts. Senior management, other central agencies, stakeholders, the public and other clients do not tolerate errors in communications strategies, plans and products. Frequent interruptions, changing priorities and the heavy workload can hamper the ability to reason and think logically, and result in missed deadlines, lack of accuracy and frustration for clients and the public.

Participates at information sessions and meetings with clients, and chairs or participates at committees meetings. This requires sustained visual and auditory attention. This task is made more difficult by interruptions while responding to questions and by conflicting administrative needs, which frequently occurs in work related to government communications. There is no room for errors in judgement or bad decisions, given that either could have extremely negative consequences for the incumbent or the *X institution*. This task accounts for approximately 20% of work time annually.

Effort 13: Psychological/Emotional Effort

The incumbent must maintain self control when dealing with individuals who have personal or organizational agendas that conflict with the incumbent's agenda, or when replacing or supporting a spokesperson in critical situations. The incumbent must remain calm, demonstrate empathy and maintain a professional attitude in relationships, which sometimes involve conflict, with interest groups, central agencies, members of Parliament or the media. The incumbent has no control over the duration, frequency and timing of these events.

The incumbent must control own reactions when reporting on points of view that the incumbent does not share so as to prevent errors in own responses and to give objective advice in difficult circumstances, such as policy or program changes or cancellations, which can be perceived negatively by employers, stakeholders and the public. There is no control over these situations. Handles changing priorities and workload, works irregular hours to meet deadlines, and works within a team with co-workers to achieve directorate and program objectives.

Reconciles various incompatible interests, handles situations involving conflict and ambivalence, and adapts effectively in various situations and environments. The incumbent is often required to participate in new or highly publicized initiatives. Sometimes has to handle failure or criticism

and must successfully complete duties with enthusiasm and the desire to achieve positive outcomes, despite the problems encountered during the process.

Effort 14: Physical Effort

The incumbent sits for extended periods of time, sometimes up to four hours at a time, to attend meetings with program managers, the directorate team, clients, staff and stakeholders.

The incumbent sits for extended periods of time, sometimes up to four hours at a time to work at a computer when receiving or drafting documents with various degrees of complexity, or working on work site.

The incumbent lifts and carries various communications materials, such as cameras, presentation materials, video materials, press files, publications, and laptop computers, for relatively short periods of time of less than half an hour, approximately once a month.

Working Conditions

Element 15: Work Environment

Psychological

The incumbent works for several hours at a time in various environments, for example, meetings with stakeholders and interest groups held outside the *X institution*, and at suppliers' sites, conferences, job fairs, exhibitions and other public events.

The incumbent handles multiple urgent, politically sensitive, conflicting, and unpredictable requests, amid criticism and frequent interruptions when providing communications or support services to *X institution* managers involving issues that are politically, socially and economically sensitive.

On a daily basis, reviews a number of issues, deals with increasingly short response times in an environment where communications are exchanged 24 hours a day, and is exposed to stress caused by changing priorities, urgent and unpredictable internal requests, long work hours and long periods of time working under extremely high pressure. This can occur several times each week, and last for several days.

Communicates with representatives of other central agencies and interest groups whose programs may not fit with ours, and with whom it is difficult to deal because of their intransigence over the methods to be adapted and the objectives to be achieved.

The incumbent may occasionally be called upon to work outside normal hours, which has an impact on personal and family life.

Physical

The incumbent is exposed daily to computer screen glare, sits for long periods of time, and uses a computer keyboard and mouse for several hours at a stretch. The incumbent works for several hours at a stretch in a variety of public environments up to 15 times per year, such as information sessions, conferences and other public events where the incumbent must deal constantly with multiple, conflicting and unpredictable requests, complaints, criticism or frustration with

communications or support services provided to senior managers and program representatives involving issues that are politically, socially or economically sensitive.

The incumbent is constantly exposed to noise from office equipment and background noise. The incumbent has to put own work aside temporarily to assist co-workers and provide advice. These interruptions can be embarrassing, particularly when the incumbent is in the middle of giving advice or on the telephone, or when the incumbent has to draft, review, approve and revise plans and documents within tight deadlines.

Element 16: Risk to Health

Stress is caused by having to prepare communications and marketing strategies and products within very tight deadlines, in a context characterized by conflicting or constantly changing priorities, given that the work covers various aspects and the incumbent must take into account the opinions and concerns of all stakeholders with the available resources, which have been significantly reduced. These conditions can hamper work and lead to occupational burnout. Stress is constant every day.

Working at the computer for long periods of time can cause eyestrain, arm and neck pain, back problems and other physical problems requiring medical treatment. Repetitive use of fingers and wrist muscles when working at the computer for up to four hours each day can cause muscle pain and lead to health problems. Sitting at a computer for long periods of time can cause eyestrain, back pain and general fatigue.

Financial Resources

This section will help you identify the costs of a proposed Web initiative. Non-technical and technical costs will vary, depending on the stage, scope and complexity of your Web initiative. The following lists of costs are by no means exhaustive and will change as the information technology market evolves.

This section is divided into five parts:

- [Hardware](#)
- [Software](#)
- [Telecommunications](#)
- [Human Resources](#)
- [Web Site](#)

Hardware

You may need to spend money in some or all of the following hardware categories for your Web initiative:

- computers and related supplies, such as scanners, printers and Web cameras;
- hardware maintenance utilities, such as back-up drives, and upgrades;
- networking hardware, such as cables and hubs; and
- assistive technology (equipment used to maintain or improve functional capabilities of individuals with disabilities, such as voice recognition hardware and software, touch screens, and arm and wrists supports).

Software

You may need to spend money in some or all of the following software categories for your Web initiative:

- software licensing;
- Web server software;
- Web design software, such as FrontPage;
- security software;
- Internet browsers;
- packaged and customized software;
- software maintenance and upgrades;
- e-commerce or transactional software;
- VISA and MasterCard merchant accounts; and
- e-cash accounts.

Telecommunications

You may need to spend money in some or all of the following telecommunications categories for your Web initiative:

- Web server hardware, such as proxy servers;
- telecommunications links (T1 lines);
- daily backups; and

- Internet service providers (ISPs).

Human Resources

You may need to spend money in some or all of the following human resources categories for your Web initiative:

- salaries for Web team members, including IT personnel;
- initial training;
- office accommodations, furniture and related items; and
- vendor or outsourcing services.

Web Site

You may need to spend money in some or all of the following Web site categories for your Web initiative:

- hosting;
- domain name registration and annual maintenance;
- advertising and marketing; and
- quality assurance, usability and post-implementation reviews, such as focus group testing.

Client Analysis

This section, in line with the GOL client-driven service principle, focuses on identifying your clients and their service level needs for your Web initiative.

This section has four parts:

[Identifying Your Clients](#)

How to define the clients for your Web initiative

[Determining Client Needs](#)

How to figure out what clients want from your Web initiative

[Assessing Service Levels](#)

How to measure and maintain an adequate level of service for your Web initiative

[Client Analysis Resources](#)

Resources that will help you understand your clients and their needs

Identifying Your Clients

This section outlines methods for defining your clients, so you can give them reliable, efficient on-line services.

General client analysis approaches include the following:

- on-site questionnaires;
- focus groups;
- community telephone surveys; and
- Internet and public opinion research.

Review client profiling of your institution, along with the purpose of the Web initiative, so that you can do the following:

- identify major client groups for each program area, and identify related stakeholder groups and associations;
- develop a corporate profile of clients by pulling together existing client data from individual program areas;
- gather existing client data from client surveys, focus group studies and other research from your institution;
- create a corporate-wide profile of client information needs;
- consider doing specialized research such as focus testing, on-line surveys and an omnibus survey to obtain more client information.

Compare client profiles with existing information on the current Internet community, by doing the following:

- reviewing existing studies on Web use by Statistics Canada, Neilson/Nordicity, Angus Reid, *Maclean's*, Ekos and other organizations;
- using the Internet to gather data relevant to your client base;

- developing profiles of current and emerging Web user communities; and
- identifying which of your client groups are on-line or getting on-line.

Develop a client profile, by doing the following:

- documenting your Web initiative client profile; and
- tracking the evolution of the Internet user community as it continues to grow and diversify, and as you become more aware of your clients.

Determining Client Needs

In accordance with client-driven service, you should regularly consult your clients to ensure that your services match their needs. Consider the following questions.

- Are your clients likely to use electronic services and information?
- Why do they visit your Web site, and what do they expect to find there?
- Do they visit your site to find out more about your programs and services?
- What keywords will they use to find your site or your products? Keep these in mind as you plan the content.
- What topics will keep your clients interested?
- How can you take their feedback into account?

Research your clients to do the following:

- identify their and your on-line priorities;
- better segment your on-line clients;
- identify the best information categories for your on-line menu system;
- design on-line tools to help your clients navigate your site;
- promote your on-line site and services; and
- monitor and evaluate the quality of your on-line services.

Assessing Service Levels

This section provides steps to follow when assessing the level of service your clients expect.

As a service provider, you must determine how much clients need the services and information you provide. You must also balance the accuracy, the responsiveness and the availability of the information against the costs of providing the right level of service.

To determine and maintain the appropriate level of service, take the following steps.

1. Measure how a lack of information affects clients. Formal definitions of client dependency will help you determine levels of service needed. Discuss and formally state client needs.

Evaluate the consequences of poor service. If your information is inaccurate, or your service is unavailable or slow, will that:

- threaten anyone's safety or health?
- hurt your clients' ability to do business?
- have a serious personal impact on your clients?
- affect your clients' productivity?
- cause your clients to lose face or credibility?
- create a politically embarrassing situation?
- give rise to complaints from special interest groups?

You may conclude that there is no need to proceed with the following steps because your service or information is not critical to your clients.

- Even if you go no further in defining service levels, advise your staff, management and clients why. Their feedback—or lack of it—will either justify your decision or allow you to reconsider your plan so that you can meet their needs.
2. If you proceed, the next step is to determine the probable size of your client group. Other organizations providing similar services and information can be a good source of estimates. State the size of the expected client group and number of concurrent clients, and add this information to the service level definition.
 3. After determining required levels of accuracy, responsiveness and availability, and the expected number of clients, you can attempt to estimate the resources needed to support your information service. Remember that resources include costs of maintenance contracts, staff time and floor space, as well as expenses for computers and communications equipment (as mentioned in the [“Financial Resources”](#) section). Once again, document why you reached the decisions you did and the costs involved.
 4. Determine and document the measurement and tracking systems that will allow you to verify that service levels are being met, and make arrangements to implement these.
 5. Plan and document how you will sustain levels of service as your initiative offers more features and the number of clients grows.
 6. Knowing the impact of your services and information on your clients, the service levels you need to deliver that information effectively and the costs of meeting that service level, you can now do one of the following:
 - decide that the costs are worth the benefits and proceed;
 - re-examine and revalidate the decisions made in steps 1 and 2, possibly redefine service levels accordingly, and then recalculate the costs in steps 3, 4 and 5;
 - look for alternative methods of meeting the defined service level; or
 - drop the project as not offering sufficient benefit for the cost.
 7. If you decide to proceed, formally state your reasons and decisions in a service level definition. This will inform all parties—your staff, your clients and any third parties, such as vendors or contractors—not only what must be achieved, but why. Any contractor who will be supplying services to you should sign a service level agreement specifying your requirements, the size of the client community, penalties for not complying and a termination date, which will allow you to renegotiate as your needs change.
 8. Set your clients’ expectations—in advance, if possible—by informing clients of the level of service you intend to provide. You can do this in literature describing your new service. Within the Web site, offer the client a way to determine what level of service you intend to provide.
 9. Monitor feedback on the operation of your Web site. This feedback can come from performance management software, simple operating system or application statistics, and clients’ comments or complaints. Make sure your clients can submit feedback.

IT Considerations

This section will help you identify possible IT needs, resources and other considerations related to your Web initiative.

This section has five parts:

[Web Capabilities](#)

Features on your site, and required hardware and software considerations

[Site Services, Support and Hosting](#)

Where the site will be hosted, and what services and support you will need

[Programming and Content Management](#)

Staffing considerations for programming and content management

[Other IT Expenses](#)

Other IT expenses that may arise when planning your Web initiative

[Other Considerations](#)

Additional requirements you may need to consider

Web Capabilities

You may need to consider the following hardware and software elements in relation to your Web initiative:

- databases (large or small);
- interactivity (chat rooms, surveys, customization);
- e-commerce (Public Key Infrastructure, financial transactions);
- security (privacy, e-commerce);
- capacity and performance (size of site, databases, bandwidth);
- usage and performance metrics (reports and analysis);
- file transfer protocol (FTP) access for others (security, password management);
- service standards (response to e-mail, updating);
- search engines, forms and additional browsing services augmenting basic features of the Web; and
- browser compatibility.

Site Services, Support and Hosting

You may need to consider the following issues in relation to your Web initiative:

- whether to use in-house hosting services, a service bureau or a mix of both (e.g. GEDS);
- whether you need a WWW server to host your HTML documents;
- whether you should establish an independent site, which must be staffed and managed;
- whether you should incorporate Web services into your departmental infrastructure (shared management);
- whether you should acquire central services from Public Works and Government Services Canada (priced service bureau);

- whether you should acquire services from the private sector (priced service bureau);
- when to supply supported services (five days a week or around the clock, for example);
- how to manage e-mail;
- whether to provide toll-free support (North America, international); and
- how to supply LAN support and troubleshooting.⁽⁶⁾

Programming and Content Management

You may need to consider the following issues in relation to your Web initiative:

- in-house expertise
 - whether to do original coding, and
 - whether to modify outsourced coding, if you have obtained ownership of coding;
- how to staff appropriate resources (cost and management); and
- how to comply with policies, legislation and standards.

Other IT Expenses

You may need to consider expenses in the following categories in relation to your Web initiative:

- software licences, including expensive licences for back-end software to handle such tasks as managing databases;
- hardware;
- human resources (programmers, technicians);
- toll-free and e-mail client support; and
- maintenance and operations.

Other Considerations

You may need to consider the following issues in relation to your Web initiative:

- security requirements;
- privacy issues;
- server requirements, such as
 - how powerful the server should be,
 - whether a staging server will be required for development and testing, and
 - what platform the server should run on.
- bandwidth requirements (for streaming audio/video, for example);
- server side issues;
- outsourcing, which will require you to
 - obtain ownership of coding (even if you currently have no in-house coding expertise),
 - get technical documentation for the site, especially for features such as photo galleries and databases, and
 - ensure that the contract allows you to make at least three alterations to the delivered product.
- training related to the site's functions, especially such features as interactive platforms; and
- the lifecycle cost of ownership, not just the cost of primary development.

Interactivity Tools

This section discusses on-line interactive tools, such as listservs, chat rooms, Webcasting, newsgroups and e-commerce. You may use these for various reasons: to consult and survey clients, disseminate a message, advertise, generate a transaction or help people discuss an issue, for example. It is a challenge to choose the best tools for the Web initiative while considering all relevant federal government policies.

Interactive tools, which are still very much in the development stage, are presented in two groups: [real-time communications](#) and [time-delayed communications](#).

Real-time Communications

Most real-time communications tools allow participants to post and respond to messages in real time, share documents or see the thread of a discussion. They include the following.

- Live chat rooms include text-based chat and graphical chat (see below for [more about chat rooms](#)).
- Virtual consultations, virtual focus groups or town halls allow you to poll audiences in real time. They can be “invitation only” or open to all.
- Real-time e-mail allows visitors to have a private, one-on-one, real-time correspondence with staff.
- Audio or video streaming (Web casting) allows you to broadcast audio or video in real time via the Internet. Streaming technology lets users play large files as they download them, permitting near real-time transmission. Image and sound quality does not yet compare to that offered by off-line technologies, such as CD-ROM or DVD, but streaming is an acceptable way to deliver basic multimedia information. It can be expensive to prepare good audio and video for streaming, so it is important to consider whether you really need to publish information in this multimedia format.⁽⁶⁾
- Video conferencing allows two-way transmission of video in real time to and from participants.
- Web conferencing allows you to deliver presentations over the Internet. Participants can view your presentation from their computers.
- E-commerce allows you to securely buy and sell information, products and services via the Internet. See the [e-commerce resources](#) section for more information.⁽⁶⁾

Time-delayed Communications

Asynchronous communications allow people to participate in discussions at different times. Examples include the following.

- In accordance with the GOL initiative, a client must be able to e-mail institutions and receive

an automatic electronic acknowledgement as a result of the e-mail. For e-mail standards and best practices, see the [CLF Standards on E-mail](http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-04-tb_e.asp) at <http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-04-tb_e.asp>. See also the section in this guide called [More About E-mail](#).

- E-mail lists (or listservs) distribute e-mail messages to groups of people registered on a managed list. See also the section in this guide called [More About Listservs \(Mailing Lists\)](#).
- Bulletin boards are electronic message centres where clients have to log in to see what has been added.
- On-line polling can be time delayed or in real time. It uses a Web-based application that allows clients to express opinions through an interactive forum. For guidance on the creation of forms, see <http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-01-tb_e.asp>.
- Multimedia technologies can be used to deliver audio or video content to clients in only one direction.

For more information on interactivity tools, see [Interactivity Tool Resources](#) and [Interactivity Tool Maintenance](#).

More About Chat Rooms

Text-based chat consists solely of typed conversations. Typically, an individual has a split-screen view with the top half displaying the running conversation and the bottom half displaying the user's remarks as he or she types them.

Graphical chat still relies on typed words, but the chat session takes place over a graphical backdrop, and clients can create graphical representations of themselves called "avatars" that appear next to the text they enter.⁽⁷⁾

More About E-Mail

E-mail is frequently used to send users additional information besides the e-mail message itself, such as attached documents, embedded graphics, software programs or hyperlinks to on-line information. You should ensure that recipients can use these features.

a) Attachments: When sending attached files to the public, send it in a format that does not require people to use proprietary software to see the information. Use formats that a variety of common software programs can recognize and display.

b) Software: Computer programs that open automatically when the recipient launches them should be tested to ensure they function as intended, do not present information barriers for those with special needs, and do not adversely affect the recipient's hardware or software.

c) Graphics: Embedded graphic elements are frequently removed automatically when e-mail moves from one network to another. While common look and feel guidelines make provisions for using departmental signatures, you should scrutinize other graphic elements for their appropriateness. If you use them, make sure they do not contain critical information that is not duplicated in text.

d) Hyperlinks: When e-mail contains hyperlinks to information on the Internet, provide the full Internet address in the text to ensure that the recipient receives the information and that it remains part of the message, regardless of whether the e-mail is stored, forwarded or printed.⁽⁶⁾

More About Listservs (Mailing Lists)

Listservs are a relatively simple way to allow people with similar interests to share ideas, publications and information via electronic mail. You can manage these electronic lists using one of a variety of software packages. These lists can function with a central list owner or with multiple list owners who have equal or varied levels of access. Lists can be public or private, open or closed, moderated or not moderated. You should consider these aspects of lists during the planning process, as your decisions may affect your Web site and resources.

There are two main types of lists: announcement lists and discussion lists.

Announcement lists function much like traditional newsletters: the mail messages flow in one direction, from publisher to subscriber. Discussion lists function like a public forum, providing a place where subscribers can receive information, ask questions, offer advice and exchange ideas.

Discussion lists may be moderated or unmoderated. On moderated lists, a human moderator filters posts before redirecting the messages to all subscribers. On unmoderated discussion lists, no one reads, edits or screens messages before they are distributed. The mailing list software simply receives and redirects posts to all subscribers.

More information on implementing mailing lists can be found on the Net Gain site at <http://strategis.ic.gc.ca/SSG/ee00220e.html> - implementation>.

Implementation

This section will help you effectively use on-line tools and technology for your Web initiative.

When implementing a Web initiative, you need to follow many small steps to ensure the resulting products support the goals and principles outlined in the strategic plan. Each step in organizing, preparing and managing on-line information involves many layers of objective decision making, several types of expertise and a great deal of abstract thinking. You must continually refer to the overall objectives and involve the appropriate decision makers, knowledgeable and capable experts, content providers, and information management and information technology experts. The combined efforts of all these people should result in a product that meets the needs and expectations of all client groups and is consistent with the goals of the Government of Canada and your institution.

This section has six parts:

[Building the Site](#)

How to organize, write and manage on-line content, a task that includes considering information format and choosing effective information and graphic architecture

[Security and Privacy](#)

Government legislation and policies that will help you ensure on-line security and privacy when collecting and protecting client information

[Information Management](#)

How to manage on-line information through out its lifecycle, a task that includes using metadata to describe and organize information

[Legislation, Policies and Standards](#)

Legislation, policies and standards required for your Web initiative

[Interactivity Tools](#)

How to choose the right tools for interacting with your clients, including real-time and time-delayed communications tools

[Implementation Resources](#)

Ways you can effectively and efficiently implement your Web initiative using reliable resources

Building the Site

This section provides guidance on building your Web site to provide effective and efficient information and services.

Use this guidance in conjunction with the Treasury Board Common Look and Feel Standards for the Internet and with best practices provided at the [Common Look and Feel Web site](http://www.cio-dpi.gc.ca/clf-nsi/index_e.asp) at <http://www.cio-dpi.gc.ca/clf-nsi/index_e.asp>. The Common Look and Feel Standards distinguish federal programs and services from others and make it easier for users to navigate from one federal site to another to find services and information.

This section has five parts:

[Content](#)

How to organize and manage content and how to write for the Web

[Design](#)

How to use effective information and graphic architecture to improve the overall layout of your Web site

[Information Formats](#)

Various on-line formats for providing information

[Marketing](#)

Marketing strategies for attracting clients to your Web site

[Building the Site Resources](#)

Design, content, format and marketing resources that will help you build your Web site

Content

This section outlines ways to organize, write and manage your content. It is divided into four parts:

[Organizing Content](#)

How to find the right information to meet your clients' needs and how to develop an information plan

[Writing for the Web](#)

How to write easy-to-read information and how to adapt printed materials to on-line formats

[Managing Content](#)

How to manage content on your Web site through effective organization

[Content Resources](#)

Resources for organizing, managing and writing content for the Web

Organizing Content

This section discusses how you should organize your content. How you organize and display your content is almost as important as what you have to say. This process involves selecting the content and synthesizing material into appropriate formats. The following suggestions may help you organize your content effectively.

When deciding what content to put on your site, think about your service objectives and client needs, the costs of delivering this service and the appropriateness of the Web as a delivery mechanism.

Do the following **research** when creating and organizing content for your Web site.

- Do an **inventory** of all your institution's relevant communications products, such as brochures, reports, fact sheets and Web pages. Edit and rewrite selected material for the Web and ensure material sourced from the Web is up to date.
- Look at **literature** outside your institution relevant to your Web content, such as material found in other departmental publications and libraries.
- View Web sites relevant to your subject on **the Internet** to see what information is already available and how it is organized and displayed.

Know your clients' scope and information expectations, and know what you want to say to clients.

- Identify the people who are likely to want or need the information you are providing on-line.
- Determine what information clients expect to find on your site.
- Know your clients' reading levels and how much clients know about the subject.
- Conduct client segmentation to determine the content, presentation and language level of your site.

Each potential client group has characteristics you must consider when selecting the information and services to be provided on your Web site. When choosing content, create or look for material that both satisfies a clear **service objective** and is accessible to an intended **client group**.

Tip: Compose a 20-word abstract on the purpose of your Web initiative. This will help you clarify the reasons you are on the Web and can double as good marketing copy.

Develop an Information Plan

Determine your main menu information categories, and limit them to eight or less. Choose your page headings carefully, using them like a table of contents. Then, develop an outline highlighting information by section. This outline will be like an organization chart.

Next, for each section title, develop more detailed information headings. The goal is to minimize the number of clicks your clients have to make to reach the information they want.⁽⁶⁾

See also [Information Architecture](#)

Identify information gaps, and adapt material or write new text to fill them.

Look for areas of **duplication**, overlap and economy. Group information into clearly defined areas. It is preferable to duplicate links to information rather than to confuse clients with similar information in more than one area of your site.

Identify areas where you should develop **microcontent** to introduce, organize or explain content. Clients benefit more from introductory abstracts that help them interpret large volumes of information than from links that simply lead them to a list of other links.

Graphic elements such as charts, images and other visual information should be properly formatted for the Web. You may need to rework them if they are not suitable for the Web.⁽⁶⁾

Writing for the Web

This section explains how to write Web content that is easy to read and understand. It is divided into five parts:

[How your clients read on-line](#)

[Writing specific content types](#)

Writing microcontent, summaries, abstracts and general content

[Adapting print publications to the Web](#)

Transferring printed information to on-line formats

[Editing](#)

Making sure you write correctly

[Translation](#)

Complying with the *Official Languages Act*

How Your Clients Read On-line

When reading on-line, your clients may:

- scan the content before deciding to read it;
- allow about 10 seconds to find what they want;
- refuse to “page down” more than twice;
- Spend 25 percent more time in total reading on-line material that they spend reading printed material;
- find reading on-line material more uncomfortable than reading printed material;
- print out information to read later;
- prefer an informal, conversational writing style;
- arrive at virtually any page on your site from just about anywhere on the Web; and
- be impatient and fickle, moving on if they can’t figure out a site or page in a few seconds.

Here are some of the things you should consider when writing for the Web:

- keep your clients in mind and remember the importance of readability;
- use half the text you would use in a print product, then edit heavily;
- remember how hard reading on-line is for the eyes, and keep your text short (think of it as an executive summary);
- try not to make clients scroll too much;
- start with the most important information and then move to the least important information, as newspaper reporters do;
- use short, crisp sentences as much as possible like TV and radio writers do; and
- have your material professionally edited, in both official languages.

Writing Specific Content Types

Aside from the obvious general content of Web pages there are many other bits of writing that need be done if you want your Web site to be client friendly and to ensure your clients keep coming to your Web site. This section will explain these various types of information to be written and offer suggestions on how to do so effectively.

[Microcontent](#)

[Summaries and Abstracts](#)

[General Content](#)

Microcontent

Microcontent is all the short bits of text that guide your clients or give them an “at-a-glance” overview of a given page. The basic categories of microcontent are outlined below.

- *Page titles*: These should summarize the “point” of the page and identify your organization or site.
- *Headlines and subheads*: The headline is the main heading at the top of the page and subheads relate to specific sections of text.
- *Navigation bar links and indexes*: Try to limit them to one or two words each.
- *Link titles*: Choose a few meaningful words or phrases for links that not only direct but also

inform your readers. Make links clear, descriptive and precise. Embed links into your text to help your readers scan. Try to match the link text with the title of the resulting page.

- *Alt text:* This is text that appears when a cursor passes over a menu button or graphic. Use as few words as possible so that you can be clear, descriptive and precise.
- *Captions:* These are used for photos, images or graphics. Keep them very short—ideally, 10 words or less.

Keep the following **suggestions** in mind when writing microcontent.

- Make it explanatory. Ensure the meaning is clear from your clients' perspective.
- Make sure it makes sense out of context. Create self-explanatory page titles, headlines and subheads.
- Keep it short. Headlines and subheads should be no longer than 60 characters.
- Make links short. Ideally, they should not be longer than three words.
- Don't overdo it. Good microcontent simply clarifies information and provides direction.
- Remember that your clients will probably move on if they can't figure out a site or page in a few seconds.

Summaries and Abstracts

Clients are less likely to read lengthy text on-line than they are to read long printed documents. A summary or abstract at the beginning of your text or Web page allows your clients to scan for relevant information efficiently. A concise summary will also help them decide whether they want to download and print the full text. A good summary or abstract includes the following elements:

- the purpose of the document, Web page or feature;
- the main points the text covers or your reason for being on-line;
- links to further relevant information;
- a link to an index or table of contents, for long documents; and
- a link to a printable version, if applicable.⁽⁶⁾

General Content

Clients reading your content may just skim for information. Put your most sought-after information up front. Use a table of contents, provide high level overviews, and offer an index or site map. When presenting information, think like a journalist: headline, subhead and key information at the top. You can offer clients more in-depth information on related pages, but let them dive deeper to find it if they're interested; don't force them to wade through it.

To ensure your content is easy to read and accessible, keep these suggestions in mind.

- Use the "inverted pyramid" writing style (put important information at the top and less important information further down).
- Limit sentences to one key idea and no more than 20 words.
- Limit paragraphs to no more than four short sentences.
- Link your ideas from one paragraph to the next, for a smooth and logical flow.
- Ensure pages contain no more than three or four short paragraphs.

- Break information into chunks, appropriate for screen-by-screen viewing.
- Write the way you speak. If possible, address the reader personally. Use words like “you,” “we” and “us.”
- Use simple, everyday words.
- Avoid clichés.
- Avoid jargon.
- Use the active, rather than the passive, voice.
- Avoid using acronyms. Spell terms out, if possible. If you must use acronyms, provide a glossary.
- Eliminate unnecessary words of degree, such as “very,” “quite,” “rather,” “somewhat” and “basically.”
- Eliminate unnecessary opening phrases, such as “you know,” “clearly” and “obviously.”
- Use informative headlines and subheads to break up your document.
- Use bulleted or numbered lists to provide plenty of information in a concise, reader-friendly manner.
- Check grammar and spelling.
- Use typographical elements, such as bold face, caps and italics, to help your clients read the document.
- Have your text professionally edited, in both official languages, before and after it is posted on-line.
- Ask a colleague to read your text, to ensure that it makes sense and flows logically from one idea to the next.
- Ensure readability levels are appropriate for your clients.
- Field-test the readability of your on-line text with a sample group of clients, if possible.

Adapting Print Publications to the Web

The Internet differs from print. Although this idea may sound obvious, it isn't, as shown by the many poorly written and organized Web pages currently on-line. There are many ways to adapt print products to the Web effectively. If you want your clients to read your information and return to your site, you should adapt your document to the format and style of the Web. This means deciding what content is appropriate to this medium.

- The best way to adapt existing documents is to reposition them for on-line reading. This task often involves heavy editing and rewriting.
- You should break information into bits and organize it for reading on-line. This process is called “chunking.”
- Chunking usually relates to the amount of information you can fit on a single screen, which is limited to about 100 words. It allows your clients to find relevant information quickly and efficiently.
- An acceptable way to adapt existing documents is to prepare a summary for your start page. This will include navigation links leading to more in-depth information and a printable version.

Editing

All information should be edited, in both official languages, before it is posted on a development site. Once it is on-line, it should be proofread before it is transferred to the live official site. (A development site is an exact secured replica of the official live site used to test Web initiatives before they are made public.) Many conversion anomalies can occur while you are transferring your text from other software. For instance, accents may disappear or be replaced by other

symbols, spaces may be added or subtracted, random characters may appear throughout your text and formatting may change.

Clients visit Web sites for information, so review and edit your content. Your clients may easily be put off by spelling and grammatical errors, which may make them question the accuracy of the content.

TRANSLATION

As stated in the *Official Languages Act* <<http://laws.justice.gc.ca/en/O-3.01/index.html>>, all material produced by a government institution must be available in English and French. The information provider should ensure translation accurately reflects the original in content and tone.⁽⁶⁾

Managing Content

This section discusses content management. Managing the content of a complex Web site requires a focused and sustained effort. Your Web team needs to make sure the Web site reflects the latest information.

Be sure each page or related group of pages on your site has a content owner. Consider making this an explicit part of the content organization. This person or unit should have ongoing responsibility for ensuring the accuracy of the information on those pages and for testing changes and updates before they are implemented. Failure to maintain accuracy could have significant ramifications, ranging from lost clients to liability.

An “editorial board” can help you ensure that

- content is presented consistently on the Web and in other formats;
- priorities for changing or adding content to the Web service are set;
- useful links to new or changed content are identified and implemented; and
- policies and standards governing Web use are consistently applied.

If you create an editorial board, draw its members from different parts of your institution, including senior management, public information, program management and information services. The board should meet regularly.

See also [Content Resources](#).

Design

This section examines the application of information and graphic architecture.

[Information Architecture](#)

Creating usable navigation and layout for your Web site

[Graphic Architecture](#)

Using graphics to enhance content on your Web site

Information Architecture

This section will help you create an information architecture for your Web site. It is divided into three parts.

[General Considerations](#)

Information architecture issues to consider when building a site map

[Navigation](#)

What makes a site easy to navigate

[Layout](#)

How the layout, overall appearance, white space and typography of your Web site can enhance its usability

General Considerations

This section discusses information architecture: an organizational structure for presenting information. This architecture's principal purposes are to simplify and clarify Web sites, to help clients use sites by functioning as a "map" and to give information managers a "blueprint." A thoughtful architecture and navigation system will create order out of chaos, and can foster positive associations with an institution and the information it provides. Poorly organized information conveys more than just a lack of attention to detail. It can also affect clients' ability to find information and, ultimately, their perceptions of an institution's quality, competency and credibility.

When creating a Web site, begin by focusing on the needs of citizens and addressing the following questions.

- How will the structure support the specific goals and objectives outlined in the communications strategy?
- What is the full scope of this Web site? Does it contain sub-sites? What information should you consider including?
- Who should help make decisions?

One of the key steps in reducing client uncertainty and frustration is to organize information in commonly recognized ways. With electronic information, these conventions go beyond basic "way finding" concepts we are familiar with in other communications environments, such as books and magazines, physical structures, and street and highway signs. Most of these conventions are learned over time—how to use the table of contents of a book, for example, or how to interpret a road sign. Because on-line information is complex, you must determine which

conventions are likely to make sense to your clients—which familiar, appropriate signs and metaphors will help both the computer novice and the information expert understand the architectural plan you present.

Consider all the ways you could organize one document on a Web site: by title of document, by published date, by subject, by type of document, by frequency of use, by importance of content to the institution, by responsible division or by file format. This is just one decision, but it is a good indicator of both the breadth of issues and the level of detail you must consider as part of the information architecture

With the development of each new form of information, you must ask the same three basic questions: “How do we make this system clear and easy for all to use?” “Which existing conventions should apply?” and “What remains to be developed?”

These questions were very relevant when electronic formats were in their infancy. Since then, we have developed client research, organizational competency, policies standards and guidelines, and general familiarity with the Web. As a result, we now have a better sense of what is good and effective information design and architecture.

Do research: Research and analyze existing Web sites. Identify organizational approaches that may help you meet the needs of your clients. Develop options for your own architecture for analysis. Which common conventions for organizing, presenting and navigating information should you consider?

Consider the existing conventions: One of the key advantages of a well-conceived Web site architecture is that it gives clients either a familiar or an intuitive way to browse a site. A Web site structure should not force the client to interpret the plan; rather, it should be transparent and obvious. The structure must work with navigation aids to guide clients through the site. Ultimately, to serve clients well, all government institutions should present information in similar ways.

Think about Common Look and Feel Standards: The Common Look and Feel Standards for the Internet help ensure that all government Web sites have consistent key navigation tools. However, the benefits of common architecture and navigation practices should not stop there. When clients visit multiple institutional Web sites seeking services or information, differences in structure can impede quick access. You should not use site architecture to distinguish your site from another institution’s; that is one of the functions of graphic design.

Prioritize information: Compiling an inventory of all potential content will help you identify what material the public will request most often, what material supports your institution’s programs, and what material is largely static and archival. Making these three distinctions, in the context of your communications strategy, will help you develop a site structure that meets clients’ needs and expectations, as well as your institution’s need to provide access to a wide range of services and information. Review your Web site’s statistics regularly to determine the most popular areas and documents.

Consider architecture and navigation: Architecture and navigation are very closely related. The navigation system guides clients through the overall information architecture by providing clear, concise cues to narrow clients’ choices as they search for information. A thoughtful, consistent set of navigation choices should help them find information and help them determine “where they are” within the site. If your Web site contains a large amount of information, you

may need to include more than one level of navigation.

Minimizing the number of steps clients need to take—or clicks they need to use—to find information is always a good practice. However, you need to find a balance between two overall approaches: (a) many navigation choices at the outset that provide access to specific services and information in very few steps, and (b) fewer choices at the outset that provide information to help clients increasingly narrow the focus.

Option (a) provides quick access to specific content but may present a dizzying array of options, forcing clients to “commit” to a decision early. Option (b) requires more levels or “clicks” and allows the client to make increasingly informed selections based on narrowing options. These two ends of the spectrum may be thought of as “flat” structure and “deep” structure. Navigation systems are generally a balance of the two.

Document and record your plan. Establishing a firm hierarchy helps you stick to your plan, making it less likely that you will drift toward an unplanned site architecture that may be less functional than the one you originally developed. You may face pressures to change the plan or to shift priorities. If that is necessary, you should do so in the context of the overall information architecture and the strategic communication plan. This will allow you to evaluate the proposed changes against the overall purpose, objectives, client needs and institutional goals of the site.

Plan for periodic review: The design, content and structure of Web sites evolve frequently. You should not make changes that affect the general presentation or the actual site structure in isolation from the original plan and criteria. Isolated changes make a Web site’s architecture less functional. On the other hand, you may also retain an architecture that has outlived usefulness, if you don’t regularly evaluate the structure against your plan.

Test your assertions: Create user scenarios and a variety of hypothetical tasks for clients of the site. Test the site architecture by having others complete these tasks. You can partially evaluate the site architecture by determining the degree of difficulty users face in completing these tasks, measured by the number of errors, frustration levels and time required.⁽⁶⁾

See also [Usability Testing Methods](#)
[Design Resources](#)

Navigation

This section discusses navigation issues related to Web sites. Clients will use navigation menus and hyperlinked text to find their way around your Web site. It is critical that you give clients a coherent means of finding information. The navigation system also reminds clients exactly where they are within the site's structure and helps those who arrive at your site in the "middle." As a result, you should consider several factors when devising a navigation system.

Navigating through a Web site is conceptually no different than navigating through a building or a city. We rely on coherent systems, signs, visual cues and common conventions to determine our location and direction.

For example, consider the appropriateness of the following methods commonly used on the Internet to represent a link that will take the viewer to the second part of a long document:

- an arrow, an icon of a miniature document or an open door with an arrow pointing to it;
- a small animation that shows a human figure running;
- the word "next" or the numeral "2" in blue hyperlinked text; and
- a button that reads "next page," "continue" or "more."

Choosing an element to link viewers to the second part of a document is just a small part of the larger challenge of developing an entire navigation system that is both familiar to clients and specific to your content.

Develop a navigation hierarchy: The hierarchy of the navigation systems should support the objectives and goals of your communications strategy. Consider ways to make the most useful information easily and quickly accessible. You may want to identify archival information, which is best organized by topic or date.

Consistency: The primary navigation system should simplify the Web site as much as possible for clients. It should remain consistent throughout the Web site. Inconsistencies detract from the functioning of the system. Identifying a primary site and many sub-sites may make organizational sense to the institution. However, different structures on different sub-sites may annoy, distract or confuse clients.

Overly complicated navigation serves no one, but the complexity of your content may require more than one level of menu. Small features, such as a button clients can use to return to the beginning of a document or the next part of a document, should therefore be part of your overall plan.

Institutional menu: Design an institutional menu that clients can use to perform large navigation functions on a Web site. The apparent hierarchy of menus is important. In general terms, principal menus should perform "larger" navigational functions than lower level menus. If you mix these functions, you may confuse your clients. Think of your Web site as an inverted tree—the higher you travel upwards, the larger the branches you find.

Additional navigation: Web sites with large volumes of content should include additional levels of navigation. These may be needed to help clients find their way through a particular area of the site, to a specific program or service, or through a long document presented as a series of pages.

Common Look and Feel (CLF): The Common Look and Feel menu provides links to five major site features and establishes a form for the institutional menu. If CLF does not apply to your site, you should still include the basic functions found on that menu: language choice, contact

information, help and search.

Accessibility: The [Common Look and Feel Standards and Guidelines <http://www.cio-dpi.gc.ca/clf-nsi/index_e.asp>](http://www.cio-dpi.gc.ca/clf-nsi/index_e.asp) address accessibility concerns related to Web sites. Navigation tools, whether they are graphics or hyperlinked text, should be large enough that clients with vision difficulties can read them easily and clients with mobility difficulties can select them easily.

Avoid distracting elements: Avoid hyperlinking elements such as photos, images and graphic devices unless their purpose is clear and they are critical to the site. Otherwise, they can distract clients from their purpose as well as from the principal, site-wide navigational elements. Navigation systems, should by design, be distinct from other features and functions.

Simple text gives clients more precise information and ultimately serves as a better navigation aid than icons and graphics do. Avoid using icons and graphics for navigation.

Language: Use short, simple and common terms when creating navigation menus. Avoid using acronyms or abbreviations that may be familiar to the institution but unknown to your clients. The language used should be clear, direct, plain and unambiguous. Ensure the system you devise works well in both official languages and does not force you to treat one language in a visually different manner because of a difference in length of terms.

Hyperlinked text: Avoid using numerous links throughout the text. This practice is often confusing and, taken to its extreme, reduces the legibility of a document. Instead, organize necessary links in one area of the document and provide some context regarding their purpose or function. Links in documents should not duplicate the function of the menu. Avoid presenting hyperlinks in a different visual style, other than using colour and the typical underline. Other typographic flourishes—such as italics, bold or capital letters, a different size or a different font—reduce legibility.⁽⁶⁾

See also [Hyperlinks](#).

Layout

This section discusses layout issues you should consider when developing a Web site. Regardless of the content, materials destined for Government of Canada Web sites must observe the requirements outlined in the Common Look and Feel Standards and Guidelines. Within these requirements there is a great deal of flexibility. You can create a page that is distinct and yet maintains its visual connection as a government of Canada Web site.

Overall appearance: You should create a common treatment for your entire institutional Web site. Develop templates that balance the CLF Standards and your institution's content requirements. The common treatment should include visual themes, graphic elements and typographic style.

White space: Be conscious of the value of "white space." While some may view white space as "wasted space," it is a very important element of graphic design and should be used to help create a professional, legible presentation. Maintaining white space throughout a Web site can be a constant struggle against demands to fill this space with various Web site features, announcements or graphic elements.

Legibility: Legibility should be a paramount concern when you are developing page layouts or templates. Keep the overall presentation simple. Remember that clients may arrive at your Web site after viewing numerous other Web sites with busy or complex page layouts. Be conscious of the length of lines of text on your Web site—like newspaper text, on-line text becomes easier to read quickly as the width of the text column becomes narrower. The standard Common Look and Feel layout reflects this principle.

Templates: Templates ensure consistency for those developing content, even when personnel changes. You may wish to develop a set of templates that address unique layout demands of your institution's content and of various electronic media, such as Web sites and CD-ROMs.

Typography: Adopt a simple, efficient typographic style and maintain it throughout the communications product. Keep headings, colours and type sizes consistent. Limit the number of heading levels, avoid complicated numbering systems, and use bold and italics sparingly.

Printing: Clients may read your information on-line or print it. Consider both possibilities when designing pages.

On-line presentations: Be careful when preparing electronic presentation to be either projected on a screen or otherwise distributed. Make sure the final presentation is approved, to ensure that it is professional, that it properly identifies your institution, and that it respects requirements related to official languages, Federal Identity Program and other policies. You can help to ensure that your institution meets these requirements by developing templates for the software products used within the organization.

Graphic Architecture

This section discusses the importance of graphic design to the way clients view your information and your institution. The visual themes and motifs you choose should help your clients understand the function or purpose of the Web site. Don't use design to entertain; rather, use it to make your presentation more informative and professional, without distracting clients from the content.

Creative brief: Begin with a design master plan that encompasses the entire site and addresses the objectives and goals of the communications strategy. If there is a marketing or promotional plan for your Web initiative that involves print or other media, consider the requirements of those media at the beginning. The Web site design or visual themes should be adaptable to other media.

Visual theme: The graphic design should visually support the navigation structure and overall architecture and not distract or confuse the viewer. Developing a visual theme for the Web site does not mean creating a new identity. Avoid developing a look that uses a variety of logos, symbols and icons. Such an environment will detract from the identifiers of the Government of Canada – the institutional Federal Identity Program (FIP) signature and the “Canada” wordmark. On the other hand, a consistent visual theme or motif can complement the Government of Canada identification. Consult the FIP policy for information on developing new symbols and logos.

Identification: The mandatory elements of Common Look and Feel will identify your institution via the institutional FIP signature and the “Canada” wordmark. Avoid diluting this identification by duplicating your institution's title throughout the Web site or stylizing the institution's name, for example. The FIP elements should remain the principal means of identifying your institution. All electronic communications should correctly identify the institution or the Government of Canada. Under FIP policy, you must use the approved symbols of government to identify government, rather than program symbols or other logos.

Comprehensive design: Develop a visual approach that takes into account the entire Web site. A comprehensive design approach generally helps you position your Web site as a single information source rather than a series of pages linked by organization or purpose. You should limit the types of graphic elements that may be included. Over time, Web sites often mutate, so that instead of reflecting a professional, efficient and disciplined visual approach, they become catch-alls for symbols and graphics representing various initiatives and programs.

Text: On the other hand, you shouldn't completely avoid graphic elements. Vast expanses of text do not help your Web site clients, either. Design your pages with visual elements that help clients read and navigate the site. Strategically placed lines or graphic elements can be used as “visual punctuation,” breaking a long document into manageable portions.⁽⁶⁾

Accessibility of images: Minimize the file size of graphics. Every graphic element ultimately slows down the transmission of a Web page. Ensure that all information provided graphically is available in text form when clients view your information without the graphic elements.⁽⁶⁾

See also [Graphics Evaluation](#).

Information Formats

This section describes the functions of several popular Internet formats.

You can present information on a Web page in several different formats. Each has its own features, advantages and disadvantages. One of the challenges of designing a Web site is matching the presentation format to your service objective and clients' needs. Effectively integrating graphics, text, downloadable files, forms, audio and video is essential to providing a usable and useful Web site. For example, sometimes clients would rather download a document in its original format and print it locally than read it on-line. Sometimes a picture, diagram or map is more useful than text.

General Guidance

Choosing information formats for your Web site

Formats

Examining the functions of various on-line information formats

- [Hypertext Markup Language \(HTML\)](#)
- [American National Standards Institute \(ANSI\) text](#)
- [Word processing packages](#)
- [Portable Document Format \(PDF\)](#)
- [Virtual Reality Modelling Language \(VRML\)](#)
- [Java](#)

General Guidance

When considering information formats, you **must** follow Treasury Board [Standards 1.2 and 1.3 of the Common Look and Feel Standards for the Internet](#) < http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-01-tb_e.asp>.

Develop a checklist to determine information formats and do the following:

- ensure at least one format is **widely** accessible (according to CLF accessibility standards);
- ensure selected formats support special characters used in French text;
- consider whether clients will download or print documents, or simply read them on-line;
- consider document size;
- consider the technical capabilities of your clients, including bandwidth, availability of proprietary software and computer capacity;
- monitor the evolution of standards, the software marketplace, and your clients' capabilities and needs, and change your checklist accordingly;
- use non-proprietary standards whenever possible and do not provide information in proprietary formats only;
- recommend a particular browser (but it must not be essential);
- ensure information on your site is accessible through all browsers;
- present information in alternative formats;
- remember that many clients may not be able to download and install a particular software application, or may not know how;
- choose formats for audio, video, VRML and other specialized files carefully, giving due consideration to accessibility, software, hardware and bandwidth issues; and

- test documentation using a number of different browsers and hardware configurations.

Formats

1. *Hypertext Markup Language (HTML)*

- Text can be browsed on-line, highly stylized and linked to other related information on the Web.
- Graphics and tables can be included.
- Format typically does not closely resemble the printed version.
- Large documents are split into multiple files of approximately 32 KB each.
- Internet search engines can index and search documents.

Characteristics of HTML

- Clients can browse on-line.
- Small file size improves response time for clients.
- Documents can be linked to other documents.
- Documents are accessible via an Internet search.
- Clients can transfer HTML or text versions of the document to local systems in HTML or text formats. However, documents are often split into multiple files, so clients often have to download many files to get one document.
- Copy printed from HTML may not resemble the official printed version.

2. *American National Standards Institute (ANSI) text*

- Text can be browsed on-line but is not as stylized as HTML text.
- Links and graphics are not included; tables can be, but they are difficult to format properly.
- Format does not resemble the printed version.
- Internet search engines typically do not search documents in this format.

Characteristics of ANSI

- Clients can browse on-line.
- Small file size improves response time for clients.
- Clients can transfer ANSI versions of the document to local systems.
- Copy printed from ANSI may not resemble the official printed version.

3. *Word processing packages (Microsoft Word and Corel WordPerfect, for example)*

- Clients cannot browse on-line.
- Format can be similar to printed copy.
- Graphics and tables can be included.
- Links are not possible.
- Internet search engines typically do not search documents in this format.
- Clients need a special viewer (plug-in) or a compatible application to view the document.
- Embedded images cannot be captioned with alt-text (which is mandatory for

accessible page design)/

Characteristics of word-processed text

- Clients can transfer an entire document to local systems, although large documents can take a long time to transfer.
- Printed copy resembles the official printed version.
- Internet search engines are being developed that can index and search documents in these formats.

4. Portable Document Format (PDF)

- Clients cannot browse on-line.
- Files sizes can be large.
- Graphics can be included.
- Links to other Internet resources can be included.
- Internet search engines typically do not search documents in this format.
- The exact printed format and presentation are maintained.
- Most clients need a special viewer (plug-in).

Characteristics of PDF

- Clients can transfer files to local systems, although large documents can take a long time to transfer.
- Printed copy closely resembles the official printed version but files may be large, so clients may need powerful printers.
- Internet search engines are being developed that can index and search documents in this format.

5. Virtual Reality Modelling Language (VRML)

- This format provides realistic, 3-D, multi-user environments.
- It offers seamless multimedia delivery.
- Clients need a VRML browser to view these document.
- Internet search engines typically do not search documents in this format, since it is not text-based.
- It is inaccessible to clients with non-graphical or older browsers.

Characteristics of VRML

- This format allows for real-time, on-line exploration.
- It is useful for modelling site architecture.

6. Java

- Mini-applications (applets) are created in the Java programming language.
- Applications are transient, meaning they may not be available in subsequent browsing sessions.
- Internet search engines typically do not search this format.

- Java applets used to animate images will likely be inaccessible to clients with non-graphical or older browsers that do not support the language.

Characteristics of Java

- Data can be updated in real time.
- This format permits two-way interaction.
- This format permits platform-independent client/server applications.
- Real-time results are not always printable because they are application dependent.

See also [Format Consideration Resources](#).

Marketing

In this section, you will find suggestions for bringing traffic to your Web site. Most of these suggestions can be scaled down for in-house use, such as developing highly targeted e-mail lists, writing articles for publications and conducting viral marketing campaigns. Others require funding, such as buying large mailing lists or developing a listserv.

Countless catalogues offer traditional promotional items. Knowing your main client group, your goals and your budget will help you determine the best combination of promotional items to incorporate into your marketing campaign.⁽⁶⁾

[External Communication Plan](#)

[On-Line Promotion](#)

[Traditional Marketing Suggestions](#)

External Communication Plan

- Identify the people you want to reach with your communications activities:
 - potential clients, some of whom do not have access to the Internet;
 - members of the media, who may have a thorough knowledge of the Internet;
 - the general public; and
 - Internet user groups.
- Identify your objective.
- Convince your clients of the benefits of a new or existing Web site. This task requires a variety of promotional communications activities.
- Describe the communications strategy you will follow.
- Define the scope: will communications be inward looking or outreach based?
- Determine the budget.
- Outline the communication activities.
- Develop messages.
- Identify the media and special interest groups tracking the Internet.
- Plan a “marketing evaluation.”

On-Line Promotion

Using the Internet to promote a Web site requires familiarity with on-line marketing tools. Communications advisors need to work closely with the Web manager in carrying out the following steps, once the Web site is on-line.

- Register the URL for the Web site on the appropriate meta-index sites.
- Consider registering your site with non-Canadian search engines, including [Yahoo](http://www.yahoo.com) <<http://www.yahoo.com>>, [Lycos](http://www.lycos.ca) <<http://www.lycos.ca>>, [Webcrawler](http://www.webcrawler.com/info.wbcrawl/) <<http://www.webcrawler.com/info.wbcrawl/>>, [Alta Vista](http://www.altavista.com) <<http://www.altavista.com>>, [Berkeley](http://www.berkeley.com) <<http://www.berkeley.com>> among others (search engines will take approximately two to three weeks to index your site).

- Ensure that the [Canada site](http://www.canada.gc.ca) <<http://www.canada.gc.ca>>—the primary entry point for all Government of Canada Web sites—has a pointer to your organization’s Web site, and vice versa.
- Identify client sites whose Web managers may want to create pointers to your Web site. On-line browsing is based on movement between sites with related information.

Consider the following suggestions when doing on-line promotion.

1. You can enhance your marketing effort by ensuring that your main menu categories and subheadings (or microcontent) are clear and concise; your design is clean and easy to understand; and your content is accurate, relevant and updated frequently.
2. Focus group or virtual testing, formal or informal, will help you determine the effectiveness of your Web presence and define weak areas that could decrease marketing returns. You don’t want clients to leave your site feeling frustrated.
3. Add metadata to main menu and sub-menu Web pages to help search engines and portals find your site and retrieve it for clients researching your subject.
4. Since your Internet address or URL will be one of the key components in your marketing campaign, try to get one that is easy to remember so it can be spread by word of mouth, in publications and in other communications products.
5. Because employees are your best marketing asset, solicit their assistance in your marketing effort by encouraging them to do the following:
 - advertise URL or the alias by word of mouth by telling contacts and colleagues about it;
 - add the URL or alias to staff business cards, in accordance with FIP policy;
 - include your URL or alias on voice mail messages (personal or divisional), where appropriate;
 - use the “I am currently on the phone” voice mail message to advertise your URL;
 - put the site’s URL in the signature block of their e-mails; and
 - put the URL on all your communications products.

Traditional Marketing Suggestions

This section provides traditional marketing suggestions, including ideas for print-based promotion and institutional marketing activities. This list is by no means exhaustive; it is provided simply to help you start your marketing efforts.

Here are some traditional marketing activities you can implement to promote your Web site.

- Encourage clients to bookmark your site.
- Research specific clients and correspond with them by e-mail to let them know about your Web initiative(s). Make use of your institution’s listserv. If none exists, think about asking someone to develop one. Here are a few potential sources to find potential clients’ e-mail addresses: search engines, portals, relevant directories, other government departments, non-governmental organizations, partners, relevant newsgroups and chat rooms, e-zines, bulletin boards, universities, colleges and high schools, if appropriate.
- Launch a viral marketing campaign. Viral marketing involves developing Web initiatives or e-mail messages containing catchy content, graphics or video clips that are so relevant to

recipients that they voluntarily send them along to friends or colleagues.⁽⁶⁾

- Start a monthly e-newsletter to highlight new developments on your site (such as new subject Web pages, or redesigned pages, services or publications). You could also advertise the newsletter and provide a subscription service on your site's main page.
- Write articles and teasers for your institution's e-zine and other appropriate on-line e-zines.
- Send a broadcast e-mail message to all staff advising them of your new or redesigned site. Since employees receive numerous broadcast e-mails, make your title clear and short, and ensure the first sentence of your message answers the 5Ws.
- Use your institution's internal TV network, if applicable, to deliver messages.
- Enlist your institution's outreach programs to promote your Web initiative (such as the speakers' bureau, media outreach program and recruitment program).
- Ask your regional offices, if applicable, to help promote your Web initiatives through their activities, contacts and publications.⁽⁶⁾

Consider including the following steps in a print-based information program.

- Create information brochures, newsletters, periodicals and feature stories.
- Tell clients how to get to the Web site (this includes giving them the URL).
- Place the URL in an eye-catching section of the layout.
- Describe the type of information and services available on the site.
- Describe the advantages of using the site.
- Distribute news releases to interested print and electronic journalists, and national and international media. Organize interviews with interested journalists

Consider conducting the following marketing activities when promoting your Web site.

- Provide orientation workshops and information briefings to middle managers and personnel in all branches of the organization. These events should be designed for a non-technical group and include demonstrations of the site.
- Conduct interactive events, and include contests and on-line promotions to make them interesting and fun.
- Participate in trade shows and conferences devoted to the Internet, such as Technology in Government Week, the Canadian Internet Show and international trade events.
- Promote the site during key events, during which you use the site as a primary communications forum and information dissemination site.
- Incorporate the Web site into all organizational communications strategies, including media relations, advertising, promotion and publishing.⁽⁶⁾

See also [Marketing Resources](#).

Security and Privacy

This section provides guidance on principles of security and privacy that may affect your Web initiative, focusing particularly on technological resources.

You should regard [the Government Security Policy <http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_12A/gsp-psg_e.asp>](http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_12A/gsp-psg_e.asp) and the [Privacy and Data Protection Policy <http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_128/siglist_e.asp>](http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_128/siglist_e.asp) and related documents as primary resources when you are considering the security and privacy of your Web initiative. They uphold Government On-Line (GOL) principles to ensure that government organizations respect and protect clients' privacy, and put security safeguards in place.

This section has two parts:

[Security](#)

Security principles, threat risk assessments, hardware and software security, and security resources

[Privacy](#)

Privacy principles, collection of user information through cookies and personal information banks, and privacy resources

Security

This section outlines the fundamentals of on-line security and factors you may need to consider when implementing your Web initiative.

As a principle of GOL, the Government of Canada takes on-line security very seriously. The [Government Security Policy](http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_12A/gsp-psg_e.asp) <http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_12A/gsp-psg_e.asp> and related guidance will help you provide on-line services and information in a secure environment. You should read them along with this section, which has five parts.

General Security Principles

Providing a secure on-line environment for your clients

Threat Risk Assessment

Efficiently assessing your technical resources

Hardware Security

Ensuring the security of physical hardware resources used for your Web initiative

Software Security

Ensuring the security of software resources used for your Web initiative

Security Resources

Finding security authorities and important, reliable and credible on-line resources to ensure the security of your Web initiative

General Security Principles

The government takes Canadians' concerns about privacy and security seriously. Security systems should ensure that information is protected from unauthorized use and disclosure.

Institutions should have information technology security coordinators to maintain the integrity, availability and confidentiality of information system resources (including hardware, software, firmware, information and telecommunications). The RCMP and Communications Security Establishment assist departments with information technology and physical security.

The government's security architecture provides a balanced and layered security approach. It combines a range of security solutions, including firewalls, virus detection software, encryption and digital signatures using a [Public Key Infrastructure](http://www.cio-dpi.gc.ca/pki-icp/index_e.asp) <http://www.cio-dpi.gc.ca/pki-icp/index_e.asp>, and strong access controls.

When implementing Internet security, keep the following principles in mind:

- confidentiality;
- authenticity;
- integrity;
- access control; and
- availability.

Industry Canada's [Strategis](http://strategis.ic.gc.ca/SSG/ee00216e.html) site <<http://strategis.ic.gc.ca/SSG/ee00216e.html>> explains these principles in more detail.

Threat and Risk Assessment (TRA)

This section provides guidance on conducting a threat and risk assessment (TRA) of your technical resources.

You must try to ensure that electronically processed, stored or transmitted information is secure from loss, destruction, or unauthorized modification or viewing. The degree of protection you provide should be commensurate with the sensitivity of the information and clients' needs. Without appropriate safeguards, the confidentiality, integrity and availability of information, systems and services could be adversely affected.

TRAs determine the nature and level of safeguards you should apply, based on the confidentiality, integrity and availability requirements of the IT system as defined in a statement of sensitivity. In developing the statement of sensitivity, consider the personnel needed to manage and operate IT systems and facilities.

- Conduct TRAs when you are planning or altering computer networks, and review the TRAs regularly. You should do TRAs for specific computer facilities, so that you can select and implement a specific mode of operation.

Statements of Sensitivity

Statements of sensitivity should help you develop frameworks for operation, implement specific safeguards, establish priorities and determine minimum requirements for contingency plans.

Statements of sensitivity should cover the following facets of confidentiality, availability and integrity:

- sensitivity of information;
- importance of service;
- integrity concerns;
- back-up requirements; and
- access restrictions based on "need-to-know" information.

Confidentiality requires that access to information be restricted to authorized personnel with common need-to-know requirements. The authority can be time dependent.

Availability refers to the importance of the program or service to operations. It becomes a concern when something – such as a computer or a piece of information—is critical to the institution's function. You need to take protective measures to that ensure accidental or deliberate actions do not disable an essential service.⁽⁸⁾

Integrity refers to users' requirements for accurate, complete and dependable information. It can be difficult to ascertain whether data or programs have been altered.

Modes of Operation

The greater the capability of computer security features, the greater the flexibility in operating procedures. This in turn helps ensure effective security.

System Configuration

You need to determine the number of users, their screening levels and their need-to-know information requirements. You also must decide whether it is acceptable that one user have access to information under the control of another.

Communications requirements define how and with whom the equipment communicates. The degree of control over input/output devices attached to a system helps determine the system's vulnerability to external threats. Without adequate control, the confidentiality and integrity of information and the availability of data and services cannot be assured.

Security Configuration

Technical security features are based on the characteristics of the user community, communications requirements, the TRA and the statement of sensitivity.

There are three categories of modes of operation:

- dedicated (all users are cleared for access and need to know all information on the system);
- system high (all users are cleared for access, but not all of them need to know all information on the system); and
- multi-level (not all users are cleared for access, nor do they all need to know all of the information on the system).

Application

High levels of sensitivity require stringent access control to restrict user capabilities. Many systems use access control procedures to authenticate users and audit user access. Access control mechanisms can range from software and hardware to administrative or operating procedures.⁽⁸⁾

Hardware Security

This section discusses hardware security, designed to ensure the integrity and availability of physical processing and telecommunications equipment. The equipment's architectural characteristics can foster such security, as can support and control procedures that maintain these characteristics.

Hardware security also involves the confidentiality, integrity and availability aspects of hardware security controls. Certain security controls built into computer equipment ensure that

- information is not accidentally lost or altered when stored in or moved between hardware devices;
- the devices are properly located;
- the network can identify the devices; and
- the equipment is protected from environmental extremes.

Institutions should

- maintain a current configuration chart of existing hardware devices; and
- authorize, document and control all changes to existing hardware.⁽⁸⁾

Software Security

Software is also capable of many protective functions. Access control, failure recovery and user identification features should be incorporated into computer software.

Institutions should implement these software security procedures:

- maintain a current inventory of software and data assets;
- authorize and control the use of privileged and powerful software;
- establish and control the maintenance of program and data libraries;
- develop, document and implement problem reporting procedures;
- develop, document and implement procedures for controlling changes;
- develop and document an equipment replacement program;
- ensure quality assurance testing is in place;
- allow for the isolation and segregation of functions and programs;
- ensure access controls are in place;
- audit security violations and
- store copies of software and electronic information off site, where warranted.⁽⁸⁾

Privacy

This section discusses the privacy aspects of your Web initiative.

On-line privacy is a principle of GOL, because it encourages clients to trust their interactions with government institutions. The [Privacy and Data Protection Policy <http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_128/siglist_e.asp>](http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_128/siglist_e.asp) and the [Personal Information Protection and Electronic Documents Act <http://www.privcom.gc.ca/legislation/index_e.asp>](http://www.privcom.gc.ca/legislation/index_e.asp) and related guidance will help you provide services and information while protecting and respecting the privacy of your clients.

This section has four parts:

[General Privacy Principles](#)

Privacy principles to foster greater trust between you and your clients

[Important Privacy Policy Notices](#)

Treasury Board Common Look and Feel Standards

[Collection of Information](#)

How to gather client information through cookies and personal information banks

[Privacy Resources](#)

How to work with privacy authorities and finding important, reliable and credible on-line resources to ensure the privacy of your clients

General Privacy Principles

When implementing Internet privacy, keep the following principles in mind:

- accountability;
- identifying purposes;
- consent;
- limiting collection;
- limiting use, disclosure and retention;
- accuracy;
- safeguards;
- openness;
- individual access; and
- challenging compliance.

The principles of privacy are detailed in [Principles of Consumer Protection for Electronic Commerce <http://strategis.ic.gc.ca/SSG/ca01185e.html#Privacy>](http://strategis.ic.gc.ca/SSG/ca01185e.html#Privacy).

Important Privacy Policy Notices

The Treasury Board Common Look and Feel Standards for the Internet provides two important privacy-related standards, as well as best practices and examples of notices that deal with privacy.

A privacy notice assures clients that information the government automatically acquires when a client visits any Government of Canada Web site will be used only for express purposes of Web maintenance and security. Common Look and Feel Standard 5.3 http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-05-03_e.asp has more information on privacy notices. For examples of privacy notices, go to http://www.cio-dpi.gc.ca/clf-nsi/5/5ex2_e.asp.

When clients visiting Government of Canada Web sites are given the opportunity to voluntarily provide personal information, a privacy notice statement must inform them of the conditions under which their personal information will be protected. Common Look and Feel Standard 5.4 http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-05-04_e.asp has more information on privacy notice statements. For examples of privacy notice statements, go to http://www.cio-dpi.gc.ca/clf-nsi/5/5ex1_e.asp.

Collection of Information

As GOL takes a more client-centred approach, protecting user information becomes a key way to foster trust between institutions and their clients.

[General Guidance](#)

[Cookies](#)

[Personal Information Banks](#)

General Guidance

For general information on collecting personal information, see the [Treasury Board Manual – Privacy and Data Protection](http://www.tbs-sct.gc.ca/pubs_pol/gospubs/tbm_128/chap2_2_e.asp) <http://www.tbs-sct.gc.ca/pubs_pol/gospubs/tbm_128/chap2_2_e.asp>. It will help you determine what information to collect, when and how to collect it, and how to handle security issues, and provides guidance on other topics.

Cookies

“A cookie is a small text file placed on a visitor's computer by a Web site in order to remember information.” – Cookies Guidelines

For information on cookies including definition of cookies, examples of when cookies are used, privacy concerns, session and persistent cookies and public perception as well as guidelines on implementing cookies, please view the Cookies Guidelines at http://www.cio-dpi.gc.ca/pgol-pged/cookies-temoins/cookies-temoinstb_e.asp.

The Guidelines are designed to complement the existing legislative and policy framework that includes the *Privacy Act* and *Common Look and Feel for the Internet Standards* that outline requirements for Government of Canada Web sites to provide Privacy Notices including a mandatory statement about cookies.

Personal Information Banks

Personal information banks summarize the type of information about individuals that federal institutions hold. The *Privacy Act* requires that personal information banks include all personal information that is organized and retrievable by

- a person's name;
- an identifying number;
- a general symbol; or
- any particular symbol assigned only to that person.

Personal information banks must also include personal information that has been, is being or is available to be used for an administrative purpose.

How to Implement a Personal Information Bank

To implement a personal information bank, you must fill out a Personal Information Bank Registration Form and send it to Treasury Board of Canada, Secretariat. The form can be found at http://infosource.gc.ca/Info_4/atip/PIB-Frms_e.html.

Information Management

This section provides general guidance on information management (IM) issues related to your Web initiative.

[General Guidance](#)

Defining IM and examining key components of the information lifecycle

[Key Considerations](#)

Examining IM for on-line information

[Metadata](#)

Implementing metadata for your on-line information

[Information Management Resources](#)

Finding out more about IM implementation issues from reliable sources

General Guidance

In accordance with Government On-Line, you must follow basic electronic IM guidelines when creating, capturing, organizing, displaying, updating, archiving and disposing of your on-line information.

When planning a Web initiative, you should describe how you will consider IM requirements and include ways to address the IM elements relevant to the initiative. In addition to legislation and policies relevant to IM, you should consider the following issues:

- governance and accountability to support IM;
- the integrity of information, which includes the information's currency, completeness, accuracy, consistency, reliability, relevance and usability;
- tools and processes needed to manage the information lifecycle, including those related to capture, receipt, storage, organization, sharing, retrieval, re-use, protection, preservation and disposal;
- common information practices and user protocols that foster access to government information on-line and on-line services; and
- opportunities for horizontal approaches and applications.

Information Lifecycle

The following section provides guidance on managing the major components of the information lifecycle, which include planning your site and creating, organizing, using, preserving, retaining and disposing of information.

Planning Your Site

When planning your site, you should consider the following steps.

- Implement corporate policies, standards, practices and guidelines for managing your Web site information.

- Define clear roles, responsibilities and accountabilities for managing all departmental Web initiatives and for managing all information accessible through those sites.⁽⁶⁾
- Routinely assess the potential level of risk exposure that individual Web sites pose and clearly document the level of record keeping and publication management needed to mitigate that risk.
- Include IM requirements when planning each Web initiative.
- Plan review and maintenance cycles, and updating processes, at the outset of your Web initiative.

Creating Information

In keeping with the requirements of the *National Library Act of Canada*, you should identify all government publications posted to your institution's Web site for deposit with the National Library.

Under the TB Communications Policy, you must ask the National Library of Canada to assign your documents an International Standard Book Number (ISBN) or International Standard Serial Number (ISSN). These unique numbers give each title an unduplicated, internationally recognized identity that can be used to distinguish between revisions and copies of the same information resource. For more information, see <http://dsp-psd.pwgsc.gc.ca/ISBN/services-e.html>

Cataloguing in Publication (CIP) data makes it possible to catalogue books before they are published, and to distribute this cataloguing information promptly to booksellers and libraries. CIP data is available for Internet publications. The National Library of Canada coordinates the Canadian CIP program. For more information, see <http://www.nlc-bnc.ca/6/15/index-e.html>.

All records posted to an institutional Web site—including audio-visual and photographic records—are subject to the requirements of the *National Archives of Canada Act*. Therefore, you must manage them in accordance with retention guidelines and approved disposition authorities issued by the National Archives of Canada. <http://lois.justice.gc.ca/en/N-2.5/>

Describing and Organizing information

You should organize Web-based information with a long-term goal of ensuring accessibility, reliability, visibility and interoperability (among federal government institutions, programs and services) of government information and content.

You can use metadata, which is structured data about data, to identify, describe and locate networked electronic resources, and to help clients find and retrieve them through search engines. There are several metadata standards and types of meta tags. The Government of Canada has selected the Dublin Core as the metadata standard for Web information. Under Common Look and Feel Standard 6.3 http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-03_e.asp, any federal government Web site must include the five mandatory metadata elements found at http://www.cio-dpi.gc.ca/im-gi/references/clf-nsi-meta/clf-nsi-meta_e.asp.

Not all pages or documents published on the Internet need to be catalogued. Treasury Board of Canada, Secretariat is considering adopting the Australian model for determining which resources

require metadata. Under that model, the following types of pages and documents should be catalogued:

- home pages (the major entry point to your institution or to distinct business units that the public is likely to perceive as standing alone);
- topics or services in high demand by your clients (you can determine demand based on usage statistics, but this category may also include topical or publicized resources with potential public interest);
- information your clients need to understand their entitlements to government assistance or their obligations;
- pages that provide an actual on-line service to the public (such as payment forms and application forms);
- pages your institution requires to meet a prescribed community, legal or service obligation;
- entry points to specific on-line services and indexes (for example, an entry point to a legal database);
- major formal publications (such as annual reports, corporate strategic plans, and public policy and accountability documents);
- media releases;
- major entry points, indexes and menus for a range of closely related topics, programs and policies;
- information about agency powers affecting the public, and manuals and other documents used to make decisions affecting the public; and
- substantial descriptive and marketing information about agencies and their services, activities and collections.

For more information about metadata, including suggestions for preparing and collecting metadata, see [Metadata](#).

The Depository Service Program at Public Works and Government Services Canada has developed the Government of Canada Core Subject Thesaurus to help federal institutions implement federal standards for controlled subject vocabulary. For more information, see <http://dsp-psd.pwgsc.gc.ca/Thesaurus/index-e.html>.

Using Information

Federal government institutions are invited to help develop and share standard and best practices for creating information and knowledge management repositories, and processes for downloading, retrieving or obtaining access to information resources.

Copyright, the legal right to reproduce and sell a work, is essentially ownership of a work. The federal government owns the copyright of any work that has been prepared or published by or for any government department. For more information, see <http://publications.pwgsc.gc.ca/copyright/crownis-e.html>.

Under Canadian copyright law, the creators or authors of works are granted the sole and exclusive right to reproduce, perform or publish their works. A “work” can be textual material, photographs, computer software, audio-visual material, music, graphics, news, stories, games, and even postings to newsgroups and e-mail. Hence, much of the content on the Internet is, in fact, protected by copyright. For more information, see <http://publications.pwgsc.gc.ca/copyright/Internet-e.html>.

Preserving Information

Your action plan for preserving Internet and electronic information should include plans for preserving its origin, authenticity, functionality, context, presentation and content.

Retention and Disposition of information

You should define criteria and a process for disposing of information resources by destruction or transfer to the National Archives of Canada or the National Library of Canada.⁽⁶⁾

Key Considerations

This section looks at key considerations related to managing information on your Web site. It has eight parts:

- [Information Domain View](#)
- [Lifecycle Management of Information](#)
- [Information Register](#)
- [User Interface](#)
- [Electronic Records Interface](#)
- [Document Management Interface](#)
- [Knowledge Repository](#)
- [Horizontal Opportunities](#)

Information Domain View

Address the context of information management (IM).

- Is there a high-level data flow diagram (DFD) or equivalent depicting the information flow and data stores?
- Have you identified the owners, users and custodians of the information?
- What information will your clients expect or want from this service?
- What information will clients have to provide to get the information or services they want?
- What system information will be required to provide the information or services clients want?
- Have you clearly laid out the workflow of the service? How will IM requirements for the current workflow (if there is an existing service) differ from those for the proposed workflow?
- Does the DFD or equivalent cover the information requirements associated with the workflow of the process?
- What categories of information (unstructured, free format, reference) will this project use?
- If applicable, how is this Web project related to other sites/projects identified in the overall GOL program?

Lifecycle Management of Information

Describe the ways you will ensure quality IM.

Creation

- How will the project ensure that the information created is current, complete, accurate, consistent, reliable and simple to understand?
- How will you avoid re-entering information already available within or outside the institution?

Organization and Use

- How will the project ensure the integrity of information? For example, do you have provisions for controlled, auditable access, and measures to prevent inadvertent loss or unauthorized destruction of the information?
- How efficiently will users from inside and outside the institution—subject to legal and policy constraints—be able to reuse the information? For example, will they be able to do so without transcribing or transforming it?
- What standards will you use to format for common data elements, such as phone numbers and dates? What source will you use for standard data tables, such as postal codes and names?
- Will this project help your institution meet the requirements of the *Access to Information Act*?
- What transmission protocols and standards will this project use to exchange common data sets with other institutions?

Preservation

- Have you identified the information that needs to be retained? Are the schedules for retention and disposal in accordance with the *National Archives of Canada Act* and the *National Library Act*?

- What processes and standards will the project use to ensure the authenticity and accessibility of the information over time?
- Will all the information holdings be destroyed, or will some be transferred to the National Archives of Canada or the National Library of Canada?⁽⁶⁾
- Is any of the information to be retained classified as essential? Will it be handled in accordance with the *Emergency Preparedness Act*?

Information Register

Prepare a catalogue that describes the information holdings.

- Will the information be identified and recorded in a catalogue that clients can easily obtain, understand and use?
- Will there be an organized list (data dictionary) of the structured data elements pertinent to the application?

User Interface

Specify the main design considerations and success factors for the user interface.

- How will the information be organized to respond to client needs? How will it be grouped—by topic, lifecycle events, geography, occupation, industry or product, for example? Will users be able to search by keywords?
- What factors and metrics will you use during the pilot phase to measure the success of the Web interface? Have you set target values?

Electronic Records Interface

Define the production of electronic records as evidence of on-line transactions.

- Will electronic records be produced as evidence of individual electronic transactions with businesses and citizens?
- How will you store these electronic records to ensure they are trustworthy and retain their legal admissibility and evidential weight?
- What metadata standards will you use to make these electronic records as widely and easily accessible as possible?

Document Management Interface

Propose standards and tools for managing documents.

- Will your project use any common standards for word processing, office productivity tools and e-mail?
- Have you proposed a system for managing documents? Has it been tested within the government? Does the system support imaging and records management?

Knowledge Repository

Propose to build and maintain a knowledge repository.

- Is this project conducive to creating or feeding a knowledge repository? How will you make users aware of the repository? How will you help them find relevant information easily? How will the repository be managed?

Horizontal Opportunities

Describe areas where it may be beneficial to use common IM approaches.

- Is there a potential for horizontal applications across institutions or jurisdictions? For example, can other institutions use your approach to handle financial settlements, provide

directory services, or allow users to apply for loans or grants?

- Have you noted areas where guidance from Treasury Board of Canada, is need such as, horizontal principles, standards and guidelines?⁽⁹⁾

Metadata

This section defines metadata and explains how to create metadata for on-line information.

[General Guidance](#)

Defining metadata and its importance

[Preparing Meta Tags](#)

Writing meta tags

[Metadata Standard \(Dublin Core\)](#)

Following Treasury Board Common Look and Feel (CLF) Standards

[Metadata Form](#)

Creating a form for content providers covering the mandatory meta tags

General Guidance

Metadata is information about information. Metadata identifies and organizes information on-line, makes searching and browsing more precise, helps you manage the information lifecycle, promotes the interoperability and sharing of information resources, and can provide consistent and predictable search results.

Metadata helps search engines—and, hence, your clients—find your document, prioritize it in the search results, describe it clearly and make vital information about it easily accessible.

Using the right tools, your clients can refine their searches based on fields in the metadata, including the author's name, the resource title or keywords. Specifically, metadata can make it easier to deliver a smaller, more manageable and more precise search result list, compared to the list delivered by a full-text search.

Preparing Metadata

Metadata is the information about your document that is embedded in the page source coding. The data includes keywords used to describe your document, a sentence describing it, the author's name, the date posted, the date the document should be updated and other relevant information.

The *keyword* tag provides keywords for search engines to associate with your page. Current thinking is that when it comes to keyword tags, less is more. Overloading your keyword meta tag with many keywords only reduces their impact on your rankings. List all the keywords your main clients might use to search for your Web page. Then use only five to seven of the most relevant ones on each page, and use different ones to describe the content of different Web pages.⁽⁶⁾

The *description* tag is a sentence, usually a maximum of 25 words in each official language, that describes your page. It comes up on a user's screen as the result of a search in some search engines. If there is no description tag, the search engine might use the first 25, 50 or 100 words appearing on your Web page to describe your site. (This is another reason to carefully choose the headings of your Web pages.) In the description tag, use as many keywords as possible, but make sure the sentence is coherent. You might want to write a description tag for each group of keywords used to describe your most important Web pages.

Ask your designer to add the descriptions and keywords to the relevant Web pages. Every six months, or when you add new material to your Web pages, revisit your description and keywords

to see whether they are still relevant. If not, replace them.

To view meta tags in Netscape and Explorer, go to View on the top menu of the page (beside File and Edit) and click on Page Source (Source in Explorer). Scroll down the lines of coding and look for the word "META" to see the description and keywords.

Metadata Standard (Dublin Core)

As per [Common Look and Feel Standard 6.3](http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-03_e.asp) <http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-03_e.asp> requirements, all Government of Canada Web pages must contain metadata to facilitate information retrieval and client access. The metadata is part of the coding. Clients do not see it, but search engines use it. Here are the meta tags to be used in the coding:

http://www.cio-dpi.gc.ca/im-gi/references/clf-nsi-meta/clf-nsi-meta_e.asp

For definitions of tags and HTML mark-up, see <http://www.cio-dpi.gc.ca/im-gi/meta/clf-nsi-meta/clf-nsi-meta_e.asp>.

Best Practices

Stay in contact with your institutional IM specialist who manages Web information, as well as with your departmental librarian or someone from your records management office. All content providers can use the following [form](#) to fill out mandatory metadata tags.⁽⁶⁾

Metadata Form

Here is an example of a form you can give to all content providers.

To post a new page on the Web, the Web master needs the following information:

Title of the document

in English: _____

in French: _____

Author

in English: _____

in French: _____

Originator

in English: _____

in French: _____

Date Created

in English: _____

in French: _____

Date Reviewed

in English: _____

in French: _____

Date Modified

in English: _____

in French: _____

Description of the page (25 words maximum)

in English: _____

in French: _____

Keywords (8 maximum)

in English: _____

in French: _____

Controlled Subject Terms (you may want to consult the Government of Canada Core Subject Thesaurus, at <http://dsp-psd.pwgsc.gc.ca/Thesaurus/index-e.html>)

in English: _____

in French: _____

Please also suggest **the section of the site** to which your page should be added:

Should **the text of the link** be the same as the **title**? Yes or No

If not, how should it read?

in English: _____

in French: _____⁽⁶⁾

Should the **description of the link** be the same as the **description of the page**? Yes or No

If not, how should it read?

in English: _____

in French: _____

Visit the Canada site for an on-line meta tag generator at
<http://198.103.99.147/publications/metagen_e.html>.⁽⁶⁾

Legislation, Policies and Standards

This section lists legislation, policies and standards, which you must apply when providing your information and services on-line. Each link provides the act, policy and standards, as well as detailed guidance on implementing them.

[Access to Information Act](http://www.tbs-sct.gc.ca/pubpol_e.html) <http://www.tbs-sct.gc.ca/pubpol_e.html>

Accessing all government institutional information

[Privacy and Data Protection Act](http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_128/siglist_e.asp) <http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_128/siglist_e.asp>

Establishing on-line privacy and a policy on collecting personal information

[Government Security Policy](http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_12A/gsp-psg_e.asp) <http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_12A/gsp-psg_e.asp>

Examining standards for personnel, physical, information technology security, PKI and so on

[Official Languages Act](http://www.tbs-sct.gc.ca/pubpol_e.html#off_langs) <http://www.tbs-sct.gc.ca/pubpol_e.html#off_langs>

Providing all on-line information in both official languages

[Use of Electronic Networks](http://www.tbs-sct.gc.ca/pubs_pol/ciopubs/TB_CP/uen_e.asp) <http://www.tbs-sct.gc.ca/pubs_pol/ciopubs/TB_CP/uen_e.asp>

Examining acceptable use of electronic networks

[Government of Canada Communications Policy](http://www.tbs-sct.gc.ca/pubs_pol/sipubs/comm/comm_e.asp) <http://www.tbs-sct.gc.ca/pubs_pol/sipubs/comm/comm_e.asp>

Discussing consultations, collaborative arrangements, copyright, integrity of information, media relations and so on

[Federal Identity Program](http://www.tbs-sct.gc.ca/fip-pcim/index_e.asp) <http://www.tbs-sct.gc.ca/fip-pcim/index_e.asp>

Addressing the issues of institutional identifiers (such as symbols), navigational tools (such as the mandatory menu) and information design (such as colours and layout)

[Common Look and Feel Standards for the Internet](http://www.cio-dpi.gc.ca/clf-nsi/index_e.asp) <http://www.cio-dpi.gc.ca/clf-nsi/index_e.asp>

Creating Web sites following government-wide Web standards for accessibility, collaborative arrangements, cyber-squatting, e-mail, important notices, navigation and format, and official languages

Evaluation

By evaluating the usability of your Web initiative, you can see if it meets your clients' needs and expectations. This step is a crucial part of creating, launching and maintaining a successful site, as it lets you see how well you have planned your initiative and presented information and services to your clients.

Base your evaluations on commonly understood goals, achievable performance expectations and a realistic measurement plan. Evaluation may lead you to revisit what you have done and the guidelines you have been using. You may, for example, want to modify the design, content or other site elements so that navigation is purposeful yet simple and so that your site remains current.

There are five parts to this section.

[Getting Started Checklist](#)

How to start evaluating your initiative

[Web Site Evaluation](#)

Evaluating general Web site considerations on usability issues, methods and resources

[Statistics](#)

Using statistics to evaluate for your Web initiative

[Graphics Evaluation](#)

Examining the effectiveness of your graphics

[Evaluation Tools](#)

Using existing tools and resources to evaluate your Web initiative

Getting Started Checklist

This section examines your institution's plan to deliver your Web initiative. The checklist is divided in three sections.

Web Initiative Framework

Seeing if your Web initiative fits the needs and requirements of the Government of Canada and of your institution

Resource Checklist

Ensuring that your Web initiative identifies the necessary human, financial and IT resources

Client Analysis

Determining your clients' needs

Web Initiative Framework	Expectations were met	Problems to be fixed	Not applicable
Does your Web initiative fit into the Government On-Line initiative?			
Does your Web initiative uphold institutional priorities?			
Are you aware of the external and internal influences on your institution?			
Does your Web initiative clearly contain a value statement that identifies the necessary time and resources?			
Have you created a concise business case?			

For Enhanced Management Framework checklists, go to http://www.cio-dpi.gc.ca/emf-cag/ppto-gtpps/plan-proj/plan-proj_e.asp.

Resources Checklist	Expectations were met	Problems to be fixed	Not applicable
Have you created an efficient Web team?			
Have you made people responsible for those areas that are the responsibility of a particular organizational unit?			
Is there someone who approves the release of information?			
Do you have enough human resources to implement, evaluate and maintain your Web initiative?			
Have you considered all possible hardware, software, IT and other costs? Do these costs respect your institutional budget for the Web initiative? Including support, what limits are there on how much you can spend on the site?			

Client Analysis	Expectations were met	Problems to be fixed	Not applicable
Have you clearly identified clients for your on-line information or service?			
Have you understood their needs and expectations? What client problems does this initiative solve?			
Do you know how much service you need to provide? Does it, for example, have to be 24 hours a day, seven days a week?			
Do your clients play a key role in planning, implementing, evaluating and maintaining your Web initiative?			

For a client satisfaction checklist, go to <http://www.tbs-sct.gc.ca/Pubs_pol/ojepubs/TB_O/2QG1-1E.html#meas>.

Web Site Evaluation

This section provides some details on how you can evaluate your Web site.

[General Considerations](#)

Ensuring that you comply with legislation, policies and the CLF standards, as well as with maintenance and marketing processes

[Web Site Usability](#)

Using suitable navigation, layout, content, graphic design and interactivity so that your site is more user friendly

[Usability Testing Methods](#)

Reviewing general usability testing methods and testing usability and design

General Considerations

The Treasury Board Common Look and Feel Standards for the Internet include 33 mandatory standards and six guidelines; these are provided as best practices. The standards, which must be implemented on all Government of Canada Internet Web sites by December 31, 2002, have a major impact on the development of the site and should be carefully reviewed. In addition to these, there may be other requirements, specific to your organization.

Meeting the Policy Requirements	Expectations were met	Problems to be fixed	Not applicable
Does the site comply with the Common Look and Feel Standards for the Internet < http://www.cio-dpi.gc.ca/clf-nsi/index_e.asp >?			
Does the site respect the official languages legislation and policies? Is the quality of translation good?			
Does the site respect internal or departmental requirements?			
Are all important notices to clients (such as notices about privacy, copyright and third-party material) in place?			
Has the Common Look and Feel Self-Assessment Guide < http://www.cio-dpi.gc.ca/clf-nsi/guide/guide_e.asp > been used to audit the site? Has the Web Site Accessibility Testing Service been used?			
Does your Web initiative comply with applicable on-line legislation, policies and standards ?			

Maintenance Process	Expectations were met	Problems to be fixed	Not applicable
Are the actual sets of procedures for publishing, archiving, and managing information effective?			
Are e-mails handled quickly and by the right person?			
Are input costs reasonable and is it possible to get better value for the resources spent?			
Are the site plan's future priorities still valid or should they be changed?			
Are the expectations regularly reviewed and adjusted?			
Were e-mails from clients reviewed, answered and analyzed? Were suggestions implemented?			
Did you analyze the information collected through on-line surveys?			
Was the usability testing effective?			
Is the site meeting the clients' needs?			

Marketing	Expectations were met	Problems to be fixed	Not applicable
Is the Web site being promoted enough so that it can meet its objective?			
Did recent promotion campaigns have an impact?			
Did you reach the targeted clients?			

Access to Site	Expectations were met	Problems to be fixed	Not applicable
Is the site easy to find through search engines?			
Is the Web address easy to remember?			
Can clients access the site from the Canada site?			
Are the pages downloaded quickly?			
Are documents efficiently sorted so that search engines can easily find and rank them?			

Web Site Usability

Here, when we talk about users and clients, we are essentially using different words to describe the same people. Your clients are the people to whom your services are targeted. You identified your clients in the [Client Analysis](#) stage of your Web initiative. Visitors are people who visit your site but who may not be clients.

When we talk about measuring “usability,” we mean measuring how effectively, efficiently and satisfactorily specified users can achieve specified goals in a particular environment. Usability involves the structure and organization of the interface, the navigability, design and architecture of the site, as well as its content and the way it works.

Usability is all about your users. Usability is about providing client-centric services and requires that you work with and talk to real end users. It is an essential part of meeting and maintaining your users’ and site’s goals.

Ask the questions in these categories when considering the usability of your Web site. Remember, though, that new usability issues will continue to surface through user interaction and feedback.

[Interface](#)

[Structure and Navigation](#)

[Content](#)

Graphic Design

[Interactivity](#)

[Privacy and Security](#)

[Search](#)

[Help](#)

Interface

An effective user interface should communicate certain information to users.

Interface	Expectations were met	Problems to be fixed	Not applicable
Can visitors, users and clients clearly identify the overall purpose and theme of your site?			
Can your clients locate information or services targeted directed for them?			
Are main benefits and features of the site clear?			
Does the site work? What can users do when they visit your site?			
Can users comment on the site?			
Is the layout logical and intuitive?			
As the site sponsor, are you clearly identified? Will visitors know which site they are on, no matter where they are on the site?			

Structure and Navigation

A good Web site provides a seamless, intuitive experience by working the way that users expect it to work and by being organized in ways that make sense to the user.

Structure and Navigation	Expectations were met	Problems to be fixed	Not applicable
Are the elements on your site are organized holistically and do they support the site's main concept?			
Do you have a clear and intuitive way to organize your site's interactivity, design and architectural elements?			
Is it easy to move around on the site without getting lost?			
Spatial encoding includes navigation features such as a "home" button, menu items, hyperlinks, maps, toolbars and the "back" button. Have you used these items clearly and consistently?			
Do links and features permit movement from one part of the site to another without too many steps or clicks?			
Is the wording clear and concise? Have you used the terms properly?			
Are terms used consistently throughout?			
Can users easily get from one part of the site to another without having to retrace their steps?			
Are there site maps, menus and visual clues that suggest how parts of the site work?			
Is the site structured by thinking about how users will use it? For example, have you structured the site so that it is easy to use for research or for paying bills?			

Content

Evaluating content can tell you how the content should be structured. You might want an institutional perspective (based on providing information about what you do) or you might opt for an end-user, task-oriented perspective (based on letting people fill out a form, conduct a transaction, research a new program and so on). Or you might combine both approaches.

Content	Expectations were met	Problems to be fixed	Not applicable
Is the content relevant to any of your on-line segmented clients? If not, have you considered removing it?			
Is the content clear, current and accurate for your particular clients?			

Is the content comprehensive? Does the user get the entire idea?			
Does the content have an authority? In other words, does the user know whom to contact about content issues?			
Have you written the content in a style appropriate for the Web?			
For a transaction-oriented site, does the content support decisions at crucial stages?			
Have you reviewed your content? Do you have a maintenance and management process? Are there processes for managing all types of Web content?			

Graphic Design

When you evaluate the graphic design, ask how the design meets users' expectations for how the site should look and work.

Graphic Design	Expectations were met	Problems to be fixed	Not applicable
Is the look and feel appropriate what the site is trying to achieve?			
Is the text easy to read? Are the fonts appropriate?			
Do the graphical elements enhance information?			
Are icons and graphics clear? Are they accessible?			
Do graphics make the site easier to navigate?			
Do graphics slow download time?			
Are branding elements clear and consistent?			
Can the user customize the interface? Can they change display preferences and settings easily?			

Interactivity

Evaluate how your clients interact with you or with each other. To better satisfy clients, encourage them to send feedback to the site manager. Set up a mechanism to review these comments received and improve the site accordingly.

Interactivity	Expectations were met	Problems to be fixed	Not applicable
Does your site have useful and relevant links at appropriate places? Are there too many links? Too few?			
Are their clear instructions on how to use chat rooms, Q&A forums, video conferencing utilities and so on?			
Are users aware of your organization's events?			

Are their clear instructions on subscribing to a mailing list or a newsgroup? Have you explained why such subscriptions are made available?			
Are users aware of how to access video and audio streams on your site?			
Have you clearly identified user surveys or on-line polling? Have you made these items easy to understand? Have you respecting user privacy concerns?			

Privacy and Security

Evaluating privacy and security will establish user confidence and trust.

Privacy and Security	Expectations were met	Problems to be fixed	Not applicable
Does the site follow government and institutional legislation, policies and standards on privacy and security? Consider the <i>Privacy and Data Protection Act</i> , security policy, CLF Standards and so on?			
Are privacy statements visible and clear?			
Is there information on transaction security?			
Have you completed assessed threats and risks before launching the site?			
Are you maintaining site security and privacy by, for example, being awareness of possible threats and prevention measures?			

Search

Evaluating your search system ensures clients can get information on particular subjects.

Search	Expectations were met	Problems to be fixed	Not applicable
Does the structure of the search interface reflect the way clients gather information?			
Given that users have different research needs, circumstances and expertise, do you provide a variety of search types and features?			
Does the search software allow clients to focus or broaden their search?			
Is there enough help for searching? Do you, for example, provide search wizards and sample searches?			
Can your client easily rate the accuracy of results in terms of the scope and relevancy?			
Are search results displayed in ways that meet your clients' needs?			

Help

Evaluating help features ensures that your clients have somewhere to turn if they need more clarification on a certain issue.

Help	Expectations were met	Problems to be fixed	Not applicable
Is the help sensitive to context?			
Is there a searchable help index?			
Are there demos, tutorials, or how-to sections?			
Is there live help available for your users?			
Is the help always accessible when and where users need it?			
Are the help issues and content well organized?			
Can clients easily find contact information for more help, such as names, telephone numbers, e-mail addresses and mail addresses?			
Are there forums or FAQs?			

Usability Testing Methods

Here, when we talk about users and clients, we are essentially using different words to describe the same people. This section describes some ways to test usability.

Before you try to make your site more user-friendly, you have to know what users need and want, both from the site's content and from its design. Assess the usability of your Web site throughout the planning process and beyond the launch.

Usability tests are based on two things:

- stimulating interest as a means of furthering investigation, and
- encouraging users to learn, discover, understand, or solve problems on their own, and to experiment, evaluate or attempt trial-and-error methods.

Usability tests encourage independent learning, are based on scenarios, are oriented toward goals, and are based on dialogue. They determine the use of context, the existence and location of specific usability issues within the site, the task-flow, how easy or difficult these issues are to remedy and the effect these issues have on the on-line experience.

This section describes several methods and tests to ensure usability:

[General Usability Testing](#)

[Design Process Tests](#)

[Card Sorting Method](#)

[Wire Frame Testing](#)

[Focus Groups, Scenario and Systematic Testing](#)

[Evaluation Tools](#)

General Usability Testing

The following is a list of steps that will help you create a user-friendly Web site:

1. get feedback from users and developers (which requires in-depth knowledge of and consultation with your clients);
2. develop graphical elements, terminology and frameworks based on feedback from users;
3. develop [low-fidelity](#) prototypes;
4. test these low-fidelity prototypes and respond to test results;
5. create an on-line prototype and assess [medium-fidelity testing](#);
6. [test on-line prototype](#) and respond to test results;
7. launch the beta version of the Web site; and
8. survey to test client satisfaction as a benchmark for ongoing assessment.

Follow these steps to conduct a usability test:

1. choose variables;
2. choose appropriate methods;
3. choose the test sample and determine its size;
4. conduct the test;
5. analyze results;

6. use the results to revise the Web site; and
7. learn from the results.

Basic Usability Testing

In a basic test for usability you need to know the following.

- Is the goal of the Web site is clear?
- Is the Web site designed to fulfill this goal?
- What specific barriers are making the site less user-friendly?

Possible Testing Variables

Test the usability of your site on any of these variables:

- intuitiveness;
- content relevance, comprehensiveness and readability;
- look and feel;
- layout and navigation;
- thought processes;
- transactional processes;
- qualitative and quantitative goals of site;
- media choice and formats;
- search strategies and paths to information;
- time to find information;
- graphic file locations (are the right graphics showing up in the right places?);
- links to other resources (do they link to the right and best places?);
- easy-to-use context statements, such as the useful introductory information included on menus that link to content pages;
- accuracy and functioning of programs such as CGI and Java;
- response times for downloading graphics, compared to the patience of users; and
- usability on a variety of platforms and connection speeds

Design Process Tests

The design process tests are split into three sections, all of which require a balance in how you incorporate end-user input.

Low-Fidelity Test

The low-fidelity tests take place at the beginning of the design process. This requires neither coding nor a working Web site. But it does require paper drawings, wire-frame models or even index cards. Think about how users will approach the site and consider how you will design the following Web site elements:

- the site architecture,
- the task flow,
- the route and survey maps,
- labels, links and buttons (nomenclature),
- organization of information (taxonomy), and

- visual placement to enhance site experience (aspects of design).

Low-fidelity tests save time and money, as you are able to more quickly and easily identify usability issues. Low-fidelity testing makes it easy to notice and fix the most superficial usability design problems, such as problems with labelling, wording, taxonomy, basic look and feel, placing and size of buttons and so on.

Another level of usability problems involves how users think of the site itself. For example, the site might be based on a calendar idea, when the user is expecting a workbook; this would make it harder for the client to use the site. These problems are the hardest to fix, since they may require serious design changes. However, with extensive client feedback, you can address these problems during low-fidelity testing.

Medium-Fidelity Test

These tests occur before you have added on the back-end. After you have decided on such key elements as site architecture, navigation, nomenclature and taxonomy, you can look for other usability issues while you can still reverse or revamp your design strategy.

You should test the Web page after you have posted information to control the quality of the final product. See what it looks like and test how it works on the development site before posting it to your official public site. Ensure the placement of key headings, titles, text, links and graphics for maximum visibility and effect. Make sure the links go where they are supposed to go and see that other features work properly. Enlist colleagues to help test the Web page and its features. For new Web pages, you should focus test your Web initiative. Work out all the bugs before going live.

On-line Tests (Alpha Tests)

Do these tests after the front-end and most of the back-end functionality of your Web site is complete. At this stage, re-affirm the design strategy, uncover on-line usability issues and conduct implicit vs. explicit user modelling. On-line tests allow you to do the following:

- fine tune design;
- conduct comprehensive task-flow analysis in an on-line environment;
- make minor pre-launch changes;
- do disaster checks; and
- develop the next iteration of site ideas.

User modelling: Ask a group of users about their use of, and interest in, the site. Consider such aspects as frequency, technographic and behavioural information.

Exercises: Ask each user to try to complete pre-determined exercises for each of the design options. Base each exercise on the users' needs and interest in the Web site (ideally, you should simulate a typical experience for a certain user). Encourage users to express impressions and reactions out loud while they are performing these exercises. Record navigational patterns and problems the user encounters, as well as any non-verbal communications, such as hesitation or excitement.

Review: Discuss problems the users encountered and the difficulty of completing the exercise.

Further discussion: With the users, discuss their overall impressions of the site, their likes and dislikes, the enhancements needed to make functions and features work properly, and other suggestions for improvements and modifications.

On-line testing allows you to solve second-level design problems, such as dead links and functions that don't work properly. Unless these problems are major, you can usually solve them without doing a major overhaul of the Web site.

Card Sorting Method

Card sorting is a method for implementing usability during the early stages of design development. To use it, you will need library catalogue cards containing content descriptions, and users from each of your client groups.

After filling each card with appropriate content descriptions and ideas, give the cards to your users and ask them to divide the cards into categories they create.

Through card sorting, you can create a user-centric information architecture. Using the information your users provide, you can place the functions of your Web site in useful positions. This information can also help you choose and organize content, and label sections.

Wire Frame Testing

Wire frame testing comprises simple HTML models or paper models of a proposed Web site. Its primary purpose is to identify the navigation scheme and to verify the information layout and design blueprint. You can use it to improve taxonomy, nomenclature, and location of content and navigational aids within the site.

To keep the design simple, use few if any visuals in the wire frame. When gathering feedback from users on the visual design as it evolves, you can create separate visual design prototypes using "greeked text" (unintelligible nonsense) as a placeholder for actual content. Gather feedback on the content separately from feedback on the visuals. That way, you will receive higher quality, more specific comments from users on both aspects of the site.

In a wire frame test, you will identify the location and type of content that will be on the site long before you have actual content. Over time, as you acquire content for the site, replace the content descriptions in the wire frame. Determine who owns the content, and include that in the frame. Use text or HTML elements to simulate graphics or other visual elements.

A wire frame model lets your users interact with a functioning model of the Web site at the design stage of the project. They can begin to "feel" what it would be like to use the site and, in doing so, give you critical feedback early in the design process. It's best to agree on the high-level navigation and architecture of the site before you have done significant development work.

Using the wire frame also allows you to determine where visual elements can make the Web site easier to use. Identify the need for good design. You can pass this information along to the designer.

One of the most obvious benefits of the wire frame approach is that it allows you to prototype and proposed designs extremely quickly. You can easily prototype variations of the same design, so

that users can compare them. If resources are tight, virtually anyone on the team with minimal HTML knowledge can update and change the wire frame design.

By separating visual elements from the architecture and content of the site during the early design phase, you can gather important feedback on visuals without distracting users with actual content or navigation. This allows you to approve the high-level visual design and the architecture of the site separately.

Prototype a set of pages—at minimum, a home page and a second-level page—for a particular design. When testing these early versions of the visuals, focus users' attention on the distinctly visual aspects of the site. The design should try to portray a “visual personality,” so ask users whether the site is whimsical or technical, for example. Determine where users look first. Is that the place you'd like them to look first? What is the most important element on that page?

Focus Group, Scenario and Systematic Testing

Focus Group Testing

Focus group testing is a somewhat informal technique that helps you assess user needs and feelings both before interface design and long after implementation. A focus group usually comprises six to nine users, along with a moderator who keeps the group focused on issues and concerns related the features of a user interface.

Focus groups are easy to organize and useful for judging subjective measures. However, their success depends heavily on the quality of the moderator and they are only partially effective for testing Web site usability.

Scenario Testing

In scenario testing, users perform a standardized test using the Web site. Of all test types, scenario tests are best suited to providing detailed information on usability attributes. They can help you determine whether the site is easy for users to understand, learn and operate – sub-characteristics of usability. Scenario tests can also provide information on suitability, accuracy, interoperability, time behaviour, resource behaviour, changeability and adaptability.

There are two ways of performing scenario tests: field tests and laboratory tests. They involve different testing environments, tasks, requirements of test systems, types of user participation, instruments, testing expertise, time and money constraints.

Field Tests

In a field test, the testing environment is the user's normal workplace, where one or more evaluators observe the user. You can use a field test to examine problems in transferring data between your Web site and the user's computer, among other things. Evaluators use varied techniques to observe a user. They may note the user's behaviour and interaction times on a checklist, conduct pre- and post-test interviews.

Laboratory Tests

In a laboratory test, the testing environment includes a number of isolated users who perform a given task in a test laboratory. Such tests allow you to collect data in a wide variety of ways. Well-equipped laboratories offer one-way mirrors, video and audio recording facilities, and different logging programs. Whether a laboratory test is useful in evaluating adequacy depends on

the extent to which the tasks performed and the metrics used reveal information pertinent to users' real needs.

Laboratory tests cost about four times more than field tests. The major factor in this calculation is the very expensive maintenance of a laboratory with its various technical devices.

Systematic Testing

Systematic testing refers to tests that examine the behaviour of a Web site under specific conditions when particular results are expected. Only designers and users can perform systematic tests. The following three objectives are particularly relevant to systematic testing.

Task-Oriented Testing

Task-oriented testing determines whether a Web site can carry out pre-defined tasks. Primarily, this type of testing assesses functionality. The testing environment is normally the evaluator's workplace. In principle, the site is irrelevant to the interpretation of the results. Task-oriented testing can be done at any stage of the design lifecycle. Task-oriented testing can show whether a Web site does in fact do what a user wants it to do.

Menu-Oriented Testing

Menu-oriented testing examines each Web site feature or function in sequence. The Web site is examined in great detail; the evaluator follows every possible path of program execution, considering each individual function in the order it appears in the menu. Menu-oriented testing can be done at any stage of the design lifecycle. You can use it to ensure that you don't forget to include important functions on your Web site.

Benchmark Testing

Benchmark testing examines the performance of the Web site. The notion of performance can be applied to individual functions, to system modules or to the entire system. In the strict technical sense, benchmark testing measures system performance, which cannot be affected by variables resulting from human involvement. You can use it to determine whether your Web site meets users' minimum requirements for functionality.

Follow the [steps to conducting a usability test](#) when conducting any of the above tests.

Statistics

This section uses the term “visitor” instead of “client,” to be consistent with the terminology used when discussing Web site statistics.

Statistics are an important tool when you are evaluating your Web initiative. Normally, the person in charge of the server provides statistics. They can be difficult to interpret, as they tend to be very long and technical. Request site access and usage statistics from your site Web master to track who is visiting your site and how they are getting to it.

The number of hits, a common statistic related to Web sites, is actually misleading, since it does not represent the number of visitors. For that reason, you should focus on the number of pages viewed. Knowing that most visitors view between five and 10 pages during a visit, you can estimate the actual number of visitors.

Compare each weekly or monthly traffic report to the previous one. A comparative analysis should raise important questions, which will guide future improvements. For example, can you explain increases or decreases in the number of Web site visitors?

If you are serious about site maintenance, promotion and marketing, you must use a Web site statistics tool. If you are serious about site maintenance, promotion and marketing, you must use a Web site analysis tool to determine site usage and hits, the number of visitors coming to your site, the path they've followed to reach your site and other important visitor information.

Monitoring Statistics

You will probably come across the following terms while analyzing your statistics.

Visitor: A visitor is a unique person who visits your site. He or she may view many pages on your site but will be counted as only one person.

Hit or page view: This refers to the number of times someone accesses a particular page on your Web site. For instance, every time you click on one of your links, your number of hits will increase by one.

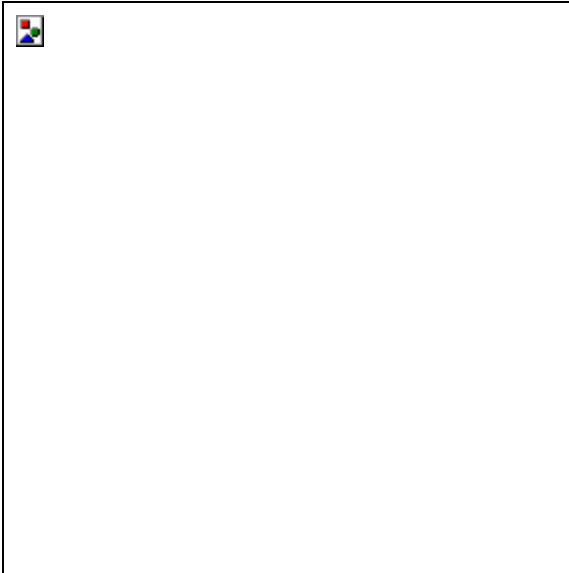
Referrer domain: This is the URL through which a visitor comes to your site. It could be a search engine, a directory or just another site that has linked to you. Using referrer information, you can determine how your visitors find you and which sites generate the most traffic for you. It is also a useful way to find out whether your site is indexed and highly ranked on a particular search engine. As soon as visitors start coming to your site through a particular search engine, you know that you are indexed and highly ranked. If you find that you aren't getting visitors from certain search engines, even after your site has been up for two or three months, your site is probably not indexed in their databases or not highly ranked.

Statistics by monitored page: These statistics will show you the number of hits for each of your pages, and will help you determine your most popular and least popular pages. Use your popular pages to draw visitors to your site. Give visitors a special offer or use cool links to encourage them to visit the rest of your site. Revise unpopular pages.

These are some of the important statistics you must consider. Others include hourly statistics, information on visitors' browsers and platforms, statistics by location, and weekly and monthly statistics. You need to track this useful information regularly to see whether your numbers of hits and visitors are increasing, decreasing or remaining stagnant.

Check whether the number of pages viewed on your site is much higher than the number of visitors to your site. If it is, your visitors are interested in what your site has to offer and are moving around the site. If the two numbers are almost the same, or if the number of pages viewed is just double the number of visitors, then visitors may be viewing only one or two pages and then leaving your site.

Statistics Evaluation⁽⁶⁾



Statistics (traffic report)	Expectations were met	Problems to be fixed	Not applicable
Do your statistics convey the number of pages viewed per hour, per day?			
Do your statistics show which pages were the most and the least visited?			
Do you know who your visitors are?			
Can you tell what route visitors are following to get to your site?			

Graphics Evaluation

This section provides guidance on using graphics.

When you design and use graphics properly, you can make your Web pages easier and more pleasant to read. The most common graphic formats on the Internet are GIF and JPEG. GIF is often used for simple images composed of primary colours, while JPEG is best suited to photographs and more complex detailed images. Regardless of the format you use, you should consider the following issues.

Colours: Colours for Web site graphics must follow [Common Look and Feel Standard 6.5](http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-05_e.asp) <http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-05_e.asp>.

Colour blindness: How will users with colour blindness see the graphic or page?

Necessity: Is the graphic essential to understanding the text?

Work required to produce a quality graphic: Does the graphic require manipulation, re-creation or resizing?

Dimensions: Graphics should not exceed 590 x 472 pixels. Most current personal computer monitors display 640 x 480 pixels, but the default icons and status bars take up space. In inches, the graphic should not be more than 6 inches high and 5.5 inches wide.

Transparent graphic: Should the graphic be transparent? Transparent graphics merge with the grey background of browsers, so there is no white space in and around the image. Aesthetically, it is usually best to make graphics transparent. However, graphics within the text of a document do not have to be transparent. Some applications allow the user to make graphics transparent.

Interlaced graphic: Should the graphic be interlaced? Interlaced graphics are built gradually on the screen in five phases instead of all at once, so the user gets a “sneak preview” of what is coming. Newer browsers and most authoring tools support interlaced graphics. Use interlaced graphics sparingly, reserving the technique for large graphics that would otherwise take a relatively long time to download.

User’s download time: As graphics can increase download file size, it is best to minimize the size and number of graphics used on a page. Consider techniques to improve download time, such as non-interlaced graphics, reduced colour density and compression algorithms.

Graphic name: What graphic file name will you use?

Alternate text: For any graphic, you must always include an alternate text description for the visually impaired. See the [Accessibility Standard 1.1 checkpoint](http://www.cio-dpi.gc.ca/clf-nsi/guide/1/1-1/1-1-guide01_e.asp) in the *Common Look and Feel Self-Assessment Guide* <http://www.cio-dpi.gc.ca/clf-nsi/guide/1/1-1/1-1-guide01_e.asp>.

Alignment of text with graphic: Is there text to the right of the graphic that should be top-aligned, middle-aligned or bottom-aligned?

Options for presenting graphics:

- Use an in-line graphic. Display the graphic in the downloaded HTML file.

- **Present the graphic as a link to another file.** Make a link on the HTML page to the graphic, especially if the graphic is large or is not needed to understand the text. If the graphic is very large, you can state the file size in parentheses beside the link.
- **Use a thumbnail image.** Minimize the graphic to a “thumbnail” image, which gives the user a preview of the image. The thumbnail graphic can be used to link to the full-sized image.
- **Include the graphic in a format other than GIF.** If the graphic is already prepared in a format other than GIF, you can make a link on the HTML page, stating the format in parentheses beside the link. However, since the user can view the graphic only by downloading it, this option is not recommended.
- **Don’t include the graphic.** If the graphic is large, poor or not essential, do not include it.

Maintenance

This section focuses on the maintenance of your Web initiative. Maintenance is often overlooked, but it is crucial to maintain the integrity and level of your information or service.

When launching a Web initiative, institutions usually want to encourage clients to actively use the site. To achieve this goal, you must design an attractive, focused and client-friendly Web site, and commit to providing appropriate service levels. As with any service, clients won't come back if services are not stable and reliable.

This section is divided into three parts:

[Web Site Maintenance](#)

Examining general Web site content, hyperlinks and interactivity tool maintenance

[General Network Maintenance](#)

Considering general issues, hardware and software, network downtime and appropriate error messages

[Future Considerations](#)

Considering future technology trends and on-line possibilities for your institution

Web Site Maintenance

This section focuses on the maintenance of your Web site.

You must keep abreast of new information, new links and your clients' needs when maintaining a Web site. Your clients can help you maintain your site by telling you about technical and non-technical problems with it.

General Considerations

Considering maintenance as an integral part of Web site development, and updating your Web site

Content

Maintaining existing content, new content, old content and reference content

Hyperlinks

Ensuring that hyperlinks on you Web site still work

Interactivity Tool Maintenance

Maintaining tools such as chat rooms, newsgroups and e-commerce sites

General Considerations

This section discusses the nature of on-line publishing and basic activities you should consider when updating your Web site.

Publishing a Web site is not a one-shot project, because the medium is interactive. Continuous improvement is not only possible, but expected. As a Web publisher, you must keep on top of fresh information, new Web sites you can link to, data on usage patterns and client preferences, and direct client feedback. Static, outdated information quickly turns people off your Web page and could create a bad impression of your institution.

The minute you put something on the Web, you must be prepared to update it, regularly, and to check the links to make sure they are still current and useful. Web site addresses change frequently, and information can quickly go out of date. When maintaining your site, you should do the following.

- Consider periodic client surveys about your site, which you can use to assess clients' views on the accuracy, reliability, accessibility, ease-of-use and content quality of your site, and to get ideas for improvements.
- Ensure your service or information is relevant by building in client feedback mechanisms (for instance, you can provide your e-mail address and invite comments).
- Analyze usage logs, which your Web master can provide. For example, identify what percentage of the hits on your page come from other government sites or external sources, or from specific regions or organizations; determine how long visitors stay on your page.
- Monitor Internet user and discussion groups pertinent to your institution's business lines.
- Monitor coverage of your institution's Web site in major print and electronic media.⁽⁶⁾

Content

This section discusses ways to maintain the content on your Web site. Content includes everything on the site that is delivered to your clients' browsers, as well as all the software processes that directly or indirectly support that delivery.

Content that reflects your clients' perspectives, priorities and concerns should be the primary focus of your site. Content comes in the form of news, facts, organizational charts, illustrations, photos, transactions and anything else that communicates something useful to someone.

This section is divided in four parts:

[Adding New Content](#)

Considering issues before adding new content to your Web site

[Updating Existing Content](#)

Considering issues before changing content on your Web site

[Archiving Content](#)

Evaluating, integrating or removing content

[Developing Common "Reference" Content](#)

Developing and maintaining reference content sections, such as What's New, Help and FAQ sections

Adding New Content

Consider the following questions before adding new content to a Web site.

- Are there institutional or government-wide policies that affect the content?
- Is there a client group that needs your information?
- Does the content add value to the site and support your institutional priorities?
- Is the information accurate, readable, reliable, up-to-date, complete and credible?
- Should you do more subject-matter research, client analysis and expert analysis before placing the content on the Web site?
- Can you link the information to another Web site, such as another reliable institutional site?
- Is the content written for the Web? (See [Writing for the Web](#).)
- Can the content be displayed in HTML format?
- Is the content written with a clear purpose that a client could quickly discern?
- Do you clearly understand how this content will effectively fit into the existing Web site architecture?

Updating Existing Content

As soon as you place content on your Web site, you must be prepared to regularly update and maintain it. You should regularly review and re-read the content on your Web site.

Consider the following questions before updating the content on your Web site.

- Is the information accurate, reliable, complete, credible and useful to your clients?
- How much time and money can you devote to keeping the content current and useful?
- What information needs to be updated at a certain time?
- Are there measures to ensure regular updates and ongoing improvements?
- Do you have procedures for updating content to reflect client feedback or usage log statistics?
- Can you link this content to another Web site, such as another reliable institutional site?
- How will you measure the success of your new content (through number of hits or site statistics, for example)?
- Do you have a back-up plan for updating the content? For instance, will someone update the content if you are ill or on holiday?
- How often will you update the content?

Archiving Content

This section provides guidance on archiving content while considering its relevance and accuracy.

If content is at all useful to your clients, consider keeping it on your site. Modify your Web site so that clients can find old content quickly through links. This may help your site develop a reputation as a substantial on-line service of record.

Clients can benefit from old content because it

- may have historical interest (for instance, statistical reviews from previous years);
- provides background information and a richer texture for your Web site; and
- may be intrinsically interesting and worth reading even if it is not new (for instance, a well-written essay or previous news releases).

Integrate content by doing the following:

- linking new articles to archived content, since people reading new content may want the background context that old content provides;
- maintaining current links in archived files, and deleting or replacing outdated links;
- putting links to recent information on older pages, so that clients can find out about recent developments; and
- removing obsolete or misleading content and replacing it with current data or links.

Downplay Archived Content in Search Listings

Unless you take steps to increase the priority of new content, pointers to archived content may begin to dominate search results after a few years. The simplest solution is to have the search engine give a lower weight to older pages. The weight should be computed relative to the creation

date and not to the latest modification date. The latter will often be very recent, if you have properly maintained the older content.

Removing Content Pages

Before removing content pages, remember the following.

- Other sites may link to that page, so removing it will cause a broken link and result in lost opportunities as you turn away clients.
- Clients may have bookmarked the page because they want to go directly to a relevant part of your site instead of starting at the home page every time.
- Search engines update their databases slowly, so they will lead clients astray if you remove pages.

Developing Common “Reference” Content

This section examines common reference content. Reference content is additional content created separately from a site’s primary information and services.

What’s New

You should update the What’s New section regularly with information of interest to your clients. Maintaining this content is crucial, as some on-line clients may go to this section first and never come back if the information is outdated.

Date each entry in the What’s New section so clients can gauge the information’s relevance and accuracy. Also, decide how long an entry will stay in the “What’s New” section. Is it really “new” if it is dated three months ago?

Frequently Asked Questions (FAQs)

The FAQs section should contain real questions with detailed answers. It should give your clients adequate guidance and not leave them confused. When maintaining this section, try not to add every question you receive from your clients, because then it becomes hard for clients to find the appropriate FAQ (focus on the “frequently” aspect of “frequently asked questions”).

If possible, group FAQs in categories to help clients find the right question. Consider setting up a search engine for your FAQs.

Calendar

The Calendar section lists important institutional events and dates that may interest your clients. By updating this section regularly, you can foster clients’ interest in your institution.

Verify the accuracy and relevance of posted information. Provide a coordinator’s name, phone number and address for each event, so that clients can get more information if they are interested.

Site Map

The Site Map section provides a visual representation of your site. Clients may initially find this the quickest method of finding certain information and services. Site maps are particularly useful for large sites, where clients may know what they’re looking for but be unable to find it.

Update this section when you add major sections to your Web site.

Help

The Help section can contain the following:

- FAQs (frequently asked questions);
- tips on searching for information or navigating the site;
- site maps;
- a list of acronyms used on the site;
- a glossary;

- a bibliography;
- site specifications (such as type of content available and accessibility information); and
- other helpful information.

Update sections such as the glossary, bibliography and acronyms when you add content to your Web site.

For an example of a help section, see <http://www.cio-dpi.gc.ca/cioscripts/help/help-aide_e.asp?who=/clf-nsi/>.

Contact Information

The Contact Information section, sometimes called the Contact Us section, should provide the postal address, e-mail address, telephone and fax numbers, and other directory information of those in charge of the technical and non-technical aspects of your Web site. Update this section whenever responsibilities change—for instance, whenever a new Web master takes over.

Hyperlinks

This section helps you maintain hyperlinks, which are a reference from some point in one document to some point in another document. This is an external link. Hyperlinks can also link two places in the same document. This is an internal link. The Web is a linking medium: hypertext ties it together and allows clients to discover new and useful information.

Examining Existing Hyperlinks

While reviewing content or a section devoted to links (for example, a page of “related sites”) consider the following.

- Is the hyperlink broken (meaning that the referring page or section no longer exists)?
- Is the hyperlink linking to the right text?
- Is the external link irrelevant or outdated, as far as you or your clients are concerned?
- Should the location of the hyperlink change to fit better in the overall context of the page? For example, should the hyperlink be moved to a more logical place?
- Is the text of the hyperlink meaningful, or does it say something like, “Go to the next page” or “click here”?
- Is there enough context for the clients to know where they will go if they will follow the hyperlink?
- Do image hyperlinks provide appropriate and meaningful alt-text?

Adding New Hyperlinks

When adding hyperlinks, whether they connect places within or between documents, consider the following.

- Is it necessary to add the external link because, for example, it will help your clients?
- Can you provide a detailed context for the link within your content?
- Can you trust the Web master of the external link? Will the Web master update the site regularly and notify you of a change to the URL?
- Are there any institutional links that can replace existing content from your Web site?
- Are there logical places to which you should have internal hyperlinks?
- Does the link improve navigation within the document?

Consider putting an “Additional Resources” section at the end of a section or document, or as a separate section, which would include hyperlinks to well-explained sources of information.

Hyperlink Validator

Follow <<http://validator.w3.org/checklink>> to verify whether links on a page are broken.

Note that this site is not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the site in question.

Interactivity Tool Maintenance

This section helps maintain such [interactivity tools](#) as chat rooms, newsgroups and bulletin boards. Regular maintenance will not only keep the site running, but will ensure that they are being used properly. Always maintain client privacy and security. For example, those in charge of

maintaining the interactivity tools should be aware of viruses that might inadvertently pass from a client computer to the network.

When keeping records, maintain a log file detailing the use of interactivity tools and of any technical issues that arise.

Chat Rooms

Monitor chat rooms to set the channel topic and remove abusive people. Establish ground rules at the front end and see that they are respected. To maintain order, chat room network operators should be able to perform basic network tasks, such as disconnecting and reconnecting servers. They should also be able to remove a client from the connected network by force, meaning that they can close the connection between any client and server.

Newsgroups (Discussion Forums)

Newsgroups also require maintenance. A moderator should read all messages before allowing them to be posted on the newsgroup. This way, the moderator can keep spam and other inappropriate content, such as bulk e-mail, out of the discussion. Moderating introduces delays—messages aren't posted as soon as they're submitted but sit in a queue until the moderator has a chance to read and approve them.

You can set up your discussion forum system to ask for a client logon before letting someone post a message. Everyone should be free to read posted material, but actually submitting a message should require registration. That way, if someone posts annoying spam, you can simply lock him or her out of the forum. If they keep reregistering to regain access, you may then have to block registration from that particular e-mail address.

General Network Maintenance

This section focuses on the general network maintenance needed to provide reliable on-line service.

General Considerations

Monitoring and ensuring general network reliability and security for your on-line information and service

Site Availability

Determining when the client wants the site to be available

Hardware and Software

Maintaining hardware and software efficiency of resources of your Web initiative

Network Downtime

Planning for network downtime and creating useful and informative error messages for your client

General Considerations

Critical to your institutional service are your hardware, software and data stored on your drives. Those maintaining the network must be aware of threats and weaknesses, such as viruses and hackers, that may affect institutional resources. Security and privacy heightens when examining network maintenance.

Monitor the following:

- unauthorized visits to sites and unauthorized downloads, such as the downloading of unexpected viruses;
- change of important network configuration by employees;
- attacks on the network, such as clients attempting to enter the network control system and threaten system integrity by breaching privacy or stealing someone else's files;
- employee misuse or modification of network software or hardware;
- threats to information, such as the deletion, theft and corruption of data;
- news about possible threats to network resources; and
- Web site statistics for institutional Web sites, which can help with [evaluation](#).

Ensure the following:

- continual adherence to legislation, policies and standards on privacy, security and networks;
- regular back-up of network data;
- efficient scans for viruses on network resources, as well as on all media received from external sources, including licensed or copyright software and hardware and software resources;
- comprehensive procedures for suspected virus or hacker attacks;
- exceptional firewalls at the gateways servers, which protect network resources from outside threats;
- adequate bandwidth for access to resources; and
- loophole-free new software or hardware that does not threaten network security.

Site Availability (Client Focus)

When selecting an appropriate level of accessibility, consider your client's characteristics and your institution's capacity to offer reliably available service.

Your clients may need your site available:

- during work hours, possibly extending into early evening;
- late at night or on weekends;
- intermittently and at all hours; or
- all the time, every day.

Hardware and Software

The technical maintenance of telecommunications equipment is essential to security. It helps avoid defects, which could compromise security. Effective technical maintenance can be best achieved through informed and experienced operations staff and qualified maintenance personnel. Record and review maintenance work to ensure it was performed according to the manufacturer's specifications.

Protect computer equipment by implementing measures based on a threat and risk assessment, which takes into account hardware, software and operations security. Perform routine maintenance on equipment to ensure the integrity of security controls. Check power and grounding periodically to ensure they are within specifications. Maintain an adequate power backup.

Create error-reporting logs of equipment failures. Construct the log so that they report what caused the error to occur step-by-step. Record each item's serial number and keep the list in a safe place. You may also wish to put your own institutional identification sticker on each item. Record what was done to each piece of equipment, along with your inventory list, so that you can briefly note what kind of maintenance was conducted.⁽⁸⁾

Network Downtime

This section examines the unavoidable situation in which networks are unavailable and clients cannot access on-line information. Systems require some downtime for updates and for preventative maintenance.

Schedule these maintenance activities, but provide enough notice or establish a standard downtime with a posted schedule. Clients will then know your site is not broken, just practising good management.

Error Messages

Consider error messages that explain the reason for downtime, the length of downtime and when the network will be back in use. This site linked here includes [translations of common error messages](#). Another site, from Jakob Nielsen, provides [guidance on writing error messages](#), but this site is not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the site in question.

See also [Maintenance Resources](#).

Future Considerations

This section focuses on long-term issues you should consider after the *successful* implementation of your Web initiative.

Keeping up with Technology Trends

Stay current with Internet technologies and applications. A Web team should do the following:

- use the Web to gather information and see what others are doing;
- access journals and magazines that discuss Internet developments;
- evaluate new technologies that may be relevant to your service objectives; and
- attending professional conferences and workshops.

Know how these technologies are evolving, but before moving to adopt them, be sure to revisit your institutional objectives. Not all services delivered over the Web need the latest and greatest technologies. On the other hand, some technologies do a much better job of achieving certain goals. You need to be well informed to know the difference.

The following is a list of questions to ask yourself when looking ahead.

- Is there potential for a Web initiative in any new or existing program area?
- What kind of services would most effectively be delivered over the Web?
- What impact will a new or enhanced Web initiative have on staff and clients?
- Will a new or enhanced Web initiative provide more effective service to existing clients?
- Should policies and procedures be revised to ensure that clients receive the on-line services they seek?
- Are there any new legislation, policies and standards or institutional guidelines to be followed?
- Should new legislation, policies and standards be created to ease the creation of a Web initiative? For example, do you need more help to plan, implement and evaluate a Web initiative?

Long-Term Actions

- Keep a watchful eye out for [cyber-squatting](#) incidents and be aware of when you have to re-register domain names.
- Check back periodically with search engines and directories to see that you are still listed.

- Use surveys, interviews, focus groups and tracking information to assess the success and popularity of your site. When conducting surveys on-line, ensure that privacy safeguards are adequate.

Internet Guide Resources

This section includes links to sites that provide valuable information to help you launch, evaluate and maintain your Web site. The resources are divided according to the sections of the *Internet Guide*.

Getting Started

Learn more about planning your Web initiative, from Government On-Line (GOL) to interactivity tools.

The Enhanced Management Framework provides principles, best practices, methodologies, tools, templates, handbooks, guides and standards related to Web site planning. Find out more at the [Enhanced Management Framework Web site](http://www.cio-dpi.gc.ca/emf-cag/index_e.asp) <http://www.cio-dpi.gc.ca/emf-cag/index_e.asp>.

Government On-Line

The following sites detail the Government of Canada's service delivery vision in line with information technology.

- The GOL Web site describes the GOL initiative, and provides news releases, speeches and publications that explain and update the GOL plan <http://www.gol-ged.gc.ca/index_e.asp>.
- Treasury Board of Canada, Secretariat, provides selected news releases and speeches related to GOL at <http://www.tbs-sct.gc.ca/audience/media_e.asp>.
- Connecting Canadians is an initiative related to GOL. Visit the news room, which provides news releases, upcoming events and speeches. These can also be found at <<http://www.connect.gc.ca/en/1200-e.asp>>.
- The Privy Council Office Site provides a direct link to the Clerk of the Privy Council's speeches, speaking notes and announcements <<http://www.pco-bcp.gc.ca/default.asp?Language=E&Page=Home>>.
- [*Strategic Directions for Information Management and Information Technology: Enabling 21st Century Service to Canadians*](#) outlines a series of priorities that will lever government's significant IM/IT investments to create a more integrated, collaborative model of government.
- Transport Canada has a list of frequently asked questions about GOL and their answers at <http://www.tc.gc.ca/gol/what_is_gol.htm>.

Environmental Scans: IT Innovation

The following resources provide the latest IT and Internet media news, which may benefit your institution:

- [Innovation Technology Association of Canada \(ITAC\)](http://www.itac.ca/) <<http://www.itac.ca/>>
- [CNET News](http://news.com.com/) <<http://news.com.com/>>
- [ITworld.com](http://www.itworld.com/) <<http://www.itworld.com/>>
- [ITworldcanada.com](http://www.itworldcanada.com/) <<http://www.itworldcanada.com/>>
- [CIO magazine](http://www.cio.com/CIO/) <<http://www.cio.com/CIO/>>
- [The Internet and IT Network News](http://www.internet.com/sections/news.html) <<http://www.internet.com/sections/news.html>>
- [Cyberpresse: Réseau d'Internet](http://www.cyberpresse.ca/reseau/internet/) <<http://www.cyberpresse.ca/reseau/internet/>>
- [Nouvelles de Radio-Canada](http://radio-canada.ca/nouvelles/) <<http://radio-canada.ca/nouvelles/>>
- [Multimédium](http://www2.canoe.com/techno/) <<http://www2.canoe.com/techno/>>

Financial and Human Resources

The following links will help you find and select financial and human resources for your Web initiative.

- UCS is the approved standard for writing and classifying job descriptions in the federal government. You can find out more on the [UCS Web site](http://www.tbs-sct.gc.ca/classification/Index_e.asp) <http://www.tbs-sct.gc.ca/classification/Index_e.asp>.
- Natural Resources Canada maintains a [UCS Work Description Databank](http://www.nrcan.gc.ca/css/hrsb/ucs/ucs-e.htm) <<http://www.nrcan.gc.ca/css/hrsb/ucs/ucs-e.htm>>.
- At the [Professional Services and Directorate Program Web site](http://www.pwgsc.gc.ca/sipss/pspd/executiveproject/home-e.htm) <<http://www.pwgsc.gc.ca/sipss/pspd/executiveproject/home-e.htm>>, you can learn about supply arrangements.
- The [Community Access Program](http://cap.ic.gc.ca/english/8500.shtml) provides guidance on planning, setting up and maintaining on-line-related resources <<http://cap.ic.gc.ca/english/8500.shtml>>.

Client Analysis

The following resources can help you understand your clients and their needs.

- The [Quality Services guides](http://www.tbs-sct.gc.ca/pubs_pol/ojepubs/tb_o/siglist_e.asp) <http://www.tbs-sct.gc.ca/pubs_pol/ojepubs/tb_o/siglist_e.asp> published by Treasury Board of Canada, Secretariat, establish a context for adopting a quality service approach in management. The series includes a guide called *Who is your client?*

Interactivity Tools

The following sites offer information on interactivity tools:

- National Library of Canada listserv <<http://www.collectionscanada.ca/9/1/p1-220-e.html>>
- Agriculture and Agri-food Canada (examples of e-mail lists) <http://www.agr.gc.ca/site_e.phtml>
- Canadian Centre for Management Development (example of a discussion forum) <http://www.ccmd-ccg.gc.ca/discussion_e.htm>
- The Leadership Network (Policy on the Use of the Virtual Network) <<http://genet.leadership.gc.ca/genet/virtualnetworks/policy.asp?lang=e>>

The following hyperlink is to a site that is not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the site in question:

- Chat Room Help <<http://www.irchelp.org/>>

E-Commerce: Management and Implementation

E-Commerce Primer

When it comes to implementing and managing electronic commerce, the range of decisions you must make depends on the scope of the project. Key considerations include updating the business plan to include e-commerce initiatives, assessing threat and risk to determine security requirements, and looking at legal concerns. You can find basic guidelines on issues related to managing and implementing e-commerce at <http://strategis.ic.gc.ca/sc_x/engdoc/using_ecom.html>.

Getting the Right Tech Tools

For information on acquiring tools for e-commerce, see <<http://e-com.ic.gc.ca/english/index.html>>.

The Strategis Web site provides links to companies that provide e-commerce tools at <<http://strategis.ic.gc.ca/SSG/it02657e.html>>.

Learn more from Statistics Canada at <<http://www.statcan.ca/cgi-bin/wwworder.pl>>.

Legal and Security Issues

Overcoming legal and security barriers helps you develop your clients' trust. Clients need to feel comfortable when doing business using GOL services, so you need to implement and programs to ensure the public's privacy and safety. The Canadian government recognizes the importance of these issues and provides guidelines on the laws you need to follow and security measures you should take at <<http://e-com.ic.gc.ca/english/60.html>>.

Other Links

Industry Canada provides a list of useful sites at <http://e-com.ic.gc.ca/using/en/301.html>.

You can find the Clerk of the Privy Council's speech on e-commerce and the government at <http://www.pco-bcp.gc.ca/default.asp?Language=E&Page=clerksspeechesmessages&Sub=ClerksSpeeches&Doc=2>.

The *E-Business Info-Guide* provides links to government programs, services and regulations that deal with electronic commerce and provides guidance on implementing e-commerce http://www.cbcs.org/english/search/display.cfm?code=2842&coll=FE_FEDSBIS_E.

Implementation

Find out how you can effectively and efficiently implement your Web initiative through the following resources.

Building the Site

The Common Look and Feel (CLF) Standards for the Internet site is a main resource for people building, enhancing or revamping Web sites within the Government of Canada environment. It includes standards related to accessibility, collaboration, cyber-squatting, e-mail, important notices, navigation, format and official languages, which all government Web sites must follow, as well as optional best practices and guidelines http://www.cio-dpi.gc.ca/clf-nsi/index_e.asp. For more CLF links, go to http://www.cio-dpi.gc.ca/clf-nsi/links/links-liens_e.asp.

The Federal Identity Program is a key resource for people implementing a Web project. Its Web site addresses issues such as Government of Canada identifiers (such as symbols), navigational tools (such as the mandatory menu) and information design (including colours and layout) http://www.tbs-sct.gc.ca/fip-pcim/index_e.asp.

Content

Health Canada has published a guide called *Writing for the Web* at <http://www.hc-sc.gc.ca/hppb/get-web-ready/factsheets/scanning.html>.

The Net Gain site has a section on content considerations for Web pages at <http://strategis.ic.gc.ca/SSG/ee00223e.html - content>.

The following hyperlinks are to sites that are not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the sites in question

You can find information on writing for the Web at the Jacob Nielson Web site at <http://www.useit.com/papers/webwriting/>.

Design

The Net Gain site provides information on design at <http://strategis.ic.gc.ca/SSG/ee00223e.html>.

The following hyperlinks are to sites that are not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the sites in question

The Web Monkey includes tips for designers at <<http://hotwired.lycos.com/webmonkey/>>, including an information architecture tutorial at <http://hotwired.lycos.com/webmonkey/design/site_building/tutorials/tutoriall.html>.

The Jakob Nielsen Web site includes information on usability design considerations at <www.useit.com>.

Format Considerations

The National Library of Canada provides a glossary of digital library standards, protocols and formats at <<http://www.collectionscanada.ca/9/1/p1-253-e.html>>, and information on graphic and sound file formats at <<http://www.collectionscanada.ca/9/1/p1-223-e.html>>.

Treasury Board of Canada, Secretariat, offers information on providing Web pages in alternative formats at <http://www.tbs-sct.gc.ca/pubs_pol/ciopubs/tb_cp/formats_e.asp>.

Marketing

Public Works and Government Services Canada provides advice, strategic direction, planning and consultation, and supplier relations to help institutions promote interdepartmental programs. For information, see <<http://www.pwgsc-tpsgc.gc.ca/ccsb/client/projetindex-e.html>>.

The Net Gain site includes information on Internet marketing at <<http://strategis.ic.gc.ca/SSG/ee00183e.html>>.

You can find a document called *Your Marketing Strategy: Research Phase* at <<http://www.cbcs.org/alberta/tbl.cfm?fn=markstrategy>>.

For a Health Canada fact sheet on registering with search engines, go to <<http://www.hc-sc.gc.ca/hppb/get-web-ready/factsheets/searchengine.html>>.

The Net Gain site offers a guide to Internet search tools at <<http://strategis.ic.gc.ca/SSG/ee00217e.html>>.

The following hyperlink is to a site that is not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the site in question.

A summary of popular search engines and their features is available at <<http://daphne.palomar.edu/TGSEARCH/>>.

Information Management

For information on the Management of Government Information Holdings Policy, go to <http://www.tbs-sct.gc.ca/pubs_pol/ciopubs/tb_gih/mgih-grdg_e.asp>.

The Information Management (IM) Resource Centre helps institutions manage information as part of their quest to improve service to Canadians. It provides relevant information and useful

tools to help institutions meet the IM requirements of the GOL initiative. For more information, see <http://www.cio-dpi.gc.ca/im-gi/index_e.asp>.

For information on Government of Canada record-keeping requirements for metadata, go to <http://www.imforumgi.gc.ca/products/products_e.html>.

You can read a document called *An Approach to Managing Internet and Intranet Information for Long-term Access and Accountability* <http://www.imforumgi.gc.ca/iapproach2_e.html>.

The National Library of Canada has a document called *Preservation of Digital Information: Issues and Current Status (Network Notes #60)* at <<http://www.collectionscanada.ca/9/1/p1-259-e.html>>.

For information on the Canadian Initiative on Digital Libraries, go to <<http://www.collectionscanada.ca/cidl/preserv-conserv/preserv-e.htm>>.

For a National Archives of Canada on managing recorded government information, go to <http://www.collectionscanada.ca/06/0612_e.html>.

For a report on IM in the Government of Canada, go to <http://cio-dpi.gc.ca/ip-pi/im-gi/imreport/imreport-rapportgi02_e.asp>.

For a document on strategic directions for IM, go to <http://www.tbs-sct.gc.ca/pubs_pol/ciopubs/tb_oimp/sdimit_e.asp>.

Metadata

The Navigation and Format Section of CLF Standard 6.3 can be found at <http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-03_e.asp>.

You can find out more about the CLF and metadata at <http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-03_e.asp>.

For information on the Metadata Implementation Framework, go to <http://www.cio-dpi.gc.ca/im-gi/meta/meta_e.asp>.

For a metadata user guide, see the Canada site at <http://198.103.99.147/publications/userman_e.html>.

For a meta tag generator, see the Canada site at <http://198.103.99.147/publications/metagen_e.html>.

Security and Privacy

Security resources

[Security Policy and Publications](#)
[RCMP Technical Security Branch \(TSB\) Services](#)
[Communications Security Establishment \(Information Technology Security Services\)](#)
[Awareness and Education](#)
[Internet Security Tools and Techniques](#)
[Computer Crime](#)

Security Policy and Publications

Security policy, security implementation notices and other publications are located at http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_12A/gsp-psg_e.asp.

RCMP Technical Security Branch (TSB) Services

IT Security Reviews

The primary function of the RCMP's IT security sections is to advise federal government institutions on security concerns related to computer systems owned by, or operated on behalf of, the Government of Canada. In part, it provides this advice through comprehensive, follow-up and consultative IT security reviews, which it conducts in accordance with the government's Security Policy and the Technical Security Standard for Information Technology. This policy and standard address help institutions protect the confidentiality and integrity of information and the availability of services.

IT Security Consultations

The Technical Security Branch (TSB) of the RCMP provides IT security consultations to help government institutions review their security status. It advises institutions on the implementation of IT security standards and guidelines. TSB also helps institutions conduct threat and risk assessment (TRA) by providing training, publications, information and facilitation.

Publications

Provide very good information bulletins on security.

Links

For TSB's security and virus information links, go to http://www.rcmp-grc.gc.ca/tsb-genet/pubs/index_e.htm.

Communications Security Establishment (Information Technology Security Services)

The Communications Security Establishment (CSE) provides the following IT security services.

- Consultation: Finds solutions to IT security needs with the help of engineers, mathematicians, computer scientists and technologists.
- Cryptographic services: Analyzes and approves cryptographic algorithms to protect designated information and to protect electronic authorization and authentication applications processed by Government of Canada IT systems.

- Engineering services: Provides engineering analysis and evaluation services at various stages of projects.
- Partnering with Canadian industry: Helps government users find IT security solutions.
- Pre-qualified IT security products: Helps institutions find safe Internet products.
- Threat and risk assessment (TRA): Provides questionnaires and checklists, and will do in-depth engineering analysis of your IT systems and the applications you run on them.
- Documentation: Provides “how-to” manuals on topics such as operating and maintaining IT security equipment, using CSE services and accessing CSE IT security programs.

For more information, go to <http://www.cse-cst.gc.ca/cse/english/home_1.htm>.

Awareness and Education

You can learn more about IT security through courses offered by CSE. Topics include “Introduction to Information Technology Security” and “Writing Common Criteria Protection Profiles Security Targets.” For more information, go to <<http://www.cse-cst.gc.ca/en/education/education.html>>.

You can read about the Canadian Strategy to Promote Safe, Wise and Responsible Internet Use at <http://www.rcmp-grc.gc.ca/html/safe_wise_internet_e.htm>.

Public Key Infrastructure is the combination of software, encryption technologies and services that allows you to protect the security of your communications and business transactions on the Internet. For more information, go to <http://www.cio-dpi.gc.ca/pki-icp/index_e.asp>.

For information on the Government Operations Sector, go to <http://www.tbs-sct.gc.ca/gos-sog/index_e.asp>.

Internet Security Tools and Techniques

For information on encryption, digital signatures, certificates and wallets, secure e-mail, the SSL protocol set standard, secure payment, firewalls, application gateways, virus scanning and other on-line security tools, go to <<http://strategis.ic.gc.ca/SSG/ee00216e.html#manage>>.

The Government of Canada has a page of frequently asked questions about firewalls at <http://www.cse-cst.gc.ca/en/knowledge_centre/FAQ.html>.

The following hyperlink is to a site that is not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the site in question.

Find out more about security on the site of the World Wide Web Consortium Security Resources at <<http://www.w3.org/Security/>>.

Computer Crime

Read the RCMP’s information on preventing computer crime at <http://www.rcmp-grc.gc.ca/scams/ccprev_e.htm>.

You can get virus information at the Community Access Program Web site at <<http://cap.ic.gc.ca/english/8881.shtml>>.

External Web Sites Covering On-Line Crime

The following hyperlinks are to sites that are not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the sites in question:

- CIO Web sites at <http://www.cio.com/research/government/security.html> and <http://www.cio.com/research/security/>
- Federal Bureau of Investigation Web site at <http://www.fbi.gov/publications/pguide/pguide.htm>.

Privacy

For policies and guidelines on privacy and data protection, go to http://www.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_128/siglist_e.asp.

The Privacy Commissioner's site is a good source of information on privacy issues affecting all Canadians. Go to http://www.privcom.gc.ca/index_e.asp. The site also has a good example of a privacy policy and provides policies you can follow at <http://www.privcom.gc.ca/>.

To read about the Canadian strategy on Internet privacy issues, go to <http://e-com.ic.gc.ca/epic/internet/inecic-ceac.nsf/home-accueil/home-accueil>.

For information on the protection of personal information, see <http://com-e.ic.gc.ca/english/privacy/632d1.html>.

For highlights of Industry Canada's privacy provisions and principles, go to <http://e-com.ic.gc.ca/epic/internet/inecic-ceac.nsf/home-accueil/home-accueil>.

To read about privacy from a client's perspective, go to http://www.privcom.gc.ca/information/02_05_d_08_e.asp.

The following hyperlinks are to sites that are not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the sites in question:

- the Centre for Democracy and Technology (USA) provides a comprehensive privacy guide at <http://www.cdt.org/privacy/>
- you can read find out about the Electronic Privacy Information Centre at <http://epic.org/>

Cookies

For further information on cookies, visit the Cookies Guidelines:

http://www.cio-dpi.gc.ca/pgol-pged/cookies-temoins/intro_e.asp

Evaluation

Evaluation Tools

CLF Self-Assessment Guide <http://www.cio-dpi.gc.ca/clf-upe/guide/guide_e.asp>
Treasury Board of Canada, Secretariat, has developed the *CLF Self-Assessment Guide* to help you determine how well your Internet Web sites comply with the Common Look and Feel Standards. The guide is available in HTML, PDF and editable formats.

You can use the **Common Look and Feel Browser Test** <http://www.cio-dpi.gc.ca/clf-nsi/standards/1-1/browser-navig/browser-navig_e.asp> to ensure your site works equally well in Netscape and Internet Explorer.

The following hyperlinks are to sites that are not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the sites in question.

World Wide Web Consortium (W3C) validation tools <<http://validator.w3.org/>>
W3C was created to lead the World Wide Web to its full potential by developing common protocols that promote its evolution and ensure its interoperability. W3C has more than 500 [member organizations](#) around the world and has earned international recognition for its contributions to the growth of the Web. Here are links to two of its validation tools:

- the Cascading Style Sheet (CSS) validator at <<http://jigsaw.w3.org/css-validator/>>
- the Link Checker (which checks for broken links) at <<http://validator.w3.org/checklink>>

Bobby 3.2 <<http://www.cast.org/bobby/>>

This site helps identify and repair significant barriers to access by individuals with disabilities.

Evaluation Tools

The following hyperlinks are to sites that are not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the sites in question.

Jakob Nielsen's Web site on Usability provides information on all aspects of usability and testing methods. Go to <<http://www.useit.com/>>.

You can find a list of usability tests related to all stages of Web design, from the preliminary stages to the testing stages, at <<http://www.best.com/~jthom/usability/toc.htm>>.

Other Evaluation Resources

"The Race to Web Readiness," a Health Canada site, provides a planning checklist that segments the major milestones of a general Web Initiative. It is a useful tool to help you stay organized and keep your priorities straight through all stages of your Web initiative. Go to <<http://www.hc-sc.gc.ca/hppb/get-web-ready/checklists/index.html>>.

The National Library of Canada has a document called *Measuring Web Site Usage: Log File Analysis* at <<http://www.collectionscanada.ca/9/1/p1-256-e.html>>.

The National Library of Canada has a document called *Usability and the Web: An Overview* at

<<http://www.collectionscanada.ca/9/1/p1-260-e.html>>.

The following hyperlinks are to sites that are not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the sites in question.

You can find a document called *How to Choose, Implement and Maintain Your Web Site Search Tools* at <<http://www.searchtools.com/>>.

Search Engine Watch provides tips and information about searching the Web, analyzes the search engine industry and helps site owners improve their visibility on search engines. Go to <<http://searchenginewatch.com/>>.

You will find a site discussing usability references at <<http://www.usability.com/>>.

You will find a list of Web test tools at <<http://www.softwareqatest.com/qatweb1.html>>.

Maintenance

Network and computer maintenance are discussed in further detail at <<http://cap.ic.gc.ca/english/8800.shtml>>.

You can find more information on network maintenance issues at <http://www.tbs-sct.gc.ca/pubs_pol/dcgpubs/tb_h4/01guid_e.asp> and <http://www.tbs-sct.gc.ca/pubs_pol/gospubs/tbm_12a/23recon_e.asp>.

The following hyperlinks are to sites that are not subject to the *Official Languages Act*. The material found there is therefore in the language(s) used by the sites in question.

For Microsoft information on maintenance, content management and troubleshooting, go to <<http://www.microsoft.com/library/shared/deeptree/bot/bot.asp?dtnfg=/technet/treeview/deeptreeconfig.xml>>