



Center for Technology in Government

A WWW Starter Kit

Center for Technology in Government
University at Albany, SUNY
1535 Western Avenue
Albany, NY 12203
Phone: (518) 442-3892
Fax: (518) 442-3886
Email: info@ctg.albany.edu
<http://www.ctg.albany.edu>

Abstract

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Being on the Internet can mean many different things. For most government organizations, it means creating a World Wide Web site, but it might also entail e-mail, gopher servers, news groups and a host of other ways to communicate, share information, and deliver services electronically. This World Wide Web Starter Kit is based on CTG's experiences with a project we call the Internet Services Testbed. By working with seven state and local agencies to develop Web sites for their particular programs and customers, CTG has learned a lot about how to approach this fascinating, powerful, and ever-changing technology. This starter kit won't put you in the WWW business overnight. In fact, it lacks many of the technical tools that you will need to accomplish that goal. Instead, it helps you begin the process without having to reinvent the wheel.

So you want to "be on the Internet."

Being on the Internet can mean many different things. For most government organizations, it means creating a World Wide Web site, but it might also entail email, gopher servers, news groups and a host of other ways to communicate, share information, and deliver services electronically. We've prepared this World Wide Web Starter Kit based on our experiences with a project we call the Internet Services Testbed. By working with seven state and local agencies to develop Web sites for their particular programs and customers, we've learned a lot about how to approach this fascinating, powerful, and ever-changing technology. Our starter kit won't put you in the WWW business overnight. In fact, it lacks many of the technical tools that you will need to accomplish that goal. What we think it does do is help you begin the process effectively, without false starts, without tackling technology before you answer more fundamental questions, and without reinventing the wheel more than once or twice.

The Starter Kit contains information and links to a few resources for WWW site beginners that we have found very helpful in getting off to a good start. They may or may not be the best in their classes (we haven't looked at everything or done a formal evaluation), but they are good, solid resources that you should find helpful in mastering the fundamentals. There is a listserv for government Web site developers, a style guide or two, on-line tutorials, even some books. From here, you still have a lot of work to do, but you should find that work more effective, efficient, and rewarding than you might otherwise. Good luck, and please let us know if you find our kit useful!

Okay. First things first.

Why does your organization want to "be on the Internet?" Because it's the latest and greatest? Because everyone else is doing it? Because the boss says so? None of these is a bad reason, but none of them is a sufficient reason for joining the World Wide Web. You and your agency need to think through the answers to these questions:

- What information or information-based services of your agency are suitable for electronic delivery over the World Wide Web?
- Who wants this kind of information or service? Are these potential customers likely to be connected to the Web?
- Who in your agency is responsible for the information resources you want to put on the Web? Are they on your team?
- What kind and level of skill and effort will it take to turn existing information resources into Web-friendly ones? Are those resources available?

- What will it cost in terms of dollars, people, and technology to build and operate an effective Web site?
- Who will benefit from a Web based service and how will they benefit?

These and other questions are discussed in the document 'Developing & Delivering Government Services on the World Wide Web: Recommended Practices for New York State' created by CTG. The document gives a holistic view of creating government services on the WWW. It emphasizes important topics that are often neglected: setting service objectives and policies, organizing and managing staff and other resources, assessing costs and effectiveness. In short, it attempts to supply government managers with a set of planning tools and good practice guidelines for approaching the WWW as a mode of service delivery.

What are others doing?

A good way to become an effective WWW content provider is to be an active WWW user because most of the information needed to develop and maneuver around the Internet actually lies within it.

Visit as many existing sites as you can to see how other people in organizations like yours have dealt with the issues outlined above. Use directories and search engines to locate existing sites that seem to have a purpose or audience or product similar to yours. Search engines and directories are Internet tools that help you locate Web sites that match certain criteria or fall into specific categories. There are many to choose from, but it's a good idea to become very familiar with a few good sites. Here are our favorites:

- **Directories:** A directory represents information resources in an organized, categorical fashion. Directories often contains a great deal of information about specific topics. **Yahoo!** <http://www.yahoo.com/> is a very good directory that provides links to all the different types of information on the Internet. **A Business Researcher's Interests** <http://www.brint.com> is another directory service, sponsored by the Association for Information Systems, that focuses on several specific fields of interest: information processes, systems, and technologies that are relevant to contemporary organizational issues. **StateSearch** <http://www.nascio.org/stateSearch/index.cfm>, sponsored by the National Association of State Chief Information Officers, (NASCIO) is a directory of many kinds of information systems applications in state governments.
- **Search Engines:** A search engine gives you the ability to search for keywords on World Wide Web pages. There are hundreds of search engines available, and a good site to visit to get access to the best ones is <http://www.search.com/> . Two good search engines are **Lycos** <http://www.lycos.com> and **Altavista** <http://www.altavista.com/>. Take some time to learn the searching process that these services use. You'll soon be able to narrow your search terms to ones that find many useful sites (and fewer not useful ones).
- **What to look for when you visit other WWW sites** Now that you know how to find sites that deal with topics that interest you, what should you do when you get there?. As you visit others of your kind on the Web, and peruse their sites, ask yourself:
 - Do these people know who their customers are?
 - Do they make it easy for their customers to navigate and find useful information?
 - Have they made it easy for people to contact them or ask questions?
 - Do they waste their visitors' time?
 - Are they providing a useful service?
 - Are you glad you found them?
 - Would you visit this site again?

How do you start designing a WWW site?

Like all other forms of human communication, a good Web site is a combination of art and science. Effective Web sites combine a clear purpose, thoughtful organization, substantive content, graphic arts, good writing, and ease of navigation. Before you try to design a Web site for your organization, take the time to review some style manuals. We recommend three. One is an electronic style guide that you'll find on the Internet. The others are good old fashioned books (one comes with a companion CD Rom attached).

- **Web Style Manual** Patrick J. Lynch, Yale Center for Advanced Instructional Media <http://info.med.yale.edu/caim/manual/index.html> This on-line manual is a classic for Web site designers. It describes and illustrates a core set of principles for designing World Wide Web sites and Web pages.

The guide builds on traditional editorial concepts and combines them with new graphic, user interface, and information design principles. The guide is very readable, full of examples of good and bad design, and has lots of technical hints for optimizing the performance of Web pages. Some topics include design integrity, templates, essential elements, and links and navigation aids. It also includes several useful appendices.

- **The Web Page Design Cookbook All the ingredients you need to create 5-star Web pages** William Horton, Lee Taylor, Arthur Ignacio, Nancy L. Hoft John Wiley & Sons, Inc., (1996) 649 pages, ISBN 0-471-13039-7, US\$34.95 According to the publisher (and we agree), this book takes the approach that a successful Web site is more than "strung-together pages full of text and hodge-podge graphics." It begins with a discussion of why you would want to "do this Web thing" and moves into how to go about "creating complete and balanced Web sites that are both pleasing to the eye and nourishing to the brain." This book won't teach you how to program in HTML, but it will help you build an information structure to guide Web site development, learn elements of style, find answers to the most frequently-asked questions, and learn about international design issues. The companion CD provides hundreds of templates, graphics, and HTML code ready to use and paste into your own pages.
- **Managing Internet Information Services: World Wide Web, Gopher, FTP, and more** Cricket Liu, Jerry Peek, Russ Jones, Bryan Buus & Adrian Nye Nutshell Handbook Series, O'Reilly and Associates (1994), 668 pages, ISBN 1-56592-062-7, US\$29.95 Publisher's description: This comprehensive guide describes how to set up information services and make them available over the Internet. It discusses why an organization would want to offer Internet services, provides complete coverage of all popular services, and tells how to select which ones to provide. Most of the book describes how to set up Gopher, World Wide Web, FTP, and WAIS servers and email services. Creating a service can be a big job, involving more than one person. This book separates the setup and maintenance of server software from the data management, so that a team can divide responsibilities. Sections and chapters on data management, a role they call the Data Librarian, are marked with a special icon.

Learn to be a WWW author by investigating on-line tutorials.

Website development and all that this implies, is one of the most widely covered topics on the Internet. Websites from every walk of life offer comprehensive tutorials on subjects ranging from HTML to JAVA; VRML to video. Finding an intuitive, full-featured tutorial is no easy task. You need to distinguish a robust and well organized tutorial, from one that does not engage you in the learning process.

Your search for a tutorial should start with a search engine. Don't limit your searches to only one 'string' of searchable information (e.g., these two examples will yield you very different results: "tutorial" +html or "html" +tutorial). Query the results of your search while keeping several things in mind:

- Look for a tutorial in Websites that have a clear purpose. Universities and corporations are often good sources of information.
- A tutorial should be easy to navigate and never leave you stranded.
- The tutorial should be progressive in content, and present good mechanisms for study and implementation following the lessons.

We especially like a tutorial called "**Writing HTML, a tutorial for creating WWW pages,**" <http://www.mcli.dist.maricopa.edu/tut/lessons.html> created by the Maricopa Center for Learning & Instruction. We used this tutorial as part of a workshop in our Internet Services Testbed. It meets all of the criteria mentioned above, and was chosen as the best tutorial from among the forty that were screened for this event. All feedback we've received about this tutorial has been very positive.

Get involved in the on-line community.

Share questions and answers with others who are doing the same work you are doing-- they are facing, and sometimes solving, the very same problems that confront you. We recommend two ways to do this. First,

subscribe to listservs or news groups that focus on WWW development and management and, second, read print and on-line magazines devoted to the use of the Internet. Some recommendations:

- **GovPub Listserv** A listserv is a tool for having discussions among large numbers of people through electronic mail. The purpose of the GovPub listserv is to provide an open discussion forum for state and local providers of public information and others who care about getting local and state government information to the people in digital formats. The list discussion covers such topics as content decisions, design issues, management of Web services, financing these services, marketing, and technical topics. The archives of the GovPub listserv can be found on the World Wide Web at <http://listserv.nodak.edu/archives/govpub.html> To participate, go to <http://listserv.nodak.edu/scripts/wa.exe?SUBED1=govpub&A=1>, or send an email letter to LISTSERV@LISTSERV.NODAK.EDU. Leave the subject blank, and write {subscribe govpub *yourfirstname yourlastname*} in the body text of the message. You will receive confirmation by return email along with instructions about how to participate.
- **WebMaster Magazine** You can find many magazines and other trade publications on the WWW. One of our favorites is WebBusiness Magazine <http://www.cio.com/>. It is loaded with articles, features, tools, links, and on-line seminars that should be useful to anyone who has the daunting responsibility to design, build, or manage a Web site.

Think about the government policies that should be reflected in your Web site.

New York State has recently adopted an Internet policy http://www.oft.state.ny.us/policy/tp_968.htm, and our Internet Services Project has created a set of guidelines for agency use of the WWW. Two other Internet policies that we've found particularly useful during our research work are from **Minnesota** http://www.ot.state.mn.us/ot_files/handbook/guideline/seltop1.html and **Ohio** <http://www.state.oh.us/iac/guidelines.htm>. Some policy topics that will need your attention include security; privacy and confidentiality; standards for presentation, navigation, and indexing; coordination among agencies and links to a government-wide home page.

Enjoy the work & stay in touch.

Making information and services available to people over the WWW is interesting, exciting, and important work. It combines several fields of knowledge and enhances traditional services with powerful new technologies. It is fertile ground for both personal and organizational learning. You have a lot to do and a lot to learn, but this may be one of the best assignments you've ever had.

Please let us know if this guide is helpful and make suggestions about how to improve it. We'll update the Starter Kit periodically and count on your feedback to know what works and what doesn't.

About the Center for Technology in Government.

The Center for Technology in Government, an **Innovations in American Government** award winner, forms strategic partnerships with government agencies, technology corporations, and university faculty and students. Three dozen high tech companies, more than thirty government agencies, and a dozen academic researchers have participated in Center projects since its inception in 1993. CTG's mission is to solve problems related to public services through the use of information technology in state and local government.