

Digital Library of the Caribbean

March 2006, Six-Month Continuation Report

1. Status/Impact.

The dLOC project has made substantial progress in the first five months of the grant period. The management plan of dLOC follows a linear process that builds upon itself and its achievements. During this first term, the majority of time, effort and expenses have been to build the necessary infrastructure to ensure the success of the project. This has included developing the governance structure, building capacity in the region and developing the technologies to support the project.

1. Developing a formal governance structure will help steer the direction of dLOC during the grant years and ensure its sustainability after the grant period expires.
 - a. The dLOC By-Laws, which will govern participation, membership, committee structure, and reporting lines, have been developed, discussed, edited, and are now in their final draft form.
 - b. The dLOC Scholarly Advisory Board has been formed with seven well-known and influential Caribbeanist scholars. These scholars will contribute their support and expertise to help shape the direction of dLOC's collections and to develop its services. The Advisory Board will meet for its inaugural meeting at the Caribbean Studies Association in May 2006.
 - c. The job description for the dLOC Project Coordinator has been completed and the job announcement is now receiving permission for posting from the Human Resources Department at FIU. This position is due to be filled for the start of project year two, October 1, 2006.
 - d. Project Directors have arranged for the travel for the four U.S. partners to attend the annual dLOC Executive Committee Meeting at the Association of Caribbean University, Research and Institutional Libraries in May, 2006.

2. A major objective of dLOC is to build capacity in the Caribbean region, a necessity for the success of this digital library.
 - a. Using federal funds, FIU has purchased 4 complete digitization stations to be sent to four Caribbean partners. The hardware includes a state-of-the art computer, a top-of-the-line flat bed scanner, a rotary high-speed scanner, a printer, a web camera, a back-up power supply, and other peripherals. Software purchased and installed includes: Microsoft XP Operating System, Microsoft Office, Adobe Photoshop CS2, and CD/DVD burning software. Freeware installed includes: PrimoPDF, Virtual Network Computing, Telnet client and Skype. Commercial shipping and insurance options have been explored to send these stations to our Caribbean partners.
 - b. The first stage of a multi-layered and comprehensive digitization training program for international partners has been developed. The Training Coordinator has developed a four-year training timeline, with milestones and projected dates, to cover the life of the project. A print and web-based Training Questionnaire, in English, Spanish and French, was developed to assess existing digitization knowledge and training needs. Responses were received from all partners, and reveal that, project-wide, participants possess varied levels of skill in digitization. The data gathered from the questionnaires will aid in developing and focusing appropriate training materials for each institution.

3. The technical infrastructure is the backbone of this collaborative digital library, allowing for the searching across multiple collections.
 - a. The subcontract for technical development was issued to and signed at the University of Florida, making it the institution responsible for web development, standards, automation, digital processing, digital library development, programming and storage.
 - b. A draft of a multi-lingual web site for dLOC has been developed, see <http://www.uflib.ufl.edu/digital/collections/dLOC/> > for its temporary location. An elaborate outline of the web page structure, including collection structure, can be found at: <http://www.uflib.ufl.edu/digital/collections/dloc/dLOCpages.pdf>>.
 - c. Work is near completion on building UF Digital Collections (UFDC), which will underpin the digital library systems of dLOC. It will manage the searching and access to the submitted resources. UFDC is local, standards compliant software written over free open source Greenstone digital library software. Greenstone is heavily promoted by the United Nations' Economic Commission for Latin America and the Caribbean. Programmers have built a new presentation layer defined to support the project and its tri-lingual requirements.
 - d. A standards-based submission tool to allow dLOC's Caribbean partners to submit metadata with their digital resources is in development and near completion. This template is being designed to be easily customizable for each partner, and for later projects. In addition, another application is being adapted to allow our partners to provide structural metadata with each resource.
 - e. Technical documentation for all technical advancements and procedures are also being written as development takes place. Currently, there are over 100 pages of this technical documentation ready. This documentation will also be used in training partners in standardized metadata.
 - f. A place name authority list is being compiled for geographic referencing for each of the countries and states affiliated with dLOC to facilitate searching across the region's national and linguistic boundaries and to enable research through historic and archival collections.

As noted above, implementation of the governance structure, capacity building in the region and development of the technical infrastructure is well under way. Soon, dLOC will enter phase two of the project, which includes training in digitization, and will be even closer to providing improved access to Caribbean resources.

Although only 5 months into the official launch of the dLOC project, it has already impacted the field of Caribbean Studies and has generated unprecedented interest in the ability to access Caribbean resources in digital format. Through exemplary outreach and promotion of the project, supplemental funding has been awarded, additional institutions throughout the Caribbean have inquired about membership, its co-Directors were invited to write a refereed article about the project, and it has already been awarded a prize for collaboration. More detail about these exemplary outreach activities and their impact is included in the section entitled "Exemplary Activities."

2. Adjustments.

All planned activities will be conducted, as all are essential for the success of this multi-institutional and collaborative digital library.

Overall, the dLOC project is about 1 to 2 months behind projected completion dates submitted on the Management Plan for the development of training materials and some of the technical development aspects. As with any project that relies on the smooth completion of all tasks in turn, in all institutions, there are bound to be some delays, especially when it involves the coordination of nine institutions.

Some of the hurdles that the dLOC project has faced include a) a major hurricane which left the lead institution without power and shut down for over a week; b) delays in computer hardware and software shipments and set-up; and c) the decision at UF to move to new digital library software to manage their digital collections. This decision will benefit dLOC substantially in the long-term as the project will have more control over its management structure and collections; however, in the short-term it has created a delay while the infrastructure is being developed. The Management Plan was also a bit ambitious in its timeframe to develop the training materials, to train all participants, and to have the technical aspects completed as planned.

Within the next six months, before the completion of year 1 of the project cycle, the dLOC personnel hope to catch up with the 1 to 2 month delay in the development of training materials and infrastructure, which will allow for all expenditure of year 1 funds. The digitization stations have all arrived at FIU, have been loaded with necessary software and are ready to be used to develop the training materials. Once these training materials are developed, they will need to be translated into both Spanish and French, which we hope to expedite. We are targeted to begin training – in Guyana – in the beginning of May, closely followed by training in Haiti and the Dominican Republic by mid-summer. This training timeline still may not allow for the inclusion of a substantial number of Caribbean digital resources in dLOC, which may then call for a carry-over of processing funds to year 2, but it is still too early for this to be definitive.

Grant monies continue to be used as specified in the budget and budget narrative, with minor adjustments, most as a result of cost-savings. UF reduced its charge for web development by \$3000, allowing for these monies to be kept at the lead institution, FIU, and to be used for training travel, an area that was under funded in the initial budget, and for training development. There is about \$8000 in cost savings in equipment purchases, some of which will be used to ship the equipment to each Caribbean partner and the remaining will be used to purchase hardware for the fifth Caribbean partner (Venezuela) not initially targeted to receive equipment.

The Project Directors also recognize that they had underestimated the funds needed for travel, both for training and for meeting attendance, and will be looking to increase this budget line for year two.

3. Exemplary activities.

Although this project is only five months old, dLOC has generated tremendous interest throughout the Caribbean and beyond and has impacted the way that scholars view the future of Caribbean research resources. Much of this interest is as a direct result of the exemplary activities that have emerged in both outreach activities and in technology.

The Co-Directors of dLOC have dedicated much of their own time and energy and, in most cases, their own institutions' money, to promote this project locally, regionally, nationally and internationally. These exemplary outreach activities include: interviews with newspapers in the Virgin Islands, a presentation about dLOC at a digital library conference in Venezuela, planned participation in a round table on Caribbean collections at the upcoming Latin American Studies Association, a confirmed dLOC panel at the upcoming SALALM conference, and the submission of a peer-reviewed article on dLOC in an upcoming book entitled "Caribbean Libraries in the 21st Century: Changes, Challenges and Choices - a Collection of Selected Articles."

These outreach activities have led several Caribbean and U.S. institutions to inquire about participating in the project and contributing their resources to this digital library. These institutions include the University of Puerto Rico, Universidad Metropolitana de Caracas, Universidad del Norte in Colombia, University of Illinois at Urbana-Champaign and the University of New Mexico. Both national and international interest was also clearly visible from the overwhelming response to the call for

participation to sit on the inaugural dLOC Advisory Board. Accomplished Caribbeanist scholars, scientists, students and libraries all vied for seven coveted spots.

As a direct result of the outreach undertaken by the co-Directors of this project, approximately \$6000 has been pledged in additional funds in order to support continued promotion of the project. Various departments at FIU, including the Center for Transnational and Comparative Studies, the Latin American and Caribbean Center, and the Libraries have pledged an additional \$4500 in travel support beyond any obligation to the grant. Two Caribbean partners (CARICOM and National Archives of Haiti) have also received ENLACE scholarships from the SALALM (Seminar on the Acquisition of Latin American Library Materials) organization to present the project at its annual conference, for a total exceeding \$1500.

dLOC has already received an award for its efforts in increasing collaboration in the Caribbean region. The "*Albertina Pérez de Rosa Information Units Alliances and Collaborative Projects in the Caribbean Award*," presented to dLOC at ACURIL 2005, recognizes and honors excellence in collaborative efforts and the implementation of successful projects for the benefit of their clientele in the Caribbean.

Technological advancements have also been exemplary. A full discussion on these follows in the "Use of Technology" section. The dLOC programmer responsible for many of these advancements has been asked to speak on them at a pre-conference sponsored by the Library and Information Technology Association at the American Library Association's 2006 Annual Conference.

4. Technical issues

As the partner providing the technical support for the Digital Library of the Caribbean, the University of Florida is responsible for the creation and support of the digital library management system [DLMS] which will be used to search and display all digital resources submitted. Considerable progress has been made during the first five months of this grant on the development of the architecture which will provide this technical backbone to the project. In addition, distributed tools will allow partners to create the metadata to accompany each digital resource and progress has also been made on the development of these applications. Finally, to support both searching and metadata creation, construction of a gazetteer has begun including historical, as well as current, place names in the Caribbean.

Digital Library Management System [DLMS]

Until recently, UF managed its digital collections through PALMM, the centralized digital library of the Florida State University System. However, in the last year, UF has laid the ground work for an independent, open-source DLMS system to support their collections. This new system allows for more control and flexibility in collections' management, attributes from which dLOC will greatly benefit. Over the last year, and particularly the last six months, work has progressed in implementing this new system. Specific requirements were collected, and an off-the-shelf solution was initially implemented. As work advanced, a new architecture, involving a new presentation layer on the existing solution, was installed. Work on this has continued and the UF Digital Collections are close to being publicly launched. This approach has already begun to garner interest in the technical community. The collection of digital items in dLOC will be supported through identical architecture.

The groundwork for the final solution was the collection of specifications required for a new digital library system. Any new system would need to contain multi-lingual support, both in searching and in display. Compliance with standards was a requirement, and it was preferred that the solution be inexpensive and open source. Since we work in a collaborative environment, the system must allow branding to give credit to each individual partner while still providing a standard appearance for all

resources. And, of course, the system would have to support a variety of searching and browsing, including full text searching.

Among the several inexpensive and open-source libraries, Greenstone appeared to be the closest fit. A new server was purchased and Greenstone was installed roughly eight months ago. Greenstone has native support for multi-lingual searching and display. In addition, it provides full-text indexing and searching.

As work continued with Greenstone, however, it became apparent that the web interface would be unable to fulfill all of our needs. The support for table of contents display appeared inadequate; many institutions had been forced to turn to outside software and programming to create multi-tiered table of contents displays. In addition, text searching within a single document was absent. And finally, branding of the resources was lacking.

Tackling these problems, development began on a new presentation layer for the digital library. The indexing and searching of both the bibliographic data and the text would remain in Greenstone. In addition, the Greenstone server would continue to serve the images. However, a new layer of code will handle the display window through which the user sees the item. This solution allows for the desired display for table of contents and supports searching for text within a single document, which were both weak points of Greenstone. In addition, it should allow distributed resources to display within a single look and feel, while allowing each item to bear the brand of the individual contributing partner. The new system has been built with multi-lingual support in mind and should easily support English, French, and Spanish.

The creation of the new digital library architecture was accompanied with new challenges. More programming time was required than was initially expected, although this work is well ahead of schedule and should be ready when the first content is submitted. In addition, metadata creation tools were needed to create the standard metadata files which will be read by the system. Work on these tools is documented below.

The creation of this new system is on schedule and should be ready to start loading new Caribbean content during the next stage of the grant cycle. The UF Digital Collections, the first collection to use this architecture and programming, should be public within the next two months as well. Recognition for this approach has been quick in coming and the dLOC programmer will be participating in a Library Information and Technology Association pre-conference at the next American Library Association meeting to discuss customizing collections with the context of Greenstone.

Metadata Tool Development

There is no freely available, user-friendly, template for creating metadata for digital resources which conforms to the Metadata Encoding and Transmission Standard [METS]. METS was established by the Library of Congress and is quickly being adapted by most digital libraries. Work is well underway to create our own template which will produce the metadata files for this project. This template is being designed to be easily customizable for each partner, and for later projects. This template should be easy to use while still supporting differences in the users comfort level. The design of the template allows for easy customization and can hide many of the fields which will be constant for this project. A beta of the bibliographic metadata portion is available on line at the following (temporary) url: <http://www.uflib.ufl.edu/digital/development/dLOC/index.htm#tools>

In addition, the tool will facilitate the creation of structural metadata. This structural metadata will allow for complete table of contents to be displayed for each resource. Incorporating previous work at UF on their Quality Control Application, users will be able to enter the structural information in a visual manner, while viewing thumbnails of the page images. Once completed, this effort should result in the premier metadata entry tool for the METS standard.

Caribbean Geographic Gazetteer

Geographic Referencing: a place name authority list is being compiled for each of the countries and states in the region defined by the Digital Library of the Caribbean. The current state of this sub-project records tens of thousands of names and represents new effort. Caribbean place names have never been fully collected by any national, international, educational or governmental agency. An effort completed through time, the Caribbean Gazetteer will associate forms of names in the project's primary languages as well as in other local languages, as well as historical names, to facilitate searching across the region's national and linguistic boundaries and to enable research through historic and archival collections.

Technical Resources for Distributed Partners

Working on technical issues in a collaborative environment with distributed partners is always a challenge. Care has been made to provide, and continually update, online documentation for all of the technical requirements for submission to dLOC. Additionally, any general information which illustrates the technical underpinning for our decisions and solutions has been posted online. Well over a hundred pages of documentation have been included in our temporary web location. This will ease in the creation of technical training manuals, and allow partners to delve into whatever amount of detail they desire. The temporary URL for this site (as we work toward securing the permanent dLOC URL) is: <http://web.uflib.ufl.edu/digital/development/dLOC/index.htm>

Work will begin on translation into both Spanish and French during the next stage of the project.