

INNOVATIONS

The Center for Technology in Government, University at Albany/SUNY
An Innovations in American Government Award Winner

January 1999

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Creating a Digital Government

In an effort to foster the debate about technology and government, the Center for Technology in Government hosted "Designing the Digital Government of the 21st Century: A Multidisciplinary Workshop" on Oct. 5-6 in Arlington, VA. The workshop is one in a series sponsored by the National Science Foundation's Digital Government Program. The NSF-funded workshop brought together 67 researchers and government practitioners to discuss ways they can collaborate to produce innovative and effective information-based government services.

The workshop focused on the multi-faceted environment in which government information systems are developed. Real life government applications of using IT to achieve program objectives were presented. Workshop participants learned about the IRS e-file electronic tax return filing system, the Washington State Public Health Network, and the computerized statistical and monitoring program of the New York City Police Department. These and other examples helped demonstrate the pivotal role that IT can play in government services, and helped set the stage for discussions about how research can contribute to future efforts.

Eight key government needs for the 21st century emerged from a variety of discussions.

- ◆ Create interoperable systems that are trusted and secure. Research is needed to understand system integration in technological, organizational, and political terms.
- ◆ Match research resources to government needs. The best forms of investigation must involve theoretical research *and* field work to create practical ideas that government can use.
- ◆ Develop better methods of IT management. This includes management of software development and upgrades, outsourced development and operations, and leadership.
- ◆ Encourage citizen participation in governance. How will the Internet enable greater involvement of the citizens in democratic processes and institutions of governance?
- ◆ Create new models for electronic public service and transactions. It is necessary to develop new methods of authentication, record-keeping, security, and access due to the proliferation of the Internet and its potential to offer new integrated services and self-services.



What does the future hold? Steve Holden from the IRS shows a TV ad in which taxpayers file their returns from the moon.

- ◆ Develop new focus of organization. Given the diversity of players involved in delivering public services, developing effective IT systems may require new partnerships across programs, agencies, levels of government, and between the public and private sectors.
- ◆ Develop intuitive decision support tools for public officials. How will leadership decisions be affected with technologies and data standards that encourage information search?
- ◆ Devise effective archiving and electronic records management tools and practices. With most information now in electronic files, issues such as record definition and content, version control, and public access affect how government functions.

The workshop participants also identified a number of preliminary recommendations for NSF as it continues to develop the Digital Government Program.

- ◆ Consider competing values of government and academia when creating new models for integrating practice and research.
- ◆ Involve all levels of government and private sectors to ensure program success.
- ◆ Use a variety of research methods to address critical components of successful systems.
- ◆ Devise new methods to turn research into practice and infuse research with the problems of practice.
- ◆ Include projects that focus on the nature and effects of "digital governance."

After discussing these issues and recommendations, workshop participants brainstormed project

Digital Government Workshop Presentations

- A Sampler of Government Agency Missions
- Research Trends Relevant to Digital Government
- Government Needs and Research Approaches to Meeting Them
- Where are the Crossroads of Research and Practice?
- How Can Research Contribute to More Effective Government?
- How and Where Should Digital Government Funds be Invested?
- Developing a Marketplace of Ideas for Digital Government Research Projects
- Recommendations for NSF's Digital Government Research Program

ideas that would address them. A total of 35 innovative ideas were proposed, including investigations on the forms of electronic democracy, the role of specific tools like XML in the integration of data standards, the management of public records in the electronic age, and the creation of networked virtual organizations for the delivery of public services. Some of these ideas may be submitted to the Digital Government program in future rounds of funding.

Thanks to the hard work and dedication of the academic researchers and government practitioners in the NSF program, a robust "digital government" is more likely to emerge in the 21st century.

Y2K. From all the hoopla surrounding the year 2000 problem, you might think that it's the only technology issue facing government in the coming millennium. In reality, there are a great many crucial issues being discussed about how technology can improve the way government delivers services to citizens in the next century.

For more information see
<http://www.ctg.albany.edu/research/workshop/digitalgov.html>



Expanding our Reach

One of the most important lessons CTG has learned is that partnerships are crucial to success. In the spirit of that mission, CTG has established a formal partnership with a technology research center in Quebec, Canada.

Sharon Dawes, director of CTG, and Monique Charbonneau, president and director-general of Le Centre Francophone d'Informatisation des Organisations (CEFRIO), signed a cooperative agreement linking the two research centers. The three-year agreement began in August 1998 and includes a plan for annual meetings of researchers at both organizations, exchanges of services and literature, opportunities to draw on each other's expertise within the framework of their individual activities, and pooling of expertise in order to develop or participate in projects of greater scope. The first such project, "New Models of Collaboration for the Delivery of Services to Citizens and Businesses," is in the early stage of development and involves researchers in Canada, Italy, Brazil, and the U.S.

CEFRIO and CTG share a commitment to improving public services and public management and have strong mutual interests in the design, implementation, and evaluation of technology-based innovation in complex organizations. The association between the two centers began last year in an exchange of participants in CEFRIO's conference on "Public Services and Information Highways" and CTG's workshop on "Beyond Research: Fostering IT Innovation in Government."

CEFRIO, a nonprofit research enterprise established in 1987 and supported by the government of Quebec Province and corporate and academic members, has conducted more than 140 projects on effective use of advanced networking and computing technologies directed to all sectors of the Quebec economy.

Learn more about CEFRIO at
<http://www.cefrio.qc.ca>

Gateways Helps Homeless

Three square meals a day, a bed to sleep in, a roof over your head. More than 30,000 New Yorkers go without these necessities because they are homeless.

Delivering housing, education, employment, health, and other services to the homeless population is a complex task. A variety of government and not-for-profit organizations are involved. A person may receive drug counseling from one agency, get job training from another, and live in housing provided by a third.

CTG is working with the Office of Temporary and Disability Assistance, Audit and Quality Control, Bureau of Shelter Services (OTDA) and the New York State Archives and Records Administration to develop a prototype information resource that will draw upon data from existing case management systems and use technology to enable decision-makers to manage and evaluate temporary housing and service programs for homeless families and single adults.

The prototype is being developed as part of "Gateways to the Past, Present, and Future: Practical Guidelines to Secondary Uses of Electronic Records," a project funded by a research grant from the National Historical Publications and Records Commission. "Gateways" will entail research on robust records management processes and models to ensure that data maintained by government agencies will be available and useable for the widest variety of contemporary and future public needs. The OTDA prototype, which should be completed in the fall, will be just one example of how the government can help deliver services to people through the smart management of electronic records.

For more information about "Gateways,"
 visit the project Web site at
<http://www.ctg.albany.edu/projects/gateways/gatewaysmn.html>

Fulfilling the Impossible Mission

"Good morning, Jim. Agencies at all levels of government face a myriad of problems when trying to access and use information to manage their programs and deliver services to the public. Your mission, if you choose to accept it, is to develop a compelling, service-oriented technology approach that will lead to effective use of information within your agency. As always, should you or any of your agents be caught jumping to conclusions, the director will disavow any knowledge of your actions. This recording will self-destruct in five seconds. Good luck."

While some people called it a "mission impossible," everyone who participated in the first year of the Center for Technology in Government's "Using Information in Government" (UIG) program considers it a resounding success. The UIG round one workshop series concluded November 18 with presentations of business cases by the three participating state agencies: Office of the State Comptroller, Division of Municipal Affairs (OSC), Central New York Psychiatric Center (CNYPC), and Office of Temporary and Disability Assistance, Audit and Quality Control, Bureau of Shelter Services (OTDA).

Since last April, these groups have been working on projects that will help them solve information use problems within their agencies in order to better serve the needs of New York State citizens. "The information you really need to do the work you do is often hard to find, but it is of such great value that it's worth the effort to get it," said CTG Director Sharon Dawes.

OSC developed an idea to improve its decentralized program of advice and assistance to municipal governments in New York. The agency plans to use electronic document management, a customer information directory, management analysis tools, and a workflow management system to create the prototype Municipal Affairs Contact Repository Operating System (MACROS). OSC hopes the full system implementation will be completed in phases over the next several years.

Developing a fast and reliable Intranet platform database system to support executive decisions is the goal of CNYPC's project. The management of the forensic psychiatric center, which oversees operation of 19 similar regional units, needs quick access to clinical and operational information for planning, staffing, and resource allocation decisions. The CNYPC system involves developing new reports, setting up an electronic data transmission process, implementing automatic reporting capabilities, and linking to other existing databases. The agency hopes to have the information system implemented by December 2000.

OTDA's project involves developing plans for a uniform database to provide agency officials and local partners with the information needed to track homelessness and more effectively manage homeless services in New York State. The project calls for merging existing data to create an integrated homeless database for tracking and decision-making functions and then adding information about client services for evaluation purposes. OTDA's project will become part of CTG's electronic records research grant, "Gateways to the Past, Present, and Future."

A great many lessons were learned during the first year of the UIG program. In February, CTG will begin a series of information sharing seminars to impart that knowledge to a wider audience.

For more information about UIG activities, see
<http://www.ctg.albany.edu/projects/usinginfo/usinginformn.html>

AlbanyNet Joins the Team

One of the Capital Region's first Internet service providers has joined forces with CTG as a corporate partner.



AlbanyNet is a partner in "Gateways to the Past, Present, and Future: Practical Guidelines to Secondary Uses of Electronic Records." The company donated four Internet connections for key staff at the New York State Office of Temporary and Disability Assistance (OTDA). The Internet connections from AlbanyNet will facilitate communication between OTDA, CTG, homeless shelter providers, and corporate partners for the duration of the project to develop a prototype integrated information management system.

Established in 1994, AlbanyNet provides Internet access, Web site design, Web hosting, network design, and network implementation.

Visit the AlbanyNet Web site at
<http://www.albany.net>

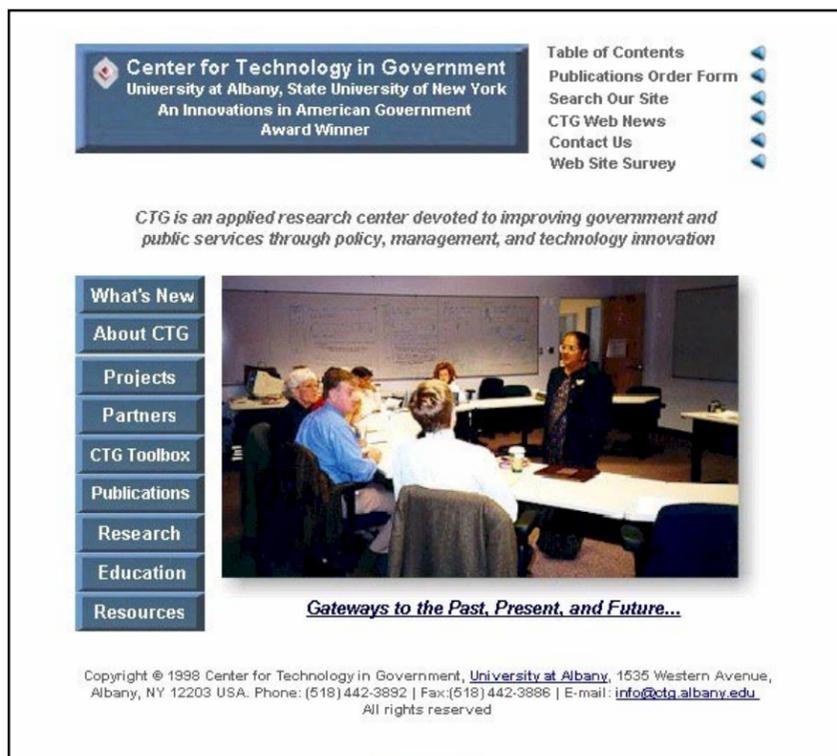
Unveiling a Whole New Look

Halloween is a time for treats and CTG gave out a good one with the launch of our newly redesigned Web site on October 31. Months of research, planning, and testing yielded what we think is a more intuitive, visually appealing, and versatile tool for universally disseminating information on our practical products, handbooks, reports, and events.

The process of redesigning a Web site is very different than starting from scratch. You do not have to go through the usual processes of getting management to buy into the idea of having a Web presence; they are already on board. What you do have to think about is your current customer base, and if your "improvements" will work for them and with the version of browser software that they currently have installed on their systems.

Much consideration was given to CTG's customers – who they are, and how and why they use our products. It's tempting to follow the trends of many Web sites by adding the latest technical features to our Web site, and by loading it with flashy graphics, text, and advertising banners, but it all boils down to why did we create the Web site? It wasn't just to advertise CTG's presence. No, the main purpose of the CTG Web site is to disseminate the results of our projects to all levels of government, and the public at large. Remembering our purpose helped us stay focused on what's important – content – and deterred us from overdeveloping the technology glitz.

New design elements include a fresh layout and menu buttons on the homepage, and on each corresponding menu of the Web site. A triangular menu identifier has been added to corresponding menu buttons, indicating the menu you are currently visiting. A theme-oriented graphic has been added to the center of the



homepage, highlighting the work and the partnerships that define CTG's mission and program. A new "utility" list has been added to the homepage and menus (located in the upper right corner of the homepage and each main menu); links to the "CTG Table of Contents," "CTG Publications Order Form," "Search Our Site," "CTG Web News," "Contact Us," and the "Web Site Survey" are available from this list. A companion text navigation bar is available at the bottom of each menu, and corresponding Web pages.

Future enhancements to the CTG Web site will include:

- Mouseover/rollover feature – This will render a description of the content that lies beneath the selected menu graphic on the homepage. The feature will also be used to create a highlighted menu button, indicating your location within the Web site.
- Text-only version of the Web site – This will provide equal access to visually-impaired and browser-disadvantaged visitors.
- Menu/project theme-oriented graphics – These images will be placed strategically throughout to provide a more visually appealing, informative, and easy-to-understand Web site.

Please take a few moments to browse through the site, and to participate in our Web Site Survey. The CTG Web site is located at <http://www.ctg.albany.edu>

Play Gov't Manager for a Day

Our highly rated *Information, Technology, and Government* (ITG) seminar will be held March 17-18 at the University at Albany. The NYS Office for Technology (OFT) is co-sponsoring the seminar, and will participate by providing updates on new technology initiatives in NYS.

ITG gives corporate executives and staff who do business with state and local government the chance to become immersed in the decision-making environment of their public sector customers. During the seminar, corporate representatives assume the roles of government managers, facing realistic information problems and a range of management, policy, and technology choices. Participants gain specific knowledge that helps them better serve their government clients.

Space is limited, so we encourage you to register early by calling CTG Education Coordinator Winsome Foderingham at (518) 442-3983.

For more details on the seminar, visit our Web site at <http://www.ctg.albany.edu/education/courses.html>

New Faces

Traditionally, graduate students get training at CTG. But with over 20 years in the information technology field, CTG's newest graduate assistant, **Jochen Scholl**, may have a thing or two to teach us.

Jochen, a native of Germany, entered the computer industry in the late 1970s after studying computer science at the University of Bonn. He developed top-notch skills as a sales, corporate, marketing, and information technology strategist while working for such companies as Data General, Apple, and ITT. He earned an executive MBA in 1997 from the Graduate School of Business Administration in Zurich, Switzerland.

Jochen joined CTG and the University's Information Science doctoral program in August. He is working on a variety of projects at CTG, including one on childhood statistical indicators and another on e-commerce.

While the technology and research teams have the highest profiles at CTG, the operations team works behind the scenes to ensure our strategies are made known to the widest possible audience. **Stephanie Simon** brings more than five years of experience in journalism and public relations to that team as our new information coordinator.

Stephanie joined CTG in November after three years at Siena College where she was assistant director of public relations. She previously spent two years as a newspaper reporter and editor. Stephanie earned a bachelor's degree in magazine journalism from Syracuse University's Newhouse School of Public Communications.

Managing Electronic Records

Imagine business without computers. There'd be no e-mail to colleagues, no Internet searches, no documents stored on hard drives, no network sharing of databases, no electronic tracking of services. In short, business would flounder.

While businesses and government agencies need computers in order to compete in today's marketplace, many of these organizations are at a loss about how to effectively manage their electronic records. Based on the two-year applied research project "Models for Action: Developing Practical Approaches to Electronic Records Management and Preservation," funded by the National Historical Publications and Records Commission, the Center for Technology in Government developed a system design model that organizations can use to manage electronic records.

A new briefing paper, "Practical Tools for Electronic Records Management and Preservation," outlines the steps businesses and governments can take to efficiently and effectively manage electronic records. The paper, published in December by CTG, covers such topics as electronic records goals, functional requirements, and analysis and implementation of records requirements.

The briefing paper and other elements of the "Models for Action" electronic records management model are available online at <http://www.ctg.albany.edu/projects/er/ermn.html>

Innovations is published quarterly by the Center for Technology in Government, University at Albany, State University of New York.

Editors:
Stephanie Simon
Sally Goodall

Contributing authors:
Donna Berlin
Peter Bloniarz
Ophelia Eglene

1535 Western Avenue
Albany, NY 12203
(518) 442-3892 (phone)
(518) 442-3886 (fax)
info@ctg.albany.edu
<http://www.ctg.albany.edu>



... an applied research center devoted to improving government and public services through policy, management, and technology innovations.

Making Connections

August 1998

Kristine Kelly, project research manager, and **Theresa Pardo**, project director, discussed “An Innovative Methodology for Conceptualizing and Evaluating Government Information Systems: The CTG Approach” as part of the **Association for Information Systems 1998 Americas Conference** in Baltimore, MD.

Meghan Kiernan, project management specialist, taught a group of school principals and teachers in the **Educational Administration Doctoral Program** at the University at Albany. She presented the class with several tools from “Making Smart IT Choices,” including determining service objectives, stakeholder analysis, and strategic framework.

September 1998

Peter Bloniarz, research and lab director, traveled to Boston, MA, to participate in a **National Science Foundation (NSF)** site visit for the National Computational Science Alliance portion of the Partnership for Advanced Computational Infrastructure (PACI) project. While in Boston, Peter also got a demonstration on how Boston University is using high performance distributed computing to create virtual museums. He also attended a planning meeting for the Links 99 conference.

Alan Kowlowitz, archivist with the New York State Archives and Records Administration, joined Kristine at the **Society of American Archivists 1998 Annual Meeting** in Orlando, FL. The pair presented “Models for Action: Developing Practical Approaches to Electronic Records Management.”

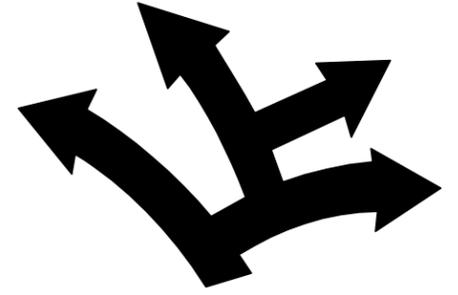
Theresa and Alan presented a talk at the **Government Technology Conference** in Albany on the results of the “Models for Action” project. The tool developed from the project allows public and private sector organizations to improve their records management in network-based information systems.

October 1998

On behalf of New York State, **Sharon Dawes** accepted the **1998 Best Practices in the Use of Information Technology in State Government Award from the National Association of State Information Resource Executives (NASIRE)** at its annual meeting. Sharon presented “Tying a Sensible Knot: A Practical Guide to State-Local Information Systems,” the results of the project that garnered the NASIRE recognition.

Peter presented information about CTG’s “Designing the Digital Government of the 21st Century” workshop to the **Computer Science and Telecommunications Board of the National Research Council** in Washington, DC.

Pam Neely, graduate assistant, presented a paper on “Data Quality Tools for Data Warehousing: A Sample Survey” at the **Massachusetts Institute of Technology’s Information Quality 98 conference**. Pam joined other information technology researchers and practitioners in sharing academic papers and discussing practical problems about information quality.



Peter returned to the nation’s capital for the **RCI annual meeting** where he conducted a “Making Smart IT Choices” workshop. His audience was a group of advanced users of high-performance computing in the government and private sectors.

Kristine and Theresa joined forces again, this time as guest lecturers at the Nelson A. Rockefeller College’s School of Information Science and Policy. The duo spoke to **Prof. Deborah Andersen’s “Information Environment”** class about the CTG model and a number of projects, including “Gateways to the Past, Present, and Future: Practical Guidelines to Secondary Uses of Electronic Records” and “Models for Action.”

A meeting of the advisory committee of the NSF’s Minority Institution Infrastructure grant drew Peter to the **Fond du Lac Tribal and Community College** in Cloquet, MN. The NSF program is designed to increase the number of Native Americans in the computer science ranks.

Sharon and **David Connelly**, graduate assistant, participated in the **Association for Public Policy Analysis and Management** annual conference in New York City. Sharon chaired a session on information sharing in government and the pair discussed “Applied Research as a Means of Policy Implementation: Intergovernmental Information Systems in New York State.”

Sharon traveled to California to meet with potential collaborators in the Computational Science Alliance. She had discussions with representatives from **San Diego State University**, including **Prof. Kris Stewart**, and colleagues at the **San Diego Supercomputer Center** at the University of San Diego, including **Ann Redelfs**.

November 1998

Theresa presented information about CTG’s “Using Information in Government Homeless Services Program” at the **Shelter Directors Conference** in New York City to help educate shelter directors about the work OTDA and CTG are conducting to develop a prototype integrated information management system in the “Gateways” project.

The **SC ’98 conference** in Orlando, FL, was Peter’s destination this month. He attended the conference dedicated to high performance computing and networking technologies and participated in a redesign of the intranet for the NSF’s PACI program.

Prof. Thomas Galvin’s “Managing the Information Organization” class at the Rockefeller College’s School of Information Science and Policy learned about the “Smart IT” model and other CTG projects during a guest lecture by Theresa.



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STATE UNIVERSITY OF NEW YORK

Center for Technology in Government
University at Albany, SUNY
1535 Western Avenue
Albany, NY 12203

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