

Government in the Palm of Your Hand

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Abstract: Launched in 2002, the Government of Canada's Wireless Portal (wap.gc.ca) was designed to be more than just a wireless version of its' official Internet portal—it was designed to offer 'just in time' up-to-the-minute and on-the-go Government of Canada information and services anytime, anywhere. This service, optimized for delivery via the wireless medium, is truly a service designed for the public. The goal of the Government of Canada's Wireless Portal involves a new practical approach to serving the public. This project creates an additional access channel to Government of Canada services, accompanying the Internet, telephone and in-person service delivery. The undertaking has been a success!

The portal has brought the Government of Canada closer to citizens by enabling wireless users to access useful information at the tip of their fingers when they're on the move. The information provided on the portal is created with quick and easy wireless delivery in mind—a technology largely supported by Canadian and international users alike.

Keywords: e-government, wireless portal, Canada

1. Introduction

Since 2002, the Government of Canada's Wireless Portal (wap.gc.ca OR www.gc.ca) has provided relevant and quick information and services to users whenever and wherever they are.

Although it was a natural evolution of the 'Canada Site' (www.canada.gc.ca) known as the Government of Canada's main Internet portal, the wireless access point was developed to specifically meet the needs of wireless users who access information and services using small devices with long download times.



Prior to launch of the Government of Canada's Wireless Portal in 2002, prototypes fine-tuned the tool taking into consideration the possibilities for its constant technical evolution. A proactive and client-centric approach was applied to all portal initiatives. Phases of the project included planning, implementation, testing, consulting and promotion. All phases were completed to the extent of their allocated budgets.

Studies have shown that quality service drives Canadians' trust and confidence in their government and the Government of Canada is building on that relationship. Quality service to Canadians means convenient, timely, accessible, reliable and personalized information that meets their needs; it has been the Government of Canada's priority to respond to those needs. For the Government of Canada, achieving quality of service for Canadians has been all about making technology work for the people, transforming the way the public is served.

1.1 Principles of the Government of Canada's Wireless Portal

The fundamental principles that helped form the portal include:

- A client-centric approach with a 'no wrong door' format.
- Accessibility to Canadian and international publics.
- A portal accessible to all ranges of wireless technologies. (Backward and forward compatible)
- Information and services offered in both official languages of Canada

1.2. Vision and Policy Directions of the Government of Canada's Wireless Portal

The vision of the portal is considered ambitious but is based on demands from a technology-savvy public. The goals for the portal include:

- A service designed specifically for the wireless medium.
- Delivery of relevant and accessible information and services whenever and wherever users need them.
- Creation of a new Government of Canada information and service channel while cross-promoting other channels.
- Helping departments and agencies of the Government of Canada establish their presence on the wireless channel.
- Establishment of global leadership in providing access to wireless information and services.
- An intuitive service that is easy to use and easy to navigate that evolves in a client-centric fashion.

1.2.1 Deliver Relevant and Accessible Information and Services

Clients surveyed communicated that they wanted 'just in time' as well as relevant information and services, the Government of Canada delivered that in the form of a wireless portal. The improved service delivery with this channel has added convenience while changing the way the Government of Canada serves the public.

Client research shows that portal users feel that it is a worthwhile project and are in favour of seeing it develop further. Users were particularly impressed with the simplicity of the portal and overall were satisfied with the information they received.

1.2.2 Act as a Service Channel that Cross-promotes Other Channels

The Government of Canada's Wireless Portal responds to a specific and growing audience that expects information tailored for them wherever they wish to access it. The portal not only provides key information and services to users but also cross-promotes other information channels that may elaborate on the information. Ultimately, the portal brings the Government of Canada closer to users and makes it more accessible and relevant.

1.2.3 Play a Leadership Role

The Government of Canada continues to collaborate with other government organizations to foster the portal's expansion and improvement. Public Works and Government Services Canada works with other agencies and departments of the Government of Canada to help them establish their wireless presences.

1.2.4 Leveraging New and Emerging Technology to Better Serve Clients

The Government of Canada is using wireless technology to serve the public through a fourth channel. Along with in-person, telephone and Internet services, wireless technology has enabled the Government of Canada to serve its clients with wireless users' unique requirements in mind with the added convenience for users of having access to key government information and services regardless of their location.. The information and services provided through the Government of Canada's Wireless Portal do not merely mirror the Canada Site but are specifically tailor-made for wireless users in terms of the devices they are using as well as their unique type of information and services sought by users.

The content on the wireless channel reflects the unique behavior of wireless users and their specific needs for information from a wireless medium. But managing small 'real estate' (screen sizes), long download times and user expectations for information, is challenging. The Government of Canada needed to choose services and information very strategically, ensuring it was relevant to users and suited the available screen space. Accessing long documents for example, is not suitable for the wireless medium—but accessing information that is useful for people on the go, like border wait times, government contact information, currency converters, is a great service for wireless users.

Client research and usability studies performed indicates that "wired" device users have a preference for topic/subject groups of information while wireless users tend to be more "purpose" driven when they access the Internet via the wireless and prefer not to search around the information but would rather have direct access to content. There are several reasons for this including longer download times and the increased cost of accessing the Internet wirelessly. The Government of Canada wireless portal implemented enhanced navigation and new organizing principles to reflect the needs and behaviour of wireless users.

More wireless services are in constant development, catering to the specific needs of wireless audiences. This channel of service is allowing even more citizens to reach their government and access important information when and where they need it. In effect, this service is bringing the Government of Canada closer to its citizens and making it more relevant in their daily lives.

2. Background

2.1 Internet Communications in Canada

Canada is a forerunner in the development of computer-mediated communications. Landmark development in advanced communications research and development have been carried out since the 1960's by the Communications Research Centre of Canada (CRC). In 1978, the Department of Communication initiated the Telidon Project with the aim of developing an alpha-numeric (ASCII) videotex protocol, and with the subsequent implementation of a data telecommunication network which would operate with the said protocol. (Gillies, 1990).

Videotex itself is the production of images (including text) on a computer screen. The protocol was developed and named NAPLPS (North American Presentation Level Protocol Syntax), and was complete in February of 1982. The field trials, christened "Vista," were launched with a prototype version of the NAPLPS code (699) in the early 1980s. The Canadian videotex/teletext system eventually contributed to the development of international standards for the World Wide Web.

In 1983, the first permanent international connection to the Internet, known as ARPANet, was set up at the Communications Research Centre of Canada (CRC) to support its new computer network research program

In the mid 1990's, the Internet's explosion took the industrialized world by storm, changing the way people communicated and reshaping the way companies and organizations did business. In 1995, the Government of Canada created the Canada Site as its primary presence on the World Wide Web.

In 1999, the Government of Canada made a public commitment in the Throne Speech to become "known around the world as the government most connected to its citizens, with Canadians able to access all government information and services online at the time and place of their choosing." As a result, the Government On-Line (GOL) initiative was created in 2000. Between 2000 and 2005, this project has provided the citizens of Canada with the ability to interact with the Federal government, to receive information, to access programs and services, and do business electronically. Public Works and Government Services Canada and the Treasury Board Secretariat have been spearheading the GOL initiative in cooperation with 28 key department and agencies. (Government of Canada, 2005)

Canadians have become some of the world's most enthusiastic users of the Internet. According to a 2004–2005 survey conducted by the Ekos market research firm on trends in Internet usage and access:

- 78% of Canadians had used the Internet .
- 72% of Canadians had Internet access at home.
- Canadian households with high-speed Internet access now outnumber those with dial-up.
- 44% of Canadians have made purchases on-line and 43% do their banking over the Internet.
- 64% of Internet users are comfortable submitting personal taxpayer information over the Internet to the Canada Revenue Agency.
- 71% of Internet users have used a Government of Canada Web Site in the past 12 months; on average, there are 1.2 million visits to the Canada Site (www.canada.gc.ca) every month.
- 31% of Canadians say their most recent contact with the Government of Canada was via the Internet.
- Users of Government of Canada services on the Internet report an 81% satisfaction rating of these services (either satisfied or extremely satisfied). (Ekos Research Associates 2005)

2.2 Wireless Communications in Canada

Despite the atypical distribution of Canada's relatively small population across our vast land mass - and perhaps because of it - Canada has been and remains a world leader in communications networks and technology. And for an industry that is just two decades old, Canada's wireless communications industry has made remarkable progress. According to a benchmarking study commissioned by the New Zealand Ministry of Economic Development, Canada is consistently ranked in the top 10 out of more than 30 OECD countries for offering the lowest customer pricing for wireless services. In fact, in two of the three main OECD service basket comparisons, Canada's wireless prices are significantly lower than those in the US. (New Zealand Ministry of Economic Development, 2004)

A global shift is predicted in the near future that has mobile web access surpassing personal computer access to the Internet. Years ago it was also forecasted that half of Canadians would own a mobile phone by this year (2005). These two factors alone set the stage for innovation and were part of the impetus that motivated the Government of Canada to respond to the growing technological needs of the public.

Data compiled by the Canadian Wireless Telecommunications Association clearly underscores this shift as well as the vitality and dynamism of the wireless medium in Canada :

- Canadians currently use more than 17 million wireless devices on a daily basis, including wireless phones pagers, mobile radios and mobile satellite phones.
- Together, Canada's wireless carriers now offer coverage to more than 95 per cent of Canadians

- In 2003 there was a 900% increase in activity on the Government of Canada's Wireless Portal since the year prior, 2002.
- In 2003 households spent an average of \$290 per year on cellular services and cell phones accounted for \$3 out of every \$10 spent on telephone services².
- An Ericsson Canada survey in 2004 shows that 63% of Canadians between 15 and 69 years old owned a mobile phone—up seven per cent from the year before. Wireless phones are among the fastest growing consumer products in history.
- Sixty-nine per cent of Canadians say they never leave home without their mobile phone.(Canadian Wireless Telecommunications Association, 2005)

Statistics show that the number of wireless web users accessing the Internet has continued to grow. The following chart from Ovum.com demonstrates this trend.

North American & Global Wireless Web Users, 2000-2005

Region	2000	2001	2002	2003	2004	2005
North America	0.2 mn	0.3 mn	14 mn	37.5 mn	63.7 mn	95.6 mn
World Total	6 mn	16 mn	77 mn	190 mn	322 mn	484 mn

(Source: Ovum, <http://www.epaynews.com/statistics/mcommstats.html>)

A recent survey prepared for the Canadian Advanced Technology Alliance (CATAAlliance) reveals that Canadian businesses are embracing mobile technology to stay competitive:

- 69 per cent of Canadian businesses surveyed believe mobile technology is helping them better compete, and 55 per cent are using mobile technology either in key departments like sales, or across the entire company.
- 38 per cent of respondents said they were either evaluating mobile technology or in the process of deploying it in certain departments or across their organization
- 74 per cent of companies are investing in mobile technology to increase worker productivity; 59 per cent are doing it to increase customer service; and 52 per cent are doing it to provide employees with flexible work options.
- 35 per cent of businesses using mobile technology are using a combination of VPN technology and mobile devices like cell phones, PDAs and BlackBerries to connect workers with corporate information.
- 20 per cent of businesses using mobile technology are using a combination of Microsoft Outlook Web Access or extranet Web sites and cell phones, PDAs and

BlackBerrys to connect workers with corporate information. (CATAAlliance, 2005)



(IntoInfo 2004)

3. Best practices

The wireless portal's client-centric approach and service delivery has transformed the way the Government of Canada does business.

3.1 Current Government of Canada Wireless Services

The Government of Canada's Wireless Portal is organized into 'contact' and 'service' categories.

3.1.1 Contact Information Availability

Contact Information:

- Members of Parliament, Library of Parliament
- Government of Canada employees, Public Works and Government Services Canada
- 1-800 O-Canada world-wide access numbers, Public Works and Government Services Canada
- Canada Business Service Centres, Industry Canada
- Passport offices, Foreign Affairs Canada

3.1.2 Services Availability

Services:

- Government of Canada news, Public Works and Government Services Canada
- Currency converter, Bank of Canada

- Exchange rates, Bank of Canada
- Border wait times, Canada Border Services
- Hurricane advisories (seasonal), Environment Canada
- Economic indicators, Statistics Canada

3.2 Case example #1 – Contact Members of Parliament

To use the Member of Parliament directory service, clients simply punch in their postal code on the wireless device to obtain the up-to-date contact information of their MP. As years pass and MP's change or change location, this service keeps citizens in touch with their representatives. (Source: Parliament of Canada, parl.gc.ca)

3.3 Case example #2 – Information on Border Wait Times

Since the disaster of September 11, border crossings between the United States and Canada have slowed down due to increased security. This service gives users updated wait time information for border crossings. This service has helped travelers select which border crossing they will use to travel. One user, a truck driver, commented that the value of this information was well worth the price of a Personal Digital Assistant and that accessing the information through a desktop computer simply wouldn't have had the same impact.

3.4 Collaborative approach

The services offered on its wireless channel, but it is also willing to provide other governments key strategies that have helped the Government of Canada's Wireless Portal reach world-class standards. The Government of Canada's collaborative approach includes:

- Working with other governments at all levels to encourage the development of new wireless information and services
- Providing leadership and instruction to other government departments on wireless related issues
- Exchanging wireless information and strategies with other governments worldwide.
- Speaking at conferences and seminars about wireless technology implementation. Participating in international studies that include wireless technology factors.

4. Results/Findings

4.1 Lessons Learned

The Government of Canada recognizes that the more channels it provides for access to information, the better the public is served. In addition, not all channels are created equally but rather different channels offer different types and different levels of information—wireless access is not a substitute for Internet access. Wireless services do not attract the same audiences as wired computing does—nor do its users seek the same information in the same manner.

The Government of Canada recognizes that wireless users have different and specific needs in comparison with « wired » Internet users; the portal attends to those needs. The Government of Canada's Wireless Portal does not just mimic the Canada Site in layout and content but is designed to intuitively deliver services and information for wireless device users.

The Government of Canada's Wireless Portal is specifically designed for wireless delivery in mind, providing information that is quick and easy to access—anywhere, anytime. Navigational aids such as numbered menus and default selections have been implemented to reduce the number of clicks that users make to access services. The number of services available is constantly increasing as we continue to identify how to serve users even better.

4.2 Challenges—Demands from Users:

- The Government of Canada will see increased expectations for the portal – government must keep pace with technology, and with users expectations.
- As the portal evolves, there will be an increased demand for more complex information on wireless devices.
- The Government of Canada may begin to encounter conflicts between privacy issues and expectations for information—i.e. requests for Global Positioning System (GPS) devices to show drivers the location of government offices.
- Wireless users expect to have access to all government information available across delivery channels, regardless of federal, provincial or municipal jurisdictions. Policy and legislative issues arise regarding the sharing of information across departments and agencies, but users want the full picture and this includes information that would be available at the regional/city level. This is a key feature of the wireless as new channel.

4.3 Challenges Presented by the Wireless Channel

Not surprisingly, the primary challenge in providing wireless services is the aspect of supporting the plethora of wireless devices in the hands of consumers today and tomorrow. Not only did issues such as screen size, bandwidth and wireless infrastructure have to initially be considered when creating the portal, but the ever-changing technological environment and compatibility issues also compels the portal to constantly evolve, adapting to the changing needs of wireless users.

In developing the Government of Canada's Wireless Portal, content and presentation of the services had to be quality checked on a realm of different devices (Palm, Blackberry, various Web-enabled phones, etc.). The way the service provider affects the presentation of information was also an important factor to consider as well. For instance, some wireless devices present information in a horizontal format so users have to scroll sideways to read the text. The challenge of remaining HDML (Handheld Device Markup Language) and WML (Wireless Markup Language) compliant while addressing the navigational challenges posed by various providers and devices was demanding. The Government of Canada is continuously troubleshooting and testing in an effort to be as optimally accessible as possible to the widest range of devices available.

5. Conclusions

As public sector agencies go online worldwide, mobile solutions – including wireless – enable citizens, businesses and non-profit organizations to access quickly, easily and conveniently information and services. The benefits of the portal are numerous, but above all it helps the Government of Canada stay connected with the public by:

- Increasing the number of channels available for government-citizen communication.
- Facilitating the identification of Government of Canada programs, products, services and cross-promoting all service channels.
- Providing services that are relevant to the daily lives of Canadian, international and business clientele when and where they need them.
- Enabling the public to access government services anytime and anywhere they are, replying to their needs and expectations.
- Creating a cost-efficient and growing access channel.

The Government of Canada's Wireless Portal has achieved both government and public recognition since its launch. Results from extensive client research have indicated strong support for this method of service—which is just what forecasts on wireless technology anticipated. In addition, the global management and technology consulting firm 'Accenture', has noted the portal as being "one of the more interesting e-Government developments", and has ranked Canada number one in e-government for five years in a row.

The lack of benchmarks and industry standards has made it difficult for the Government of Canada to gauge its wireless success in this new field. Despite this, the fact that governments around the world are seeking out the Government of Canada for strategies on how to implement their own mobile service delivery, is indicative that the Government of Canada's Wireless Portal is on the right path.

Ultimately, the Government of Canada's Wireless Portal supports many Canadian priorities. In an information-oriented age, the portal brings the Government of Canada closer to the public by enhancing pivotal points of access to information, services, programs and products. In the future, it is the Government of Canada's goal to continue to evolve with clients' needs, ensuring that even more Government of Canada services are available in a timely fashion with a simple keystroke. It is also the Government of Canada's responsibility to continue to raise awareness of all the service channels available to the public and to ensure that standards of quality remain high.

A wireless, mobile government, an 'm-government', uses technology to emphasize its readiness and its willingness to provide the public with services anytime and anywhere. M-government is the future of a truly ubiquitous government—accessible wherever and whenever they need it.

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