

Putting your ABC on the WWW

*Mark Frawley
Special Counsel
Environmental Assessment
and Appeal Boards*

November 20, 1998

1. Introduction
2. Accountability
3. Web design strategies
4. Authoring tools for site and graphics
5. Database connectivity/Security issues
6. Format for downloadable files
7. Feedback forms and e-mail
8. Domain name registration
9. Virtual hosting
10. Maintenance and upkeep
11. Return on investment
12. Where to go from here

1. Introduction

WWW. HTML. XML. FTP. POP3. I could go on. If you think it's all alphabet soup, help is available! From conception to implementation, the road to your Internet site doesn't have to be a bumpy ride. But there will be some work involved. An effective Internet site doesn't happen by accident. It's the result of a blend of careful planning and creativity. It is entirely likely that the issue of putting your Agency, Board, or Commission on the Internet (assuming that it is not there already) has surfaced in conversations over the past several months or years. If you have already started to discuss integrating Internet technology into your existing or new business practices, you are already on the right track. The question "If you build it, will they come?" has already been answered with a resounding "Yes!" Ministries and Agencies that are already on the web know that to be true. And if you remember that a good Internet site can make even a small ABC look big, the time has come to bite the bullet and venture into cyberspace.

The purpose of this paper is to explore the process of the strategic development of an ABC Internet site, one to which your target audiences will return regularly. It is now widely accepted that Internet technology will more and more become the medium by which organizations communicate both externally and internally. By the year 2000, 90% of web servers sold will be used for Intranets; that is, internal corporate networks designed on World Wide Web technologies. New research has shown that Intranets offer the best return of all recent IT Investment. The return on investment (ROI) can be incredible, since the cost may actually may be zero (that is if you already run a Local Area Network (LAN) and use an office "suite" which these days includes a web browser). Intranets can provide a cohesive and easy-to-understand knowledge infrastructure within your ABC. At the very least, it will provide a platform upon which to develop, build, and internally test a site which you can then turn into an Internet site by simply posting it on the Web.

Following the issuance of the Wood Report in February 1997, the Agency Reform Commission was established in April of that year. One year later to the month, the Guzzo Report was issued in April 1998. Among its many recommendations, were several in the area of Information Technology. In

particular, it called upon agencies to allow people access to and share their decisions using on-line technologies; to work on-line with their "customers" and their representatives; and to conduct customer satisfaction surveys as part of annual performance measurement.

In July of this year, the Chair of Management Board of Cabinet and the Attorney General wrote to all Ministers and Agency Chairs to follow-up on the Guzzo Report. Speaking in terms of using "enabling technologies", they stressed a strong service orientation in which agency business processes, procedures and practices are to be made readily available to users and potential users.

With this governance model as an agency-wide template, the use of web site-based information distribution and collection appears to be a natural fit.

Recent reports have stated that 40% of Canadian homes are connected to the Internet, and with Internet usage doubling every 18 months, with wired classrooms and public libraries, and with Access Ontario kiosks in shopping malls one day to provide access to government web sites, the time for agencies to embrace the Internet as part of their overall communication strategy has arrived.

What follows is a blend of context and advice acquired through study and personal experience, which I hope will be of some assistance.

2. Accountability

Apart from regular reports to the Deputy and/or the Minister, most ABC's public accountability document is the annual report. That traditional accountability document is, in my view, woefully out of date in our wired age. It is issued after the fact, and usually several months late. Its contents usually follow a standard format: information about the organization itself; its mandate(s); several work product reports, usually in statistical table format; charts, graphs, and perhaps even maps, used for effect; and contact information is usually found at the end.

But what if all this information were available in real time, not 12 to 18 months after the fact? And what if it were available for all to view, 24 hours a day, seven days a week? That is exactly what the Internet can provide. And at a time when government is making accountability a prime directive, how much more accountable could an ABC be than to make its workload efficiency information public and accessible on a daily basis?

If freedom of information issues are a factor, names of individuals can be omitted from any posted information. But for tribunals which deal with appeals on the public record, accurate information about the progress of any given matter filed with a tribunal cannot be more powerfully communicated than by placing it on the Internet.

There is simply no greater enabling technology at the present time than the World Wide Web.

3. Web design strategies

Becoming a good web designer need not be beyond your grasp. Even a legal background need not be an impediment to becoming a good web designer. Lawyers don't have to always agree with, or even like their clients. Their job is to make their clients look good. The same could be said of web designers!

Information Architecture is the foundation of the web design process -- a process that combines form, function, navigation and interface, interaction and visual design. The heart of good design is effective communication. First you define the problem, then you create a solution that balances pure information with an aesthetic that gives your message its voice. It is the classic tension between form and function, translated into the medium of cyberspace.

Since web design is a study in itself, I will simply highlight the steps which should be taken on the way to the design of any serious web site.

1. Define the site's goals. Refer to the organization's mission; ask who are the intended audiences; ask why people will come to your site.
2. Define the audience. Create scenarios of different categories of audiences, and how they might each use the site.
3. Identify content and functional requirements. Content might include an information page about the agency's mission and purpose, past and recent decisions, contact information, etc. Functional requirements might include member log-on pages, sign-up pages for e-mail newsletters, feedback forms, etc. Organize the content inventory into logical groupings, and your web site's structure will begin to emerge.
4. Establish the site's structure. Create a blueprint of the site. How will the user access its content? Define navigation. Consider incorporating "global branding" including your ABC's logo in the global navigation system, and don't forget official Ontario government "branding".
5. Map the site's structure onto a visual design. This step will incorporate an element of creative style. Create layout grids that will serve as templates for your actual web pages. Do some page mock-ups, get final approval, and your design process is completed.

At this stage you will have achieved your own personal convergence of form and function, and will have located your site somewhere on a continuum between the utility of a virtual library and the artistry of a virtual gallery.

4. Authoring tools for site and graphics

A good design is, of course, just the beginning. A satisfying web visit is the result of a site in which the design is seamlessly displayed using the intertwined disciplines of web publishing. There is almost no information design problems which cannot be solved by using one or other of the web tools available today, but the old adage that “less is more” is nowhere truer than on the web. Editorial content and design can be and should be combined to create effective communication. In a medium in which speed is a fundamental aesthetic, simplicity is a web architect's prime directive.

Once your web site design has been completed, you must turn to the actual physical construction of the HTML. HTML (hypertext markup language) is the language of the Internet. You can see HTML on any Internet site by choosing to “view source” in your browser. What you will see is a simple text file with “mark-up tags” designed to tell the browser how to display the text on your screen. For example, in order to make a certain portion of the text bold, you precede the words with the tag `<bold>` and end the phrase with the tag `</bold>`. Any words appearing within those opening and closing tags will be rendered as bold by the browser.

In the early days of web site authoring, webmasters simply used plain text software programs such as Windows Notepad to construct their site (some “hardcoders” still do). Now WYSIWYG web page authoring programs operate much as do word processing programs: you type text on to the screen, highlight a portion, click a button, and the proper tags are inserted behind the scenes.

Both major browsers, Netscape Navigator and MS Internet Explorer have built-in authoring programs. As well, there are stand-alone commercial programs with varying degrees of sophistication. An excellent program, available as a free download on the Internet, is America Online's [AOLPress](#). It is remarkably full-featured, and I recommend it to beginning web authors. For more advanced work, [Dreamweaver](#) by Macromedia is, in my view, without compare.

It is often said that imitation is a form of flattery. One of the best ways to learn how sites have been authored is to look at the source code. Unless the code itself indicates that it is copyright, you are free to use it on your own site. In that way, you can gradually build expertise by learning from other web site authors.

As to web graphics, there are several alternative strategies. The first is to obtain ready-made graphics, either by purchasing them in CD compilations, or downloading them from Internet sites which offer them at no cost.

The second solution is to create your own. Keep in mind that graphics used on Internet sites must be in a format which web browsers can read. The two most common web graphic file formats are GIF files and JPEG files. Almost all graphics software programs are able to save files in both of those formats. Paint Shop Pro is a shareware program having many of the features of PhotoShop but at a fraction of the cost. Whereas PhotoShop costs over \$800, Paint Shop Pro costs only a little over \$100. As with all software recommendations, you should obtain other information and suggestions by visiting web sites aimed at novice web authors.

5. Database connectivity and security issues

Sooner or later, even smaller ABCs will acquire and begin to use case management database technology to track their workload. And once that information is available electronically, to make your Intranet or Internet site a tool for strategic advantage, you will no doubt consider connecting your database to it. Database - driven dynamic web sites “serve up” custom pages to your visitors, depending upon their requirements. Security of the data is, of course, the central issue to address, and is one for which a range of solutions exists.

First however, it is important to understand that technology exists whereby the summary results of your data base (that is, a report generated by the database software) can itself be posted on your

Internet site without in any way connecting the underlying data or database to the Internet. Although this solution is a static rather than a dynamic solution, it is the first step you should consider, and may be the best solution, especially for smaller ABC's.

The advantage of using static reports are several. First, they can easily be produced as often as needed, even every day if required. Accordingly, they are almost as dynamic as actual database connectivity.

Secondly, the security issue is non-existent. Since the database is in no way connected to the Internet, it cannot be breached by hackers, coming in from the Web. Third, it is a much simpler solution from a technology point of view. No additional software, or more powerful hardware, is needed to allow the database to "speak" to the Internet, and therefore, maintenance is a much simpler matter. Finally, the cost of such "middleware" and of more powerful hardware (which would in some cases be very substantial) are not factors.

A discussion of actually connecting your database to the Internet is beyond the scope of this discussion. If you have reached such a development stage with your Internet site, you are already beyond the audience of this paper.

As to security issues generally, the fear of hackers entering operational networks is only a concern if you are running your Internet site from the same server as your local area network, or if the web server is connected to your LAN. Assuming you are not doing so, which is strongly advisable, the only damage that a hacker could do is to alter the pages of your Internet site itself. Since the pages on your web server are only copies of pages which you keep on your webmaster's desktop or on your LAN (and which you backup every night – don't you), in your own organization, the harm will be at most the embarrassment of an altered site for a few hours until you discover the alteration.

Mention of the copy of your site being stored on your LAN should remind you that such copy is available to all your staff, even those without access to the Internet itself. In that way, all your staff

has access to the same information as does the connected public, and can knowledgeably respond to public inquiries.

6. Format for downloadable files

Although most of the information which you will post on your site will be in HTML format, that is text and graphics designed to be read by browsers, there may be documents which you will wish to post for download by your visitors.

Documents such as your Rules of Practice and Procedure, forms to be used for filing whatever documents initiate the process in your ABC, your decisions, if you issue them publicly at the end of your process, are all likely candidates for download by the public. The advantage to the visitor of downloading the file is that it can be saved to his or her hard drive at home or at the office and be referred to offline without the need to be connected to the Internet.

There are two approaches possible. One is to post multiple copies of the document in various word processor formats. At a minimum, one would post the document in Microsoft Word format, Corel Word Perfect format, in plain text format, possibly in HTML format, not to mention other platforms such as Macintosh. The server storage space required for multiple postings can become significant over a period of time, and you'll have to acquire the ability to convert your document into multiple versions, which may mean the acquisition of additional word processing software. The time factor for multiple conversions will also be a factor.

The second approach is to post the document in "cross-platform" format. Adobe Corporation, a large and well-regarded software company, has created its Acrobat product which allows the conversion from any word-processor to its own proprietary format, while simultaneously significantly compressing of the document in size. For the visitor, the document is viewable through the Acrobat Viewer, available for free download from the Adobe's web site. As well, the Acrobat format makes

the document electronically searchable, so that the reading of a long document is enhanced by a speedy search capability. Significantly, the Acrobat format retains all the enhancement of the word processing document including graphics, font size, headers, footers, pagination, etc. The document can be printed directly from the web or, once downloaded onto the visitor's hard drive, can be referred to at any time after disconnecting from the Internet. As mentioned, the Viewer is free, while the cost of the Acrobat creation software is approximately \$300.00. It is virtually an Internet standard in its own right, and I highly recommend it.

7. Feedback forms and e-mail

A standard component of any Internet site should be the ability for the visitor to provide feedback to the site's host concerning the experience of visiting the site. Such feedback can be accomplished in one (or both) of two ways. The first is by creating a page on your site which allows the visitor to "fill in" a web form which you design. The contents of the form is sent to the site's webmaster and can then be compiled and printed, or even transferred into a database. This allows you to track the name, organization, street address, e-mail address, and any other information requested from and provided by your visitors for future use. You might build up a list of visitors who have taken the trouble to provide you with feedback and use that information for your purposes. Since they have taken the trouble to complete your form, they might well be prepared to participate in a customer satisfaction survey, or other such initiatives you may wish to undertake.

The second method of providing contact for your visitors is simply through e-mail. Your site should allow visitors to e-mail at least one if not more individuals at your ABC. You might wish to categorize the recipients of such Internet e-mails according to subject matter. For example, the webmaster might be designated to receive comments of a technical nature about the site itself, while your Registrar/Board Secretary or other comparable staff member might be designated to receive e-mails concerning questions as to your Board's practices or processes.

It is becoming more and more customary to provide such e-mail contact, and it would be neglectful not to provide such functionality on your site.

8. Domain name registration

Once your Internet site has been designed, built and tested on your desktop or LAN, there will come a time when you will wish to place it on the Internet itself. Unless you become nothing more than a link on some other organization's site, you will need a name for your site, one which must be registered with the proper Internet authorities. That process is referred to as domain name registration. Your web address will be something like ***www.yourname.on.ca*** or ***www.yourname.gov.on.ca***. The ***yourname*** part might typically be the initials of your organization, such as OMB, OEB, OHRC, etc.

Registration will be facilitated by your parent Ministry's IT staff, and will cost approximately \$100 dollars.

Once your domain name has been assigned, you will wish to ensure that the Government of Ontario's main Internet site is given notice of your existence and name, so that a link to your site can be put on the Government's main page. As well, you will wish to consider informing the various "search engines" of your newly created site so that individuals searching for information about you will be able to find you by doing a search on such search engines as Yahoo, Alta Vista, etc. The process of registering with such search engines is not a difficult one, and information can be obtained on those sites concerning registration with them. There are also sites which will simultaneously register your site with multiple search engines for free, or for a nominal fee.

9. Virtual hosting

A web site is physically located on a computer known as a web server. The location of that physical box can be on your own premises, on your parent Ministry's premises, or on the premises of an Internet Service Provider (an "ISP") who will host your site for a monthly fee. Such hosting by an organization other than yourself is referred to as "virtual hosting". To the Internet visitor, who types in your address in their browser, it makes no difference where the site is physically located. The pages show up just the same in the visitor's browser. There are clearly advantages and disadvantages to each method of hosting your site.

If you want complete control over every aspect of the hosting of your site, you will wish to investigate the acquisition of a web server yourself. This will require the acquisition of a new server, or the redeployment of an existing server to become a dedicated web server. For purposes of security it is wise to have your web site hosted on a machine other than the machine that serves your local area network.

You will also need a connection to the Internet, probably through CTS which, again, will be facilitated by your parent Ministry's IT Branch. The advantage of this first approach is complete control and easy accessibility. The disadvantage is cost if you have to purchase a new server.

The second alternative is to ask that your parent Ministry host your web site. It is important to ensure that your site is a separate site, and not simply a group of pages under your Ministry's site. For purposes of insuring the appearance of independence of ABC's, it is my strong recommendation that you not only obtain your own domain registration, but also ensure that your site appears separate and independent from that of your parent Ministry. The advantage to this second alternative is cost, while the disadvantage may be a loss of some measure of control and access to your site.

The third alternative available to ABC's is the hosting of your site by a commercial ISP. Prices for commercial hosting are dependant upon the size of your site (how many megabytes of space your

pages, graphics, and documents take) as well as the number of visitors who come to your site. The more visitors there are, the greater the burden placed upon the ISP, and accordingly, the greater the cost of hosting the site. The advantage of ISP hosting is that you need never concern yourself with the technical aspects of the site, nor do you have any capital expenditures. Once your site has been uploaded to the ISP's web server, your involvement will simply be to update it as often as needed. The disadvantage is that if as your site grows, you may well find your charges escalating, based upon the size of your site. As well, should traffic to your site become significant, you may find that you are being charged accordingly.

As in many other matters in this world, there is always a trade off to be made, in this case one of cost versus control and accessibility.

10. Maintenance and upkeep

A web site that is not maintained and kept up-to-date with accurate and timely content shows disrespect for its audience. This is even more true of a government or quasi-government site where every visitor knows that the site is funded by taxpayer dollars.

What does it say about an organisation's commitment to public accountability if it allows out-of-date or factually wrong information to be posted for public consumption. Would an agency send incorrect or stale information by mail to a member of the public, or advise them incorrectly by telephone? Visitors to a site have deliberately sought it out in order to access accurate information about process or to access data. They deserve nothing less than the most accurate and recent information available.

Site maintenance should be an integral part of the organisation's strategic communication plan. It should be in the hands of one or more persons who are tasked to update it on a regular basis, using whatever schedule is deemed most appropriate. If the organization releases decisions which are in the public domain, a copy should be posted when each decision is released.

E-mail functionality and feedback forms, if they have been deployed, should be responded to promptly. If anything, users of electronic communication have come to expect a quicker turn-around time than persons who communicate by regular (“snail”) mail.

In short, a web site should never be simply the focus of a celebratory launch, only to be then relegated to the back bench of the information technology server room. Its maintenance should be regarded as high a priority as other public communication vehicles such as answering the telephones, answering mail and publishing reports and brochures. The better the site is maintained the more it will be used, and the fewer the resources may be needed for traditional communication vehicles such as telephones, mail and print publications.

11. Return on investment

As mentioned in the introduction, the return on investment can be very considerable, and you should consider the following factors when determining how soon to establish your Internet site. The cost of designing and maintaining a site are relatively low. If you do most if not all of the work in-house, and use content which already exists in the form of brochures and other material, you will find the major cost to be the actual hosting of the site. Such costs (if an ISP is used) may run from \$50.00 per month and up, but should relatively low if your site is small.

The return on such an investment comes in various forms.

First, your existence on the Internet gives you instant recognition by as wide a connected public as your particular ABC now enjoys. You will find that the more information that you place on your site, and the better the quality and timeliness of that information, the less your organization will receive requests for information in the form of telephone calls, walk-ins, and written correspondence. Depending upon the nature of your present customer base, you may find that the

number of telephone calls is significantly reduced, if information concerning both the procedures of your organization and the status of individuals cases is to be found on your site. With less time being devoted to handling public inquiries, you may find that your staff can be re-deployed to more production-oriented tasks.

Additionally, as mentioned before, the “accountability factor” is significant. You will be recognized as an organization which is responding to the demand for information by the public, and will thus been seen as pro-active, rather than re-active in that regard.

Your customer base may in fact expand, if academic researchers and others find that your sites contains information of use to them. As well, other government agencies and Ministries, both within the Ontario government and beyond, will be able to access information about you in a way which they probably themselves employ, if they are seeking you out on line.

At our Board, it has been our experience that our presence on the Internet has been very positively received both by the public and others, and we consider the investment of time and money to have been very well spent.

12. Where to go from here

The Internet itself is a veritable treasure trove of information concerning web site design, creation, and maintenance. Starting with the Ontario Government’s Webmasters’ site, the list of helpful sites would be immense. The following are a few to start with:

D. J. Quad’ Ultimate HTML Site	located at	www.quadzilla.com
The Web Developer’s Virtual Library	located at	www.stars.com
WebReference	located at	www.webreference.com
WebReview	located at	www.webreview.com

Suffice it to say that you should first begin visiting the sites of the Ontario ABCs which have already ventured into cyberspace. From there, you can visit other agencies in other provinces, and finally, draw upon your experience as a visitor to sites which you find informative, well designed, and easy to navigate.

The only assurance which can be given is that your site, no matter how well designed, will evolve over time and will continue to develop as you gain experience and expertise. The Internet is now a standard tool which forms part of the total solution of information deployment. Since the information will change over time, so will your site.

Over time, you will have to confront the way users find their way through your site. Visitors will rarely proceed as they might through print medium in a linear fashion. Your site must therefore anticipate this different paradigm, and accommodate the way that your visitors will use your site. Their experience will necessarily influence the changes you will bring to your site as it evolves.

Perhaps the most important thing to remember is that your journey into cyberspace should be a pleasant one, as well as an informative one. The creation of your site will require introspection into your organization, its goals and mandate, the way it operates, and the way it interacts with the public. A successfully designed, deployed and maintained Internet site can offer your organization tremendous advantages in communication, collaboration and even information gathering. It can help build strong relationships with your customer constituencies. The time has never been better for you to make that strategic move onto the Internet.