



APPENDIX II

INAUGURAL MEETING TRANSNATIONAL DIGITAL GOVERNMENT PROJECT

Introduction

This document summarizes the decisions and action-items agreed-upon at the Transnational Digital Government (TDG) project kickoff meeting held October 24th and 25th in Santo Domingo, Dominican Republic. The summary of TDG project mission as stated in the original proposal approved by the US National Science Foundation is attached as an Appendix 1. In accordance with the objectives of the TDG project, one of the main goals of the meeting was to identify government systems and processes in place in both Belize and the Dominican Republic that already (or will soon) use information technology, while facing problems in supporting transnational collaboration and in providing MEM-relevant information. Towards achieving this goal the participants' work at the meeting focused on addressing questions about the desired functionality of the proposed system; process and process scenario issues; system architecture and infrastructure issues; transnational issues; personnel, scheduling and logistics. Appendix 2 lists the specific questions considered at the meeting.

The following sections describe the consensus reached on partial answers to questions under the first three categories. Answers to the remaining questions are being requested from the participants by 12/9/2002.

System functionality

The selected process is a component of existing national remote border control systems. Its focus is on the collection of data and generation of notifications about displacements of individuals across borders. We use the acronym DRB to refer to this process of collection, sharing and notification of Data on Remote Border enforcement activities across the Dominican Republic and Belize. These data are currently used independently by both countries for security purposes. Some of the collected data are also useful for providing part of the information needed to generate one of the MEM indicators. The indicator chosen, "Displacement" aids in determining new trends related to the mobility of the illicit drug problem's diverse global manifestations.

The objective of the work to be carried out by the TDG project team will be to enhance DRB processes so that they can become effective tools for government agencies in each country to identify and share information about individuals who may present a potential or imminent threat to society. The system also provides facilities for translating and sharing data across countries. The enhanced DRB processes, broadly sketched in Figure 1, to be implemented in a system similar to that shown in Figure 2, will allow immigration agents at point-of-entry stations to:

- identify suspicious individuals at point-of-entry stations and respond appropriately;
- enable authorized individuals in Belize and the Dominican Republic to enter information about specific individuals in the databases of their countries;
- specify system actions for specific individuals (e.g. notify specific law enforcement or intelligence agencies immediately for some individuals);
- provide a rich source of shared data for analyzing trends and identifying behavior patterns related to illegal activities.

The research to be done will specifically contribute to each of the above requirements by

- enabling voice/dialogue-based data collection where written form-based data entry is not possible;
- providing automatic translation where language barriers prevent communication,
- allowing secure sharing of data where needed by the process.

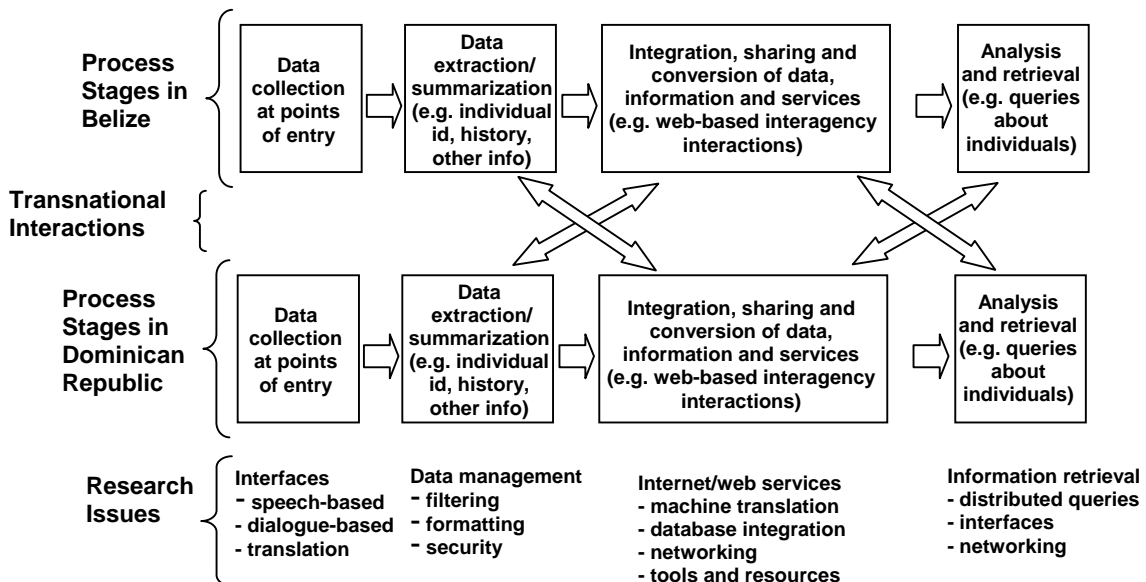


Figure 1 – Sketch of DRB processes showing transnational interactions and issues that can be addressed by research

Implementations of DRB processes will be developed jointly by researchers of five U.S. universities in the U.S. (Carnegie Mellon U., U. of Colorado, U. of Florida, U. of Massachusetts), Pontificia Universidad Católica Madre y Maestra (PUCMM) in the Dominican Republic, and the University in Belize in Belize, in collaboration with personnel in government agencies in Belize, Dominican Republic and Organization of American States. An initial DRB implementation will be developed and tested first at the seven universities. Following an analysis of user behaviors, agency needs, and infrastructure requirements, the prototype will be extended and evaluated for actual use by immigration agents and analysts in the Dominican Republic and Belize. At the conclusion of the TDG project, the DRB implementation prototype will be provided to the agencies which can then proceed with deployment and integration into existing systems.

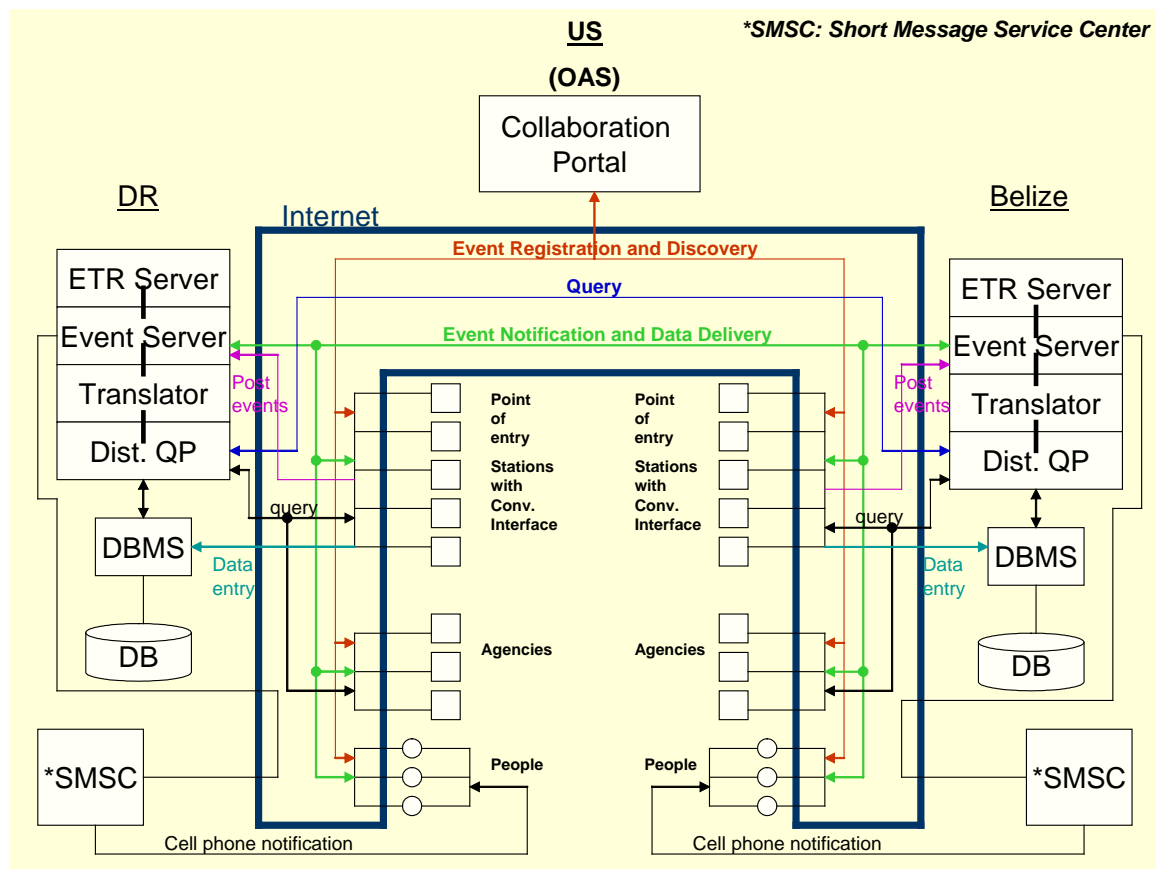


Figure 2 – View of a system for implementation of DRB processes

DRB process and process scenario

Data Entry. The system will enable immigration agents at border entry stations to enter information about individuals or their documents, including:

- Entering information provided verbally by individuals in response to the agent's questions.
- Scanning or typing in documents presented by visitors, including entry permits, "cedula" cards, and birth certificates
- Querying the system to verify information or supplement information provided by the traveler.
- Importing data on suspicious people from the existing systems of various agencies in each country into the local database.

Based on information acquired from individuals at point of entry stations, the system will:

- Retrieve data from the local database.
- Determine if the traveler is on a "watch list" of suspicious or wanted individuals.
- Access/transmit sharable data from/to the database of a collaborating country.
- Advise the agent of specific actions to be taken with regard to suspicious individuals.
- Alert specific agencies and/or individuals in collaborating countries of the situation when specific information, patterns or behaviors are detected.
- Update and delete individuals' records in the local database.
- Establish a new record for an individual identified as exhibiting suspicious behavior if none currently exists.

Research methodology

DRB requirements will be initially based on the needs of immigration border crossing stations in Belize and the Dominican Republic. Project team members from agencies and universities will analyze existing infrastructure at border stations, including (a) existing and needed infrastructure (e.g., space, power sources and their reliability, telecommunications), (b) social factors (agents' needs, knowledge, skills, attitudes, beliefs), (c) traveler profiles and other relevant information required to design a system that is robust, stable, secure, easy to learn to use, and useful.

For example, the DRB user interface will be developed following observation and analysis of agent-traveler interactions, and refined through an iterative design-and-test process that involves collaboration with immigration agents that will use the system from the earliest stages of the design process.

Research and Development Perspective

This project is important, challenging and unique. This is the first multi-university, multinational project that aims to research and develop state of the art information technologies to address a global problem. Many of the barriers to a successful project are unknown at this point in time. Thus, our strategy is to develop a working transnational system first in a benign environment (university, agency sites and OAS) while simultaneously trying to understand physical, political, social, financial, technical and other barriers to deploying and maintaining an effective system. We will improve the DRB process implementation prototype to overcome those obstacles that can be eliminated or alleviated by using information technology, and work with all stakeholders (including actual users of the final system) to further understand and address problems encountered in the field.

An important consequence of our approach is that the use of leading-edge information technologies, such as conversational interfaces, machine translation of documents, collaborative information management, middleware and network infrastructure, is dictated by the needs of the users and the practical realities of the DRB process implementation and use.

Work Plan

Our plan is to pursue two paths simultaneously. First, we will develop an initial system that can be tested among the seven university sites. The system, which will reside at the University of Florida, will support all of the major features of the proposed system, enabling users at the seven university sites (and perhaps immigration project staff at Belize, the DR sites and OAS) to interact with the system as system administrators, faux immigration agents, police or intelligence agency representatives and policy analysts. This phase of research and development aims to provide a stable system with the desired features, and enable stakeholders to participate in designing and refining the system.

Simultaneously, project staff will conduct research designed to understand and provide solutions to the practical realities of deploying a system that can be deployed, maintained and used by immigration agents and government agencies. This work will include visits to immigration stations in border regions, interviews with immigration agents, planning meetings among representatives of agencies, and other activities that are essential to designing a system that will accommodate the diverse requirements of users and agencies. Once this process has been completed, an initial system will be deployed and tested at selected immigration stations.

Questions to be answered

In the context of the TDG project goals and the above delineated DRB process, system and work plan, the following questions remain to be answered in writing by 12/9/02:

3. Systems questions:
 - a. What computer systems are in place?
 - b. What communication means are available?
 - c. What databases are available?
 - d. What other infrastructure is available?
 - e. What other systems are planned and what is the schedule?
4. Transnational characteristics, MEM applicability and technology insertion questions:
 - a. What parts of the process provide data and information for the generation of MEM indicators?
 - b. Where in the process are there interactions or data sharing between countries (in particular, between Dom. Rep. and Belize)?
 - c. Where in the process would the proposed technology research help?
5. People questions:
 - a. Who in the agencies will be involved
 - b. Who in the universities will be involved
 - c. Who in the OAS will be involved
6. Scheduling questions:
 - a. What will be done?
 - b. By whom?
 - c. By when?

Appendix 1 – Summary of Transnational Digital Government project

Information systems that support international collaborations among governments face many problems whose solutions require fundamental research. We propose research on technology and tools for the collection, processing, exchange and integration of information needed by transnational digital government. Research challenges fall in the following areas:

- Spoken dialogue systems for data collection, training and learning;
- Active data management and security techniques for rule-based data sharing and filtering;
- Information retrieval and machine translation technology for sharing documents and searching information across different languages and countries;
- Middleware for transnational (heterogeneous) information grids that enable private, secure and dependable automation of collaboration processes and policies, and the delivery of computing services through Internet portals; and
- Network behavior modeling and optimization for delivery of acceptable quality of service.

We propose research in the context of a process of transnational cooperation among all Western Hemisphere governments that deals with the negative impacts on society of illicit drug production, traffic and consumption. The process is coordinated by CICAD-- the Inter-American Drug Abuse Control Commission, which is a technical body of the member nations of the OAS. The process, called the Multilateral Evaluation Mechanism (MEM), is defined as a “singular and objective process of multilateral governmental evaluation, in dealing with the diverse manifestations of the drug problem.” The MEM requires that countries collect, share and analyze extensive amounts of information in accordance with agreed-upon standard indicators presented in the form of a questionnaire. A complete response to this questionnaire on the part of OAS countries and the success of the analysis of this data at the regional level requires data that is obtainable, compatible, and exchangeable. In this context much available data is currently lost due to the non-automation of national government processes. National collection of some MEM-related data is facilitated by CICAD-developed uniform data collection systems that include transnational instruments that facilitate the conduct of national epidemiological surveys and the collection of traffic-related data and documentary materials. One of the objectives of this project is to provide innovative information technology approaches to the deployment and use of these and other instruments and systems for data collection and analysis throughout the participating countries.

The proposed work will be conducted by a team of researchers from five universities (Carnegie Mellon U., U. of Belize, U. of Colorado, U. of Florida, U. of Massachusetts and Pontificia Universidad Católica Madre y Maestra (PUCMM)) and experts from agencies in three different countries (US, Belize and the Dominican Republic). Under the umbrella of the OAS, several ministries and

agencies in the three countries will be involved. These include two OAS departments in Washington, D.C. (the Department of Technology and Facility Services and CICAD's Inter-American Observatory on Drugs); the National Drug Abuse Control Council of Belize's Ministry of Health; and the National Drug Council of the Dominican Republic. The university researchers include experts on speech-based interfaces, machine translation, databases, information retrieval, Internet computing and networking.

The successful deployment of an automatic process of collection of MEM-related data that is viable and sustainable across the participating countries will create model that can be used by all countries in the Caribbean region and subsequently extended to the entire Western Hemisphere.

Appendix 2 – List of questions considered during the kick-off meeting

1. What is the desired functionality of the system? (i.e. “I would like a system that does the following:...”)
2. Process and process scenario questions (stated as presented at the meeting):
 - a. The following data <? >
 - b. In the following formats <? >
 - c. Are collected using the following procedure <? >
 - d. In the following locations <? >
 - e. Using the following manual/electronic technologies <? >
 - f. And communicated to the following agencies <? >
 - g. And processed as follows <? >
 - h. In the following locations <? >
 - i. And shared with the following people/agencies <? >
3. Systems questions:
 - a. What computer systems are in place?
 - b. What communication means are available?
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