

INNOVATIONS

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Dealing with Data

Data – facts, figures, information, evidence, reports, details, notes, documents, records, statistics, measurements, results, findings. There are just about as many ways to describe the word “data” as there are methods to deal with it.



Presentations at the “Dealing with Data” seminar sparked conversations among participants. Here OSC’s Joe Green (center) and Robert VanAlstine discuss some ideas with CTG’s Theresa Pardo.

CTG, in conjunction with the New York State Forum for Information Resource Management, provided government program managers with lessons on “Dealing with Data” at the first session of the Using Information in Government Program Seminar Series on February 4. The series is designed to share the lessons CTG learned in the first year of the *Using Information in Government* (UIG) program with public sector managers. “Dealing with Data” examined a variety of topics related to data use, including data quality management, data tools and techniques, and real life experiences with data projects.

Giri Tayi, associate professor of management science and information systems at the University at Albany, discussed data quality. Data, information, and knowledge should be thought of as the raw materials of the Information Age. Tayi said, “Data quality addresses the fitness for use of these raw materials.”

Knowing the attributes of data and how to manage them are integral to having good quality. Some of the characteristics of data are: accuracy, objectivity, believability, reputation,

completeness, timeliness, relevancy, interpretability, consistency, accessibility, and security. Often, when developing systems, some of these attributes are sacrificed for others. Tayi said it is important to make the right trade-off.

“Approaches to enhancing data quality should focus on improving the data itself, improving the mechanisms that collect and deliver data, and improving the ability of an individual to assess the data quality for a specific purpose,” Tayi said. “These are not mutually exclusive and all should be pursued.”

Using data standards is one way of helping to ensure good quality data. Wendy Scheening, manager of Data Processing Technical Services at the New York State Department of Agriculture and Markets, is actively involved in this issue as coordinator of the NYS Office for Technology’s Statewide Data Dictionary and Data Standards project.

“Resolving data issues is a journey, not a destination.”

Professor Giri Tayi

The full report on the “Dealing with Data” seminar is available on the CTG Web site at www.ctg.albany.edu/projects/usinginfo/usinginfomn.html#dwdrpt

“Statewide standards are good for New York,” Scheening said. Such standards help create good data by increasing consistency and validity, facilitating communication between government agencies, improving management decisions, and enabling the integration of systems.”

There are a number of tools available to ensure the quality of data. Pam Neely, CTG graduate assistant and student in the University at Albany’s information science doctoral program, discussed how auditing, cleansing, and migrating tools are used.

“Data warehouses need clean data to yield accurate information,” Neely said. “Data quality tools are emerging as a way to automate the process.” Data auditing tools are used to ensure the accuracy of the source of the data. Cleansing tools break records into specific units, standardize the elements, match records, and consolidate data. Data migration tools extract data from the source database, move it to an intermediate area, map the data to the warehouse schematic, and move it into the warehouse.

Michael Medvesky, director of the Public Health Information Group of the NYS Department of Health, discussed how his agency dealt with data issues when developing the Health Information Network (HIN). HIN provides local and state health departments online access to statistics that help them make decisions regarding their programs.

Medvesky and his group looked at a number of data access and analysis issues when developing the network. Data tools, including database inventories, extensive data sets, and data set queries, were employed in HIN. Client server tools, such as a geographically-based database, data access and retrieval software, and geographic information systems, were also utilized.

More real life experiences with data issues were shared by Alex Roberts, assistant director of data processing with the NYS Division of Criminal Justice Services. He discussed how the Division redesigned and converted its Computerized Criminal History system to a relational database using object-oriented design and a three-tier client/server.

Roberts had several suggestions for agencies considering similar system conversions. “Develop a thorough understanding of the data. Don’t be seduced by development speed. Never misuse data – each data element should have only one definition,” he said.

Alan Kowlowitz, manager of Electronic Records Management Services at the NYS Archives and Records Administration, outlined some of the issues involved in preserving data.

“It is easier to support data preservation and maintenance if the agency has a mandate, sees a long-term use for the information, considers secondary users, can demonstrate the benefits, and has an approving organizational culture,” Kowlowitz said.

From data quality management, to data tools, to data preservation, the “Dealing with Data” presenters packed a great deal of information into the half-day seminar. As Giri Tayi stated at the end of the session, “Resolving data issues is a journey, not a destination.”

There are a multitude of ways to deal with data; you just have to take the time to find the methods that meet your business needs. 

Fill Your Technical Tool Box

Managing information is much like fixing a leaky faucet – you need to have the proper tools and know how to use them in order to do the job right.

The next part of the Using Information in Government Program Seminar Series, “Information Use Tools and Skill Sets,” explores the available technology tools and the skills needed to apply them in order to effectively manage information.

The “Information Use Tools and Skill Sets” seminar takes place Tuesday, May 4, from 8:30 a.m. to 12:30 p.m. in the University at Albany’s Campus Center Assembly Hall. The session addresses public managers’ needs for new skill sets, technical tools, and administrative techniques to ensure that relevant information is identified and used for planning and decision making. Project agency staff, government program managers, and IT practitioners provide concept presentations, case examples, and panel discussions that highlight success stories and suggest ways to overcome obstacles.

For more information or to register online, visit www.ctg.albany.edu/projects/usinginfo/seminar2.html

KWIC Help for the Human Services Community

Making sure that New York's more than 4 million children grow up to be healthy, happy, productive adults is no easy task. The state's health, education, and human service agencies use an array of information to plan, implement, and evaluate programs that help our children.

CTG and the New York State Council on Children and Families (CCF) are now working on a way to make this process a little easier.

The *Kids Well-being Indicators Clearinghouse* (KWIC) project is designed to make vital childhood statistical information more timely, accessible, and usable by the community that serves children and families.

"This project will enhance data collection and dissemination efforts and provide timely access to information and other supportive resources," said Deborah Benson, director of policy, planning, and research at the Council. "Users will have an enhanced tool to gather and use indicator data to assess needs, design and improve programs, and sharpen their focus on outcomes."

The KWIC project evolved out of CCF's New York State Touchstones project. Touchstones established a set of goals, objectives, and outcome measures that the Council's 13 member agencies use to determine whether current services are helping to solve the problems facing children and families in the state. This information includes such vital statistics as the number of low birth weight babies, children living in poverty, youngsters without medical insurance, high school dropouts, children living with working parents, and teen pregnancies that occur every year in New York. The core data from Touchstones is currently available in the hard copy "Kids Count Data Book" that is updated only once a year. It is difficult for public managers to make solid decisions about important programs when the information they have is out of date and hard to access.

In order to remedy this situation, the Council and CTG decided to team up to develop a Web-based clearinghouse of childhood statistical indicators and supporting resources. The timeliness and accessibility of the online clearinghouse will enable state agencies, local governments, and nonprofit human service providers to make more informed decisions about vital programs that help New York's children.

"This approach is a vast improvement over the approach used today," said Theresa Pardo, CTG project director. "It moves away from the current reliance on a paper-bound, inflexible set of occasional publications toward a well-organized, data-rich, electronic resource that is limited only by the quality of the data and the imagination of its users."

The Council and CTG are currently conducting research on data requirements, user needs, and design elements. A prototype clearinghouse is expected to be designed, tested, and refined this summer.

To learn more about the *Kids Well-being Indicators Clearinghouse*, visit the project Web site at www.ctg.albany.edu/projects/kwic/kwicmn.html

With Thanks to our Corporate Partners

Corporate partners have always been an integral part of CTG's mission. Without the strong and continued support of these allies, the Center's program would be much less useful to our government customers.

CTG has received some significant gifts from corporate partners in recent months.

- Hewlett Packard donated a new high-speed network switching hub to support the Center's Technology Solutions Laboratory and project activities.



- Microsoft donated several new software packages that will help CTG maintain its administrative infrastructure, update project prototyping tools, and develop new interfaces for our public Web site.

- Sun Microsystems loaned the Center a UNIX server, which was used to run our Web site while the primary server was rebuilt and upgraded. The loan of this equipment allowed CTG to do a fresh install and reconfigure the primary Web server (an earlier donation from SUN) with updated and Y2K compliant software.



Learn more about CTG's corporate partners by visiting www.ctg.albany.edu/partners/corpmn.html

UIG: Finishing One Chapter and Starting Another

As one door closes, another opens. And so it goes with the *Using Information in Government* (UIG) program.

While the first round of UIG has ended, the second round is up and running. Since the fall of 1997, CTG has been using the UIG program to investigate the management, policy, and technology issues that hamper the ability of governments to effectively use information. By all accounts, the first year of the project was a rousing success. The three state agency projects conducted in the first round – Office of Temporary and Disability Assistance’s Bureau of Shelter Services (BSS), Office of the State Comptroller’s Division of Municipal Affairs (OSC), and Central New York Psychiatric Center (CNYPC) – have completed their business cases and are moving into the next phase of their projects.

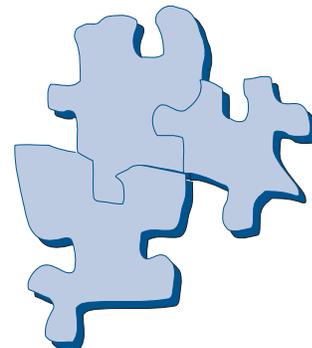
- The BSS project, which involves creating a uniform database to track and manage services to the homeless population, is now under the umbrella of CTG’s *Gateways to the Past, Present, and Future: Practical Guidelines to Secondary Uses of Electronic Records* project. A prototype system will be tested this summer.
- OSC recently participated in consulting workshops with CTG and expects to have its electronic information repository of local government contacts up and running by the end of the year.
- CNYPC received best practices consulting from CTG and is moving forward with its plans to create and implement an Intranet platform database system to support management resource allocation decisions.

CTG staff are now focusing their energy on reading the proposals submitted in March for the second round of UIG. The proposals address a wide range of problems and opportunities related to using information in government. CTG will work with selected agencies to investigate how information management and analysis tools can help governments effectively and efficiently gather, use, and store their information. Projects selected for UIG round two will be announced in April.

For more information about Round 2 of UIG, visit the project Web page at www.ctg.albany.edu/projects/usinginfo/usinginfo.html

Putting the Pieces Together

A puzzle has many pieces. Some fit together easily, while others seem to have no match. But if you take the time to examine the pieces and assemble them carefully, you will solve the puzzle.



That’s the message in CTG’s latest report, “Some Assembly Required: Building a Digital Government for the 21st Century.”

The report comes out of the October 1998 “Designing the Digital Government of the 21st Century” multidisciplinary workshop hosted by CTG for the National Science Foundation (NSF). Dozens of researchers in the fields of information, social, behavioral, and computer science met with government policy leaders to discuss the elements necessary to create a successful and useful digital government for the next millennium. The resulting recommendations, which will help the NSF fund research projects in the Digital Government Program, are detailed in “Some Assembly Required.”

“We can already see the transformational potential of digital communications and advanced networking and data management tools in relatively rare government applications like the Internal Revenue Service e-file and Telefile programs, which allow taxpayers to file their returns electronically using technologies as simple as their telephones. Advanced computing and communications technology make programs like these technically feasible, but alone they are insufficient for achieving the kinds of services that the public demands and deserves,” wrote report lead author Sharon Dawes, director of CTG.

“Leadership, management strategies, organizational structures, cross-boundary relationships, financing mechanisms, information policies, and public participation and acceptance are all equally crucial elements of effective 21st century government services,” Dawes wrote.

“Some Assembly Required: Building a Digital Government for the 21st Century” is available by calling CTG at (518) 442-3892 or online at www.ctg.albany.edu/research/workshop/dgfinalreport.pdf

New Faces

The past few months have been a time of tremendous growth at CTG. In addition to several new projects, the Center has added a number of new staff members.

As project support manager at CTG, **Donna Canestraro** provides primary technology support for a variety of projects. She brings more than 20 years of project management experience to the Center and most recently managed the Computer Training Program of the Professional Development Program at the University at Albany's Nelson A.



Rockefeller College of Public Affairs and Policy. Donna holds a bachelor's degree in education from SUNY Plattsburgh and is pursuing a master's degree in instructional technologies at the University at Albany.



While **Anthony M. Cresswell** has been involved with CTG as a senior research fellow since 1994, he is devoting half of his time this semester to CTG's projects. Tony has spent the last 20 years at the University at Albany where he is an associate professor in the educational administration and information science programs. The

lead evaluator for many CTG projects, Tony holds a doctorate in educational administration from Columbia University.

At CTG, **Shrilata Nath** manages the outreach to government in the Education, Outreach, and Training (EOT) activity of the National Science Foundation's Partnerships in Advanced Computational Infrastructure (PACI) program. She has more than 10 years of experience in program management and information technology. Shrilata previously worked as a technology transfer associate at the Center for Advanced Technology Development at Iowa State University. She earned a master's degree in environmental health from Colorado State University and an MBA from Iowa State University.



Archives and Records Specialist **Richard Sloma** conducts archival appraisals, serves as liaison between CTG and the State Archives and Records Administration, assists in research, and helps develop project guidelines and assessment tools. He has a good deal of experience in records and project management. In addition to his part-time position at CTG, Rich also works as an archivist for the Foundation of the New York State Nurses Association. Rich earned a master's degree in information science and policy from the University at Albany.



Research Associate **Fiona Thompson** is responsible for designing and executing the applied research components of Center projects. She is an experienced sociologist who has spent the last 10 years researching mental health and education issues in government and academic settings. She most recently directed a project at the New York State Office of Mental Health that investigated systems of care for children. Fiona earned a doctorate in sociology from Temple University.



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

Council Works for Children

The driving force behind the *Kids Well-being Indicators Clearinghouse* (KWIC) project is the New York State Council on Children and Families.

“The Council was established to bring about a more coordinated and effective system of services to children and families,” said Deborah Benson, director of policy, planning, and research at the Council. “By streamlining services and having agencies work together toward common outcomes for children and families, better services can be delivered in ways that are both responsive and cost efficient.”

The agency strives to ensure the coordination of meaningful and effective services to the more than four million children who live in New York State. This is accomplished through the commitment and hard work of the Council’s 13 member agencies:

- Office of Temporary and Disability Assistance
- Office of Children and Family Services
- Department of Health
- Department of Labor
- Office of the Advocate for Persons with Disabilities
- Office for the Aging
- Office of Alcoholism and Substance Abuse Services
- Division of Criminal Justice Services
- State Education Department
- Office of Mental Health
- Office of Mental Retardation and Developmental Disabilities
- Division of Probation and Correctional Alternatives
- Commission on Quality of Care for the Mentally Disabled

The Council is involved in a number of initiatives designed to make life better for New York’s children and families. The Council’s programs include: the New York State Touchstones Project, the Head Start Collaboration Project, the Family Renaissance Consortium, and the Task Force on School/Community Collaboration.

For more information about the NYS Council on Children and Families, visit the agency’s Web site at www.capital.net/com/council/

Making Connections

Part of CTG’s mission is sharing our innovations and practices with the wider government, education, and research communities through presentations, education, and projects. This column highlights some of the connections the Center has made with other organizations during the last four months.

Presentations

Director Sharon Dawes presented a case study of CTG at the Strategic Computing Workshop on IT Innovation in the Public Sector at **Harvard University’s John F. Kennedy School of Government**.

Sharon presented the educational seminar “Partnership for IT Innovation” at the **Government Technology Conference Southwest ’99** in Austin, TX.

The **New York State Legislature** was the audience for the SUNY-wide **Smart NY** presentation. Sharon and other SUNY officials from across the state presented the Legislature with information on the importance of university-based research in science and technology to the economic health of New York State.

Project Director Theresa Pardo participated in a panel discussion on the Y2K issue at the **New York City Homeless Shelter Technology Conference**.

“Digital Government of the 21st Century” was the topic of Research and Lab Director Peter Bloniarz’s presentation at the **Conference that Counts ’99** in Saratoga Springs. Accounting and auditing professionals learned how the National Science Foundation is funding research projects that will enable government agencies to use advanced technology to improve public services.

Sharon participated in a panel titled “Let’s Talk: Vendors and State Officials Air Their Differences and Suggest Ways to Improve Communication” at Governing Magazine’s **Managing Technology: Policy, Politics, and Leadership Conference** in Seattle, WA.

Education

Several CTG staff taught students in the **Public Management Internship Program** at the University at Albany’s **Rockefeller College of Public Affairs and Policy**. Theresa taught “Tools and Techniques for Managing Work,” Sharon presented a day-

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long seminar on managing government programs in the Information Age, and Education Coordinator Winsome Foderingham taught “Developing and Delivering Effective Presentations.”

Project Management Specialist Meghan Kiernan taught “Making Smart IT Choices” tools and techniques to a group of elementary and secondary education administrators enrolled in the **University at Albany’s Educational Administration Doctoral Program**.

Theresa and Alan Kowlowitz of the New York State Archives and Records Administration taught a day-long workshop on “Models for Action: Practical Approaches to Electronic Records Management” as part of the **Public Services Workshop Program**.

Sharon returned to **Harvard University’s Kennedy School of Government** to teach about state level IT innovations to the “Innovations in the Public Sector” class.

Corporate representatives played government managers as they participated in the two-day *Information, Technology, and Government* seminar hosted by CTG at the **University at Albany**. David Andersen, CTG senior research fellow, Sandor Schuman, president of Executive Decision Services, and Sharon taught corporate sales managers and consultants what it is like to make IT decisions in public sector agencies.

CTG was well represented at Career Day for public affairs graduate students at the **University at Albany’s Rockefeller College**. Theresa participated in a panel discussion on research and academia. Meghan and Winsome met one-on-one with students to discuss public sector careers.

Projects

Meghan and Project Support Manager Donna Canestraro joined Bob Dawes, director of the NYS Office of Temporary and Disability Assistance’s Bureau of Shelter Services, to discuss the *Using Information in Government* program with the **New York City Ad-Hoc Technology Committee**. The Committee may become involved in this project that will create a database prototype to track and manage services to the homeless population.

Peter took part in the **National Partnership for Advanced Computational Infrastructure (NPACI) All Hands** meeting in San Diego, CA. Participants in the **NSF’s Education, Outreach, and Training Program**, of which CTG is the lead government partner, met with other NPACI partners to discuss their progress and plans for the coming year.

New York City was the setting for a presentation by Donna and Theresa at the **New York City Office of Domestic Violence and Emergency Intervention Services**. The duo discussed a project that CTG is developing with the NYS Bureau of Shelter Services.

