

Collaboration in Addressing National Issues - The University of Belize's Collaboration in Transnational Digital Government Research

Charles McSweeney, University of Belize

Abstract

Collaboration among governments is essential to solving national, regional and global issues. This collaboration is achievable through transnational digital government (TDG) using information technology (IT) to overcome national differences and to facilitate information collection and exchange.

Paramount to any research project on TDG is the formation of sound government-academia partnerships. This paper illustrates such a partnership in the context of a unique project aimed at strengthening the security of nations by utilizing technology to effectively address the real-time exchange of critical information among government agencies with regard to suspicious drug related individuals who cross international borders.

This TDG Research Project is piloted for the OAS and is sponsored by the US National Science Foundation (NSF).

The collaborative partnership involved in this project consists of a team of researchers from seven universities and several ministries and agencies in three countries (US, Dominican Republic and Belize). The proposed system, integrates a distributed query processor, a language translation system, an event server, and an event-trigger-rule server. The Web-services infrastructure is used to achieve the interoperation of these heterogeneous component systems.

Collaboration among governments is essential to solving national, regional and global issues. This collaboration is achievable through transnational digital government (TDG) using information technology (IT) to overcome national differences and to facilitate information collection and exchange (Fortes, et al 2004).

Background

In 1998, at the Summit of the Americas held in Santiago, Chile, the Inter-American Drug Abuse Control Commission (CICAD) of the Organization of American States (OAS) was mandated to develop a hemispheric mechanism to monitor and evaluate the progress of the efforts against drug in all its manifestations among the 34 member states of the OAS. In keeping with this mandate the CICAD developed the Multilateral Evaluation Mechanism (MEM): a set of indicators to be used as a monitoring tool for the hemisphere. The MEM provides a broad range of questions that are used to develop a clear picture of a government's effort in the fight against drugs.

In 1999, CICAD and the National Science Foundation (NSF) of the United States of America entered into an agreement to conduct technological research in an effort to develop tools and mechanisms to support countries of the hemisphere in addressing their drug problem. One year later (2000), Belize formed a National Grid Alliance which later evolved into Belize's National Observatory on Drugs (NOD). This Observatory is a network of information gathering units from within government units, non-government organizations and the private sector, linked to provide easy access to pertinent user-

authorized information. This network allows collaborating agencies to have active participation in the collection and dissemination of information while ensuring that only authorized personnel access and modify the information. This was in keeping with the agreements and discussions made at the Quebec Summit of the Americas (2001) in Canada, where Belize, along with other countries, committed itself to promoting a connectivity agenda, for the Americas, which would facilitate the integration of the hemisphere into an increasingly knowledge-based society.

In 2001, CICAD and the NSF approached Belize and the Dominican Republic requesting that these countries collaborate, through their independent NODs, in a Transnational Digital Government (TDG) research project as a pilot for the hemisphere. It was established from the onset that the research aspect of the project must be conducted by universities in the USA, Belize and the Dominican Republic. In late 2001, a pivotal meeting was held in the Dominican Republic attended by representatives of the seven participating universities, the immigration departments of Belize and Dominican Republic and the national drug councils of both countries. At the meeting, participants agreed that the research will address MEM Indicator #83 -- “Displacement“. This indicator records new trends in the global phenomenon of the mobility of the drug problem’s different manifestations with particular focus on suspicious cross border drug traffickers and drug trafficking.

Belize and the Dominican Republic were seen as ideal candidates, to serve as pilot nations for this hemispherical research project, as their similarities and differences promised interesting challenges and benefits for all thirty-four (34) member countries of the OAS. The two countries both have land-locked borders with a country that cannot be deemed a “friendly” neighbor; both are Caribbean in location; both have masses of unused land near to their borders; both receive travelers from air, land and sea; both are key candidates as a drug trans-shipment ports. There are differences that made this project’s selection of countries even more interesting: the cultures are different; the systems of government differ; the official languages are far removed one from the other. When these two countries establish meaningful, reliable, efficient and instant information sharing on border activity in the two languages being studied, we can hope to achieve communication, of this nature, with any other country using any of the four language groups represented at the OAS: Dutch, English, Portuguese, and Spanish.(for that matter any other language).

The results of this project represent a practical application of the utilization of technology in support of national and hemispheric collaboration through instant communication in different languages for the protection and safety of national borders. It also highlights the importance of information sharing as the key component in safe-guarding the sovereignty of states while technology provides the vehicle to this end. The evidence of this achievement will be clear when the final product is installed and made operational in both countries in October 2006.

Technicalities

Paramount to any research project on TDG is the formation of sound government-academia partnerships.

For such partnerships to develop a critical step is the securing of the highest level of political blessing and legislative facilitation from both governments. In the case of the Dominican Republic, the President authorized the head of the Drug Council and by extension the Director of Immigration, to operate on behalf of the nation. For Belize, authority came from the Ministry of Foreign Affairs and the Ministry of Health (under which the National Drug Abuse Control Council – NDACC – operates).

Once the political and legislative blessings had been secured and the necessary instruments of understanding had been drawn between the two countries and other relevant parties, the responsibility for administering funds, guiding and monitoring of the project was entrusted to the Drug Councils of the respective countries. A part of their remit was the enlisting of qualified and capable personnel who would become engaged in the practical aspects of the research and would provide the councils with technical advice at each juncture. These technocrats would then become instrumental in setting into motion the vision articulated while the local Drug Councils worked in harmony with CICAD to ensure active and effective participation in the project.

Both UB and PUCMM played an integral role in the managerial as well as the technical aspects of the project. Having enlisted the expertise of lecturers and professors at each institution to guide the local research aspect, the team then sought assistance from within its ranks and from the Immigration Departments to undertake a close study of the mechanisms used and the laws that governed the immigration process particularly as it pertained to suspicious travellers going through remote border stations. At UB this included selecting a promising student, from our Information Technology program, to be trained in the developmental processes and systems being used in the project's application development. This activity became a barometric reading for the university's IT program in that the student chosen proved to be amply prepared to deal with the training provided and, upon his return, became and remains a key player in addressing issues relating to the local arm of the project.

Project participants and systems developers worked toward providing IT applications to support processes of collection, notification, and sharing of Data on Remote Border (DRB) enforcement activities between the Dominican Republic and Belize. Early in the project's timeline, the US research team developed a conceptual model and a prototype of the system envisaged. This system (Figure 3) would allow immigration agents at point-of-entry stations to:

- Enter traveler information in their databases by scanning documents, typing information from documents or interviews, or using a voice/dialogue-based system;
- Query the system to verify information or supplement traveler information ;
- Determine if the traveler is on a "watch list" of suspicious or wanted individuals;
- Import data on suspicious people from various agencies into the local database;
- Receive advise on the appropriate action(s) to take for specific individuals/situations;
- Specify system actions for system stakeholders;
- Register to be notified of specific events by e-mails and/or cell phones; and
- Access/transmit shareable data from/to the databases of collaborating countries.

The system would also provide automatic data translation where language barriers prevent communication (particularly translation of free-text data typed by the agent or entered verbally).

Clearly, a critical component of this model and the system envisaged was that each country would need to have an electronic database from which data collected on travellers could be searched and retrieved. This database existed in the Dominican Republic but not in Belize. Belize had to develop this database and begin using it. The database had to reflect the unique desires and expertise of the Belizean Immigration Department while striving to be compatible with the protocols and processes being discussed for connectivity and information sharing purposes. This required dialog and collaboration on a constant and consistent basis.

Collaboration

While the word collaboration can take on various meanings depending on the context in which it is used, this paper uses it to mean a state in which a group of individuals work together to achieve a common goal.

This experimental endeavour required major collaboration and constant interaction. It rose out of the interest of leaders of state to investigate ways in which they can address a devastating and quickly escalating national and regional problem: drugs. Therefore, governments elected to collaborate in order to engage in a process whereby each would need to invest time, and resources to reach the outcome desired.

The long-term vision is one where governments and public-service agencies can access and use each other's information infrastructure as if they were a part of a single information grid where information and services are securely deployed, shared in a controlled manner, and available with the necessary quality of service.

While working towards this ambitious goal, the project more modestly targets a process of transnational cooperation among universities, government agencies and an international organization in dealing with the negative impacts, on society, of illicit drug production, traffic and consumption. The process is coordinated by the Inter-American Drug Abuse Control Commission (CICAD) of the Organization of American States (OAS). The work is performed by a team of researchers from seven universities (U. of Belize, Pontificia Universidad Católica Madre y Maestra in the Dominican Republic, Carnegie Mellon U., North Carolina State U., U. of Colorado, U. of Florida, U. of Massachusetts) and experts from agencies in the three participating countries: CICAD's Inter-American Observatory on Drugs, the National Drug Abuse Control Council (NDACC) of Belize's Ministry of Health, and the National Drug Council of the Dominican Republic (Figure 3).

The essence of collaboration is the fact that labor is common to the parties involved. Additionally, this labor is cooperative. There is no room in collaboration for stardom or apathy. The TDG project quickly became a project saturated with challenges that highlighted collaboration at every level. The two pilot countries (Belize and the Dominican Republic) were expected to maintain close contact with each other and to dialog often about the progresses made and the challenges faced. It was from these two countries that the researchers from the USA would garner their data and fine-tune their protocols. From the way a word was translated or the structure of a sentence to the appropriate wording and designation of correspondences, questions had to be asked and answers needed to be found. Additionally, these answers could not be based on observation of practice but the institution of policies. On the local front, one could make a phone call, send an email and maybe even visit a site. This was not true when the contact was between nations. Academics in Caribbean territories do not enjoy the same level of connectivity that their US counterparts often have at ready disposal. Unless all participants traveled to one location to discuss the changes being felt, mass communication was always limited.

In order to guarantee that communication between and among participants was not hindered, a number of teleconferences were held, and a textual interface was developed to assist in recording comments and in sharing ideas as the project progressed. These tools did not rule out the use of email and strategically placed phone calls.

This collaborative venture has led to learning at a broad hemispherical level. It has been used to present data and information to facilitate the development of tools to make real-time information transfer and interaction with participating countries. It has also been used to determine how academia works within its local political environment

Results

Critical lessons have been learnt in the conduct of this project. Lessons ranged from the political to the personal with quite a few categories lodged between. At one end is the political, where the critical elements are protocol and knowledge of the intricacies of dealing with governments and their unique methods of transacting agreements and in making decisions of national importance. At the other end is the more personal, local collaborative arrangements - whether they be the product of oral agreements or formal written directive. This included intra-institutional politics as it relates to work load of instructors, arrangement for time to conduct research and the monitoring of the time spent on research; the government-academia collaboration particularly with respect to coordination of time and the juggling of obligations. Between the political and the personal is the inter-institutional, long distance challenges that are ever-present, persistent and often acutely negative. However, by far the most challenging is the temptation to believe that the work one does is never going to amount to much more than a memory. This is where practical application of persistence, and personal commitment were paramount. A vital lesson in this is that leaning on the “brother” when you’re not strong is not just a thought; it is a necessary part of survival.

In addition to the scientific learning and the broadening of our perception and application of breakthrough, state-of-the-art technologies, the University of Belize has been sensitized to the dynamics of national and international political interactions. Additionally the university has become aware that, besides being an umbrella organization of countries within this hemisphere, the OAS promotes an atmosphere in which each country strongly maintains its independent sovereignty and the participation of nations in any endeavor remains dependent on its individual political commitment. Academicians at the University of Belize have experienced, through this project, another level of collaborative learning and academic interaction between and among scholars across countries and cultures. This new exposure has highlighted the fact that, apart from the academic and scientific aspects of research, significant attention must be given to the way in which academics function in their own states and schools.

At the University of Belize, the Information Technology Department at the central campus in Belmopan had been identified as the unit that would assume responsibility for the university’s involvement in this project. As in many endeavors, the end product can become so attractive that the intermediate steps and the challenges to get to that end become blurred. Soon the university realized that to move this project along we needed “young blood” : people with no preconceived notions as to how things ought to be done and with limited experiences as to how they were being done. Students studying in our Bachelor of Science degree program (Information Technology) were employed to develop the database needed at the Immigration Department and to populate that database by being present and involved in the actual immigration activities at two border stations, a sea port and the international airport. These students then proved critical to the process of deciding what the “lay man” expected of the immigration department and what limitations the department faced in meeting the needs of the traveler. Not only were these students helpful in making the path a bit clearer, they were allowed a partial experience in creating a product that would benefit their entire nation.

Once the project has completed its experimental stage and the product is rolled out and used, it would represent a major contribution that the University of Belize would have made to the safety and sovereignty of Belize. It is a landmark achievement in the fight against drugs in all its manifestations. UB’s interaction and collaboration with the PUCMM and the five universities of the USA opens doors for continued distance interaction and other online learning processes in the future. This project is a model of the flexibility technology can provide in the quest for knowledge and the work toward sharing

knowledge across and despite the distances that separate mankind.

Beneficiaries

This project began at the OAS and ends at the OAS. A primary beneficiary of this project is CICAD and the OAS as it is with them that the vision, directive and guidance for this project were initiated. The OAS has fulfilled its goal. Since the OAS is a collection of nations, the beneficiaries are the respective nations that are member states of the OAS. The region and, indeed the entire hemisphere, benefits from this project. More specifically, Belize and the Dominican Republic stand to benefit tremendously as it is with them that this first-of-a-kind technology will rest. It is in and through these two nations that the success of this project will become realistic and tangible.

One of the beneficiaries of this project is the team of researchers. These are the people who will now be able to capitalize on the experience gained through this project to avoid the pitfalls endured and anticipate the challenges and successes experienced. While each researcher will walk away with his/her own view of the project and opinions as to how/when things could have been done differently, all would have grown significantly as a result of this project. For those in Belize the experience has taught more than the academic degrees could have hoped to teach. Our outlook on Immigration, Information Technology, Research and the role each plays in the others development has changed tremendously. The University of Belize, and more specifically, the IT department, is a direct beneficiary of this project.

The most important beneficiary of this project is the Immigration and Naturalization Department in Belize and its sister agency in the Dominican Republic. This department can now make use of state-of-the-art technology, crafted with and for them to address issues that have frustrated the department for as long as anyone can remember. This department can now look forward to definitively identifying travelers with questionable intent and assisting in their detention and prosecution with a level of efficiency we could, until now, only dream of. The department can now “draw the battle lines”. The criminals now have a new enemy. The nation has a new tool and the fight against drugs has taken on a new meaning.

This project is expected to roll out its final system in October of this year. It has been a long and arduous run. It has been a great run. Much has been given to reach this point and much is expected as the project’s product begin to demonstrate its usefulness

In all man’s doings, his greatest achievement is the discovery of that which he has never known, the enhancement of that which he has always known and imparting of that which others can learn from him. This is collaborative learning.

Figures

Fig1_OperConc-McSweeney



Fig2_FirstVerDRB-McSweeney



Fig3_Participants-McSweeney



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